The Palgrave Handbook of Sustainability in Fashion

Edited by
Claudia E. Henninger · Panayiota Alevizou
Daniella Ryding · Helen Goworek

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This book is dedicated to our family and friends! Thank you for all the support you have provided us and all the encouragements!

We wanted to also thank all of our contributors for publishing their work with us and for all their patience!

Thank you!

Contents

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List of Figures

List of Photos

List of Tables

Introduction to *The Palgrave Handbook of Sustainability in Fashion*

Claudia E. Henninger and Panayiota Alevizou

1.1   Sustainability in Fashion

Sustainability is not a new phenomenon but was introduced as early as the 1980s when the Brundtland Commission outlined that resources need to be used in a more conscious manner in order for current and future generations alike being able to meet their needs (WCED 1987). Since then, the importance of sustainability has accelerated and been named as a top global priority (Mittelstaedt et al. 2014). Whilst the Brundtland Commission's definition of sustainability has been criticised for being vague, as future generations' needs cannot be predicted easily due to a growing population and also increased use of technology (Diesendorf 2000), it provides food for thought and invites reflection upon how we are currently dealing with our environment. Elkington (2004) coined the term *Triple Bottom Line* thereby defining sustainability alongside three aspects: environmental, social, and economic. Within the literature this has been taken on board, with a majority of research focusing either on environmental or social angles of sustainability, taking the economic one almost for granted.

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Sustainability in fashion has become increasingly important with companies implementing strategies (to varying degrees) to counteract their environmental and social impacts (Henninger et al. 2016). Yet, to date the fashion industry is ranked fourth worst "pressure category for use of primary raw materials and waste (after food, housing, and transport)" (EEA 2023). To reiterate this further, the fashion industry is said to produce 20% of global wastewater and 10% of global greenhouse gas emissions (UNFCCC 2018). And even though these are well-known facts and have been reported for decades, headlines such as "Blue rivers and water as strong as bleach: the 'destructive' impact of fast fashion in Africa" (Frost 2021) or "'the missing link': is textile recycling the answer to fashion's waste crisis?" (Tonti 2023) continue to dominate media outlets.

In 2017 we edited our first book entitled *Sustainability in Fashion: A Cradle to Upcycle Approach*. Within the book authors focused predominantly on sustainable consumption and how consumers perceive sustainability. The book provided valuable insights into how sustainability can be defined and communicated, whilst at the same time highlighting areas of research that remained nascent in the literature. As academics we continuously ask "why" something is happening—and there was no difference in asking "why is another book needed?" The answer to this question is quite simple: things have changed, and some have moved on. Whilst sustainability remains a top global priority (UN n.d.) relatively new terms have been thrown into the mix, such as the circular economy. In the edited version (Henninger et al. 2017) Kirsi Niinimäki already focused on *Fashion in a Circular Economy* outlining that a circular economy is either an open or a closed loop system. According to the European Parliament (2023), "the circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling". This framework was taken on by researchers from the Sustainable Fashion Consumption Network (Vladimirova et al. 2023) and expanded upon by focusing specifically on the *use* phase, thereby outlining that lessons can be learned not only from the industry side, but also from the consumer side.

Since 2017 not only research has moved on, but our world has also changed. In 2020 (dare we say it?) the pandemic hit the world and brought it to a standstill. Although the pandemic had been a very traumatic experience amongst a bleak backdrop some positives could also be seen, namely: blue skies. With factories coming to a halt people reported they were able to see blue skies for the first time in decades (Smith and Cai 2021). On the other hand, we also saw an uptake of skills, such as knitting and crocheting, during the pandemic (Silver 2021), which not only helped with mental health, but

also brought to realisation how much work and time goes into the creation of a garment. The latter is linked to social sustainability, in that people were able to reflect on workers' rights and pay, debating issues on pricing and discussing the "cheap and cheerful" clothes found on highstreets over the "True Cost" of a garment. The pandemic has not been the only stroke of fate, the years to follow have put countries in precarious situations, which resulted in a cost-of-living crisis. According to the IMF (2023), the cost-of-living crisis was the result of "a combination of climate shocks and the pandemic disrupted food and energy production and distribution, driving up costs for people around the world".

With the changed situation in mind, we felt it was necessary to call for chapters and industry insights for the *Handbook of Sustainability in Fashion* to illustrate the changes and bring closer to the reader as to what has changed and how. In the following sections we highlight our authors' contributions to this handbook. But before, we wanted to say a HUGE thank you to everyone, who has made this book possible. We want to give a personal thanks to Liz Barlow, who followed up on our initial publication and supported our idea to move the publication into a handbook. We want to thank all of our contributors for their hard work and dedication, through which we have been able to shape a global perspective. And last, but not least to our families and friends for their continued support.

1.2   Transitioning Towards Sustainability

As alluded to previously, our world has changed, and we can see various shifts and new trends emerging within the industry. This part of the book is dedicated towards these transitions and outlines a variety of changes some of which are urgently needed and some of which are already in progress. This section consists of five contributions, three of which are traditional chapters and two case studies. The latter provide insights into the fashion and textile industry, as well as the changes within the academic landscape.

Chapter 2, co-authored by **Aino Korhonen** and **Kirsi Niniimäki**, explores theoretically the sustainability transformation in the fashion system by focusing on the role of epistemic communities.

Chapter 3, written by **Rana Alblowi**, focuses on **Saudi Arabia** and its current transition towards promoting more sustainability, by moving away from the oil industry. The chapter assesses the fashion sector's current state in terms of sustainability and the Saudi Ministry of Culture's role in promoting sustainable fashion businesses.

Chapter 4 moves away from the industry perspective and centres its attention on the consumer. The contribution entitled "Clothing Care" by **Ingrid Haugsrud, Ingun Grimstad Klepp,** and **Kirsi Laitala** highlights the importance of looking after garments and the impact this can have on clothing consumption. The study was conducted within **Norway**.

Chapter 5 is written by **Paula Oliveira.** Her "Good Growth" industry insight focuses on circularity and more specifically raw material production and the fashion supply chain. Within this industry insight the focus is on a special country producing raw material—namely **Mongolia.**

Chapter 6 provides a conversation between **Helen Goworek** and **Erica Charles**, which outlines Erica's experience as a practitioner in the fashion and textile industry and now an academic teaching fashion related subject. The interview delves into a discussion surrounding sustainability in the fashion and textile industry and how it has changed over the years.

Understanding the current trends in the industry is vital in order to be able to address any emerging challenges and/or opportunities. The industry insights further are seen to aid the understanding of the reader and show how things have not only changed from a research/academic perspective, but also in real life scenarios—namely through these industry insights. Some of the areas discussed are further explored within the next section of the book.

1.3   Alternative Modes of Consumption and Production

Within the introduction, we alluded to the emergence of the circular economy. The ultimate goal of the circular economy is to keep resources in use for as long as possible, by further ensuring that waste is being minimised (EMF 2017). Within this section a variety of alternative modes of consumption and production are suggested, which align with the UN's Sustainable Development Goal 12 of *Responsible Production and Consumption* (UN 2023). This section contains a total of four contributions. Two traditional chapters and two industry insights.

Chapter 7 is based on data from Finland, whereby **Linda Lisa Maria Turunen** focuses on the second-hand resale market. In her chapter, she explores whether and how consumers' active engagement in second-hand resale may influence their selling and purchasing habits.

Chapter 8 is a conceptual contribution, which challenges current production modes. **Xiaoqing Zhang, Songyi Yan, Aurelie Le Normand,** and

Claudia E. Henninger explore modular garments and whether these can be part of a more circular and, thus, more sustainable solution.

Chapter 9 provides industry insights into a UK-based sustainable business. **Hetty Rose** is an upcycling business that focuses on bespoke shoes, whilst at the same time also offering do-it-yourself guided shoe making workshops. This specific chapter highlights how sustainability is defined by a micro-organisation—Hetty Rose.

Chapter 10 is a creatively written Question and Answer (Q&A) style industry insight with **Lucy Hall,** the founder of Loanhood fashion rental, a **UK**-based organisation. The Q&A delves deeper into how theory and practice merge, by outlining how Loanhood operates and what the biggest challenges are that are foreseen for the future.

The mix between data-driven chapters, theoretical contributions, and real-life examples makes this section of the book come alive. In the past handbooks often only centred on academic perspectives, whilst within our handbook we have ensured that the application and insights from industry are not missed.

1.4 Social Sustainability

In the introduction we have mentioned Elkington's (2004) Triple Bottom Line Social, which defines sustainability by dividing it into social, environmental, and economic sustainability. Within this part of the book, the focus is on the former—social sustainability. As mentioned, sustainability has increasingly gained academic and policy attention and is a key pillar of the 2030 Agenda for Sustainable Development. In the past, social sustainability has been referred to as a "missing pillar" as the concept itself is contested and open (Boström 2012). Yet the importance of social sustainability in the fashion industry cannot be overstated as the industry itself navigates its impact on both the natural resources and the communities worldwide. In this part of the book, the five contributions (for traditional ones and one case study) provided discuss social sustainability and cultural heritage, by outlining key challenges and developments within the fashion industry.

Chapter 11, "Saudi Arabia's 'Thriving Economy' Pillar and Its Link to Social Sustainability", **Fathi Roushdi** explores social sustainability and cultural heritage in **Saudi Arabia**. The author highlights that the practice of social sustainability is evident in Saudi Arabia as individuals help and support each other in a variety of ways even though the term "sustainability" is not widely used.

Chapter 12 is authored by **Sharon Nunoo** and provides conceptual insights into the notion of heritage identity and the role of preservation. The author focuses on a textile weaving community in **Ghana** and highlights that heritage identity needs to be mindful of the meaningful past but at the same time remain relevant for future generations. Through the theoretical lens of the corporate heritage identity management framework, the author explores the required mindset of weavers for successfully *preserving* the heritage identity of the community.

Chapter 13 returns to the **UK** and more specifically the **Scottish** context. Elaine Ritch and Noreen Siddiqui use Ritzer's Theory of Globalisation to examine how *"something"* can be constructed that creates value from heritage and artisanship whilst also addressing sustainability as opposed to "nothing" captured by mass production with limited longevity in mind.

Chapter 14, co-authored by **Zoe Lee, Sharifah Faridah Syed Alwi,** and **Rossella Gambetti**, focuses on a very important topic that only recently gained more attention. The authors provide an insight into brand activism and breaking barriers. The authors highlight the potentially pivotal role of the fashion industry in shaping values that underpin society. In particular, the authors discuss the importance of inclusion and diversity where people with disabilities will be equally represented and *seen*.

Chapter 15 is industry centred and showcases the **FHNC (Fashion Heritage Network Cyprus)**, written by **Salamis Aysegul Sentug Tugyan** and **Christina Dymioti**. This industry insight illustrates how fashion designers and creatives in **Cyprus** explore traditional craftsmanship through zero-waste and sustainable designs. The authors highlight the importance of cultural heritage and ethical values but also the pivotal role of stakeholders, networks, and the local community in creating sustainable business models.

With social sustainability becoming increasingly important, it was necessary to delve into a variety of broad aspects that reflect the diversity of issues and opportunities within the fashion and textile industry, by further providing a real-life case study. Seeing as sustainability is divided into three aspects, it is not surprising that environmental sustainability cannot be missed, which is addressed in the next section of the book.

1.5   Environmental Sustainability

This section of the book explores the importance of environmental sustainability as a critical global imperative, redefining the way fashion is not only produced and consumed but also thought of. As climate change, resource

depletion, and the decline of biodiversity continue to perplex and challenge humanity, the significance of adopting more sustainable practices in the fashion industry has become crucial. This section contains four contributions, two traditional chapters, and two case studies.

Chapter 16 provides an initial overview of what is currently known about environmental sustainability in the fashion context. The conceptual contribution is provided by **Darya Badiei Khorsand, Gianpaolo Vignali,** and **Daniella Ryding**.

Chapter 17 turns to the Global South, and more specifically **Latin America**. **Claudia E. Henninger, Panayiota Alevizou, Marta Blazquez Cano, Helen McCormick,** and **Celina Jones** explore the implications of near-shoring on Latin America, drawing specifically on cases in **Brazil, Columbia**, and **Mexico**. The authors highlight how some changes in fashion business operations triggered by the global pandemic have made companies rethink the way they operate and source their raw materials.

Chapter 18 is an industry insight piece from **China** where **Xiaoye Fu** is in conversation with founder Chen Danqi of DONSEE 10, a Chinese fashion brand that has redefined sustainability from its ethos and core brand values to the design, production, and promotion.

Chapter 19 is written by **Taylor Brydges.** The country context of this industry-centred chapter is **Australia** and provides a life history interview with Simone August founder of the Melbourne-based business simétrie.

The diversity of chapters outlines how different environmental sustainability can be interpreted. With new technologies and innovations looming on the horizon, we may see a future need to provide even more insights into this remit.

1.6   Sustainability Communication

The impact of climate change is at the forefront of global agendas. The United Nations' Sustainable Development priorities capture the importance of shared efforts in dealing with pressures on the planet and its resources. Businesses worldwide are keen to communicate their commitment to sustainable development and promote their ethical values. This communication can engage different parts of the organisation (e.g. design, sourcing, manufacturing, managing post-consumer waste, etc.) and can take different forms (social media, websites, retail space, product labelling, etc.). These different layers of communication are captured in this part of the book.

Chapter 20 authored by **Sianne Gordon-Wilson** takes a fashion brand perspective and focuses on the key motives for communicating about sustainability in the fashion industry. The author acknowledges the challenges in communicating sustainability to the final consumer and discusses important elements of that communication highlighting good business practices but also misleading ones. This chapter illustrates different messaging strategies and guidance for more substantiated communication in the fashion industry.

In Chap. 21 **Shuchan Luo** focuses on luxury fashion brands in **China** and explores how luxury fashion brands communicate sustainability information on their websites. The author analyses the online communication practice of luxury fashion brands and highlights the increasing appetite of luxury brands to communicate about sustainability with their customer base, across three sections of their e-commerce websites. Companies are then called to improve their online communication with more information and user-friendly design.

Chapter 22 provides insights from **Peru. Maria Monica Chachi Espinoza** and **Maria Alessandra Cáceres Gal'Lino** provide valuable insights into the challenges and opportunities of retail companies based in Peru when communicating sustainability. The authors focus on the interplay and synergies between technologies and communicating sustainability and offer a range of examples where technology meets sustainability in the Peruvian retail landscape.

Chapter 23 authored by **Helen Goworek** focuses more broadly on sustainable design and product development, thereby outlining how this can be communicated to a wider audience through the entire life cycle

Chapter 24 is written by **Nikolaos Dimitriadis, Elina Ketikidi Gerakis, Matteo Venerucci,** and **Panayiota Alevizou** and explores **Greek** consumers' attention to sustainability-related labelling on fashion hang tags. The authors conducted an eye-tracking study with Greek consumers and explored their attention to two fashion hang tags and found that wording, position and graphics on the tags influence the visual performance of intended messages. The authors highlight the need for a balance of information on fashion hang tags and consumer education.

Again, the varied topics in this section highlight that communication is complex, as there are not only different ways on how to explore them, but also there are a variety of channels that can be utilised. Technology of course does play a key role, which is further investigated in the next section of the book.

1.7 Sustainability and Technology

Technology is often seen as the new way to achieve sustainability, as such it may not be surprising that it has received increased attention within the academic remit and also investment from an industry perspective. Yet is this always the case? And what are new technologies that can be found in the market? This section of the book outlines some very interesting takes on technology by providing three carefully selected chapters.

Chapter 25 is written by **Courtney Chrimes** and provides a theoretical insight into the use of Blockchain Technology in facilitating the transition towards a circular economy. The context of this chapter is centred on the **EU**.

Chapter 26 is an extremely fascinating look at technological innovations. **Ruxandra Lupu** and **Margherita Tufarelli** focus on new technologies by exploring the visual haptics potential that shapes multisensory user experiences. They draw on participants from **Italy** and **Romania**.

Finally Chap. 27 authored by **Sarah Zakour** focuses on **Saudi Arabia** and how Snapchat can be used to encourage more sustainable business models.

In concluding this introduction chapter, we want to say THANK YOU one more time to everyone, who has made this publication possible! As we outlined in our 2017 edited volume of *Sustainability in Fashion: A Cradle to Upcycle Approach*, sustainability is our passion and we are very keen to make changes in the fashion and textile industry. Being able to provide this handbook that clearly showcases the diverse perspectives and interpretations of sustainability in fashion, we hope to also inspire others to follow on the path of sustainability.

We hope you enjoy this handbook as much as we enjoyed receiving, reading, and reviewing the contributions!

References

Boström, M., (2012) A missing pillar? Challenges in theorizing and practicing social sustainability: introduction to the special issue. *Sustainability: Science, practice and policy*, 8(1), 3–14.

Diesendorf, M. (2000) Sustainability and Sustainable Development, Chapter 2, in Dunphy, D., Benveniste, J., Griffiths, A. and Sutton, P. (eds) *Sustainability: The corporate challenge of the 21st century*, Allen & Unwin: Sydney, Australia, pp. 19–37

EEA (2023) *Textiles in Europe's circular economy,* EEA: https://www.eea.europa.eu/publications/textiles-in-europes-circular-economy, 22/12/2023

Elkington, J. (2004) Enter the Triple Bottom Line, Chapter 1, in Henriques, A. and Richardson, J. (eds) *The Triple Bottom Line, Does it all add up?*, Earthscan: London, UK, pp. 1–16

EMF. (2017) *What is the circualr economy*, EMF: https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview, 24/09/2024

European Parliament (2023) Circular economy: definition, importance and benefits, https://www.europarl.europa.eu/topics/en/article/20151201STO05603/circular-economy-definition-importance-and-benefits, 23/12/2024

Frost, R. (2021) *Blue rivers and water as strong as bleach: the 'destructive' impact of fast fashion in Africa*, EuroNews: https://www.euronews.com/green/2021/08/19/blue-rivers-and-water-as-strong-as-bleach-the-destructive-impact-of-fast-fashion-in-africa, 22/12/2023

Henninger, C.E., Alevizou, P.J. and Oates, C.J. (2016) What is sustainable fashion?, *Journal of Fashion Marketing & Management*, 20(4): 400–416.

Henninger, C.E., Alevizou, P.J., Goworek, H., & Ryding, D. (eds) (2017) *Sustainability in Fashion: A cradle to upcycle approach*, Springer: Heidelberg

IMF (2023) *Cost of Living crisis*, IMF: https://www.imf.org/external/pubs/ft/ar/2023/in-focus/cost-of-living-crisis/, 05/12/2023

Mittelstaedt, J.D., Schultz II, C.J., Kilbourne, W.E., & Peterson, M. (2014) Sustainability as Megatrend: two schools of Macromarketing Thought, *Journal of Macromarketing*, 34(3): 253–264

Silver, K. (2021) *How pandemic burnout sparked a knitting revival*, BBC: https://www.bbc.com/news/business-59291962, 22/12/2023

Smith, S.V., & Cai, S. (2021) *COVID-19 brings blue skies, improved air quality in China*, NPR: https://www.npr.org/2021/06/25/1010176556/covid-19-brings-blue-skies-improved-air-quality-in-china, 20/12/2023

Tonti. L. (2023) *'The missing link': is textile recycling the answer to fashion's waste crisis*, Guardian: https://www.theguardian.com/fashion/2023/oct/18/the-missing-link-is-textile-recycling-the-answer-to-fashions-waste-crisis, 03/12/2023

UN (2023) *The 17 Goals*, UN: https://sdgs.un.org/goals, 20/12/2023

UN (n.d.) *Priorities: sustainable development*, UN: https://www.un.org/sg/en/priorities/sustainable_development.shtml, 09/12/2023

UNFCCC (2018) *UN helps fashion industry shift to low carbon*, UNFCCC: https://unfccc.int/news/un-helps-fashion-industry-shift-to-low-carbon, 08/12/2023

Vladimirova, K., Henninger, C.E.*, Alosaimi, S.I., Brydges, T., Choopani, H., Hanlon, M., Iran, S., McCormick, H., & Zhou, S. (2023) Exploring the influence of social media on sustainable fashion consumption: a systematic literature review and future research agenda. *Journal of Global Fashion Marketing, 15*(2): 181–202

WCED (1987) *Our Common Future (The Brundtland Report),* World Commission on Environment and Development, Oxford University Press: Oxford, UK

2

Sustainability Transformation in the Fashion System: The Role of Epistemic Communities

Aino Helena Korhonen and **Kirsi Niinimäki**

2.1 Introduction

Sustainability transformations are innately political and increasingly shaped by market-led thinking and knowledge production. As Schmitz (2015) observed, the politics of "green" transformations also entail the politics of knowledge and culture. Schmitz called for us to focus on the range of relevant actors and the motives of these actors, as including actors with different motives will help us understand and accelerate the transformation toward sustainable practices (Schmitz 2015). We can call this network of such actors interpreting scientific knowledge into practical policy an epistemic community. An epistemic community is "a network of professionals with recognized expertise and competence in a particular domain with an authoritative claim to policy-relevant knowledge within that domain" (Haas 1992). It does not as such imply conformity of opinion or approach, but enables differentiation in how its members construct the problem, objectives, and core beliefs of climate change and the responses to it (Gough and Shackley 2001). Epistemic communities can be either strong or weak in terms of their persuasive abilities (Mai'a 2015).

However, the appearance of legitimacy and representativeness of this "stakeholder model of decision-making" allows the facilitator of this model to

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determine what problems are presented to the public and how they are framed as problems (Aronczyk and Espinoza 2021). The problem definition stage is one of the most important stages on which the political nature of sustainability plays out.

The scoping and framing of sustainability challenges are increasingly impacted by *promotional culture.* Promotional culture consists of a vast assemblage of branded contexts that influence and aim to benefit from a certain way defining the problems and actions needed (Andrew Wernick 1991; Aronczyk and Powers 2010). The power relations of these branded contexts are central to how effectively the stakeholder model is utilized or under-utilized. As noted by Costanza-Chock (2020), the framing of the design challenge frequently limits the possibilities to address systemic issues, root causes, or approaches based on social organization.

Expertise, money, organizational capacity, legitimacy, and leadership are all required for transforming the currently overtly extractive design of the fashion system, but as stated by Schmitz (2015), an alliance of only the like-minded limits the possibilities for a sustainable future. On the other hand, shifting the priorities of knowledge production in sustainability transformations toward an alliance that frames problems concerning the needs of historically marginalized communities, incentivizes community accountability and control mechanisms, and discourages extractive approaches to the design of green transformations that could accelerate climate change mitigation (Costanza-Chock 2020; Schmitz 2015; Osterhammel 2014).

2.2   Brands and the Growing Presence of Promotional Culture

More than twenty years ago, journalist and author Naomi Klein published her bestselling book, *No Logo* (1999). Critique of corporate power is now widely recognized, but Klein's description of the global rule of the brands (1999, p. 446) still holds true. Today, the rise of global corporate power and the growing cluster of branded contexts continue to naturalize their presence within an even wider range of social communication and have a great deal of power as knowledge producers within industries.

Outside the traditional realm of a "brand," promotional cultures are now also present in other environments such as non-profit organizations (NPOs), policy centers, cross-sector partnerships like corporate, non-governmental organization (NGO) tie-ups, think tanks, activist groups, and in-university

settings. In their book *Blowing up the Brand* (2010), media scholars Melissa Aronczyk and Devon Powers note that the logic of the brand is increasingly used in previously unbranded organizations and sites. Brands, branding, and promotional cultures at large now describe and structure not only our everyday lives, but also complex problems such as climate change and sector-specific pathways, aiming for their mitigation in industrial processes. Together they form knowledge-based networks, that create ideas and information standards, shaping political contexts (Aronczyk and Espinoza 2021).

Competitive branding has increased rapidly since the late 1970s, when corporate brand owners began to look for ways to account for their brands as assets (Lindemann 2003; Madden et al. 2006). During the 1980s brand position was established as a central component of the social structures—as a kind of social life moderator (Arvidsson 2006). The understanding of brand value as intangible and reputational capital that can match or exceed material capital became pertinent in the contemporary context of finance capital (Aronczyk and Powers 2010).

The globalization efforts of the 1990s and early 2000s intensified the production of brand valuation within a context of manufactured sameness (Klein 1999). Fashion supply chains shifted from domestic production to vertical disintegration strategies such as outsourcing production to a global network of independent subcontractors (Perry and Wood 2018). In other words, globalization led to two important developments in the fashion industry: the structural changes in the supply chains created functional equivalence, and this led to principal signifiers of the difference becoming the brand rather than the products themselves (Knight 2010).

Information and communication are key sources of capital in the media environment in which brands now function (Aronczyk and Powers 2010). Brand valuation happens by means of communication and these communicative exchanges make brands as "informational capital" (Arvidsson 2006). In the fashion sector, these value-creating promotional practices are interwoven in a wide range of obvious and less obvious communicative practices, such as advertising, social media presence, public relations, initiatives, sponsorships, public reports, vision statements, sustainability reports, product releases, third sector co-operations, white papers, policy briefs, and lobbying. However, when promotion acts as a form of knowledge production (e.g., on sustainability in the fashion sector)—creating an epistemic community as suggested by Aronczyk and Espinoza (2021)—it becomes an institutionalized form of knowledge production not only for for-profit actors, but also for political actors, the public sector, and the third sector (Aronczyk et al. 2017).

2.3   Modern Brand Logic and Temporality

Aronczyk and Powers (2010) came to two important conclusions about this modern brand logic, both of which resonate strongly with our current analysis of fashion sustainability research. First, in today's overcrowded communication landscape, brands now simplify, differentiate, and narrate a wide range of economic and social values, creating an increasing number of branded contexts and thus increasing brands' value (Aronczyk and Powers 2010).

Drawing from cultural studies scholar Andrew Wernick (1991), Aronczyk and Powers (2010) refer to this vast assemblage of branded contexts as *promotional culture*. Promotional culture in Wernick's view results from an environment in which all forms of exchange are dominated by capitalist forms of exchange, extending far beyond the obvious category of advertising (Wernick 1991).

Wernick writes: "As promotion and production begin to intersect, wherewith the relation between them begins to undergo a strange reversal. Promotion feeds back into the product's concept and design so that what is produced has already been conceived from the vantage point of the campaign wherein it will be promoted. Conversely: the campaign to promote the product, far from being ₐ mere add-on, becomes itself the main productive activity at the centre of the whole commodity process (…) Moreover, the tendency of mass production to issue in self-promoting products has been reinforced in the case of the culture industry by the very nature of the activity in which it is engaged: precisely because its business is communication, the mechanism for distributing the product is the same as the one for distributing promotional messages about it" (Wernick 1991, p. 268).

Aronczyk and Powers (2010) in turn conclude that the particular spatial and temporal zone that a brand occupies is predicated on the future: "the promise" of an experience. In this temporal setting, a brand can operate "risk-free." For instance, in fashion sector sustainability, the promise of large-scale carbon removal during the cultivation of raw material can be set in a prospective landscape, where the promise of sequestered carbon is based on hypothetical integrated assessment modeling. A change in the practices of cultivating fiber such as cotton (e.g., using cover crops, intercropping, and avoiding the tilling of the land) may help sequester carbon in the soil, but such a claim is dependent on several variables and it is difficult—if not impossible—to prove (Kearnes and Rickards 2020). Assessing the *potential* of climate mitigation instead of actual mitigation is an important part of climate modeling but can result in misleading claims in corporate settings or when

used for promotional purposes. Lury and Moor (2010, p. 47) argue that this "strategic occupation of a relation to a future" is critical as a brand valuation technique, to concurrently measure and create value.

2.4 Promotional Cultures as Epistemic Communities

Epistemic communities shed light on sustainability issues in the science-policy interface.

As mentioned earlier, Aronczyk and Espinoza (2021) suggest that promotional culture should be treated as an epistemic community, due to its growing power in problem-framing and solutions.

Epistemic communities are a concept that describes the structures underlying the increase of science ideas across different domains (Forsyth 2004). Thus, epistemic communities are non-official authorities for policy-making that shape policy in other important ways: by defining the issue at stake and providing standards and guidance (Aronczyk and Espinoza 2021). Control over the production of knowledge allows epistemic communities to articulate cause and effect relationships and to frame issues for collective debate (Dunlop 2012).

Peter Haas has defined an epistemic community as follows: "An epistemic community is a network of professionals with recognized experience and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area… What bonds members of an epistemic community is their shared belief or faith in the verity and the applicability of particular forms of knowledge or specific truths" (Haas 1992, p. 3).

This group of professionals from such a variety of different disciplines produces policy-relevant knowledge (Haas 1992). Haas' epistemic communities framework is an approach designed to address decision-making instances characterized by technical complexity and uncertainty (ibid.). These communities share a belief system around an issue containing four knowledge elements:

(1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired

outcomes; (3) shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence. (Haas 1992, p. 3)

As the urgency of the climate crisis makes sustainability transformations increasingly institutionalized, the promotional arena becomes more and more interested in framing sustainability for strategic reasons. Those in industrial sectors focus their energies on promoting their ideas and on establishing their own topics, issues, and discursive frames as the most pressing and important (Knight 2010). In this perspective, the internal cohesiveness of epistemic communities is of great importance. Mai'a (2015) argues that socialization, relationships, and persuasive processes within the epistemic community are central in determining its strength or weakness. Research shows that personal relationships, shared values, and a sense of community impact policy-making (Mai'a 2015; Marsh and Rhodes 1992).

2.5   Fashion Sector and Dichotomous Analysis of Sustainability

Promotion works when it simplifies, contradicts, and polarizes. Promotional cultures increasingly turn environmental problems into problems of information (Aronczyk and Espinoza 2021), thus enabling industry actors to intervene and provide the "right" kind of information to control the outcome (ibid.). Promotional cultures in the fashion sector can increase simplified dichotomous thinking about sustainability: portraying actors as "all good" or "all bad" does not reflect the complexity of the issue and can lead to political polarization.

Dichotomous analysis of sustainability in the fashion sector can lead research to fixate on widely recognized unsustainability issues such as fast fashion and consumerism, while missing dimensionality within groups offering climate solutions. For example, the difference between corporate and noncorporate action is not always obvious (Aronczyk and Espinoza 2021).

A recent example of this difficulty to draw a line between non- and for-profit actors is when Patagonia's billionaire founder, Yvon Chouinard announced in the autumn of 2022 that he was giving away the company "to fight the climate and extinction crisis" (Chouinard 2022). When Chouinard

transferred his family's ownership of Patagonia to a specially designed trust and NPO called the Holdfast Collective—a 501(c)(4) charity—as well as the Patagonia Purpose Trust, he was widely praised (e.g., Gelles 2022; McCormick 2022). On the surface, setting up their own charitable foundation to streamline the donation process may seem like a generous philanthropic action. However, setting up such an NPO that the family controls also benefits the Chouinards, in the form of massive tax cuts (Garo 2022) estimated to be USD 700 million (Pendleton and Steverman 2022). An additional benefit of this type of charity structure is that it allows unlimited political donations for greater lobbying power (Reilly and Braig Allen 2003).

Managing the company operations together with external organizations including NGOs, NPOs, and charity organizations currently plays an essential role in the fashion sector (Xu et al. 2022). For example, French luxury goods company Kering Group has established a sustainability initiative as part of its sustainability strategy; a fund called "Regenerative Fund for Nature" together with a 501(c)(3) non-profit Conservation International. The fund aims to transfer a million hectares of crop and rangelands into "regenerative agricultural spaces" during the next five years, to fight climate change and biodiversity loss (Kering 2021).

Such an alliance can be embodied in several ways. The trustworthy image of NGOs and NPOs can improve a corporation's reputation while attracting more consumers (Pahlevani et al. 2021), but the definition of these actors as an analytical category remains complex and unclear (Lewis 2010). The classification of, for example, NGOs emphasizes what they are not, rather than what they are, increasing the difficulty of analyzing their roles (ibid.). It is argued, that involving voluntary-based corporate sustainability and social responsibility strategies gives validity to corporate epistemic communities and normalizes the traditional development paradigm (Soederberg 2007; Aronczyk and Espinoza 2021). This paradigm assumes that given the "correct" policy framework, the market will be able to provide adequate levels of social and environmental protection while generating economic growth (ibid.).

2.6 Epistemic Communities of Low-Carbon Fashion

The need for low-carbon pathways in the fashion sector is dire and completely new ways of measuring and assessing the fashion sector are needed. The textile and garment sector accounts for a significant proportion of global carbon

emissions: somewhere around 8% of total global carbon emissions and 4–5 billion tons annually (Niinimäki et al. 2020). The Paris Agreement on climate change sets out a goal to limit the temperature increase pre-industrial levels to 1.5°C (UNFCCC 2016), accelerating the need for rapid decarbonization across industries.

Hence, the emission reductions needed to achieve this goal in the fashion sector are significant. In 2018, garment sector stakeholders made a commitment to climate action through the UNFCCC Fashion Industry Charter for Climate Change. Signatories of the charter committed to 30% less greenhouse gas emissions in Scope 1, 2, and 3 by 2030 against a baseline of no earlier than 2015 (UNFCCC 2018). Companies who have signed the charter also commit to "analyzing and setting a decarbonization for the fashion industry drawing on methodologies from the Science-Based Targets initiative" (UNFCCC 2018, p. 3). Companies like Chanel, Burberry, H&M Group, Inditex, Kering Group, and LVMH among others have signed the charter (United Nations Climate Change 2022).

This commitment to covering all three scopes of business operations and all their emission sources is a positive and significant development in the fashion sector. Fashion supply chains are notoriously complex, and previously, greenhouse gas emissions have only been calculated from Scopes 1 and 2. Scope 3 emissions include all indirect emissions resulting from activities from assets not owned or controlled by the reporting organization.

A self-proclaimed "corporate net-zero standard," The Science Based Targets initiative (SBTi) was founded in 2015. It involves collaboration between CDP, an international NPO that helps companies and cities disclose their environmental impact; the United Nations Global Compact; World Resources Institute; and the World Wide Fund for Nature. The goal of the SBTi is to help companies set science-based net-zero targets. The key components of its "Corporate Net-Zero Standard" are to prioritize rapid, deep reductions in direct and indirect value chain emissions; and to set long-term science-based targets to cut all possible emissions by 2050 (Science-Based Targets 2023).

In the absence of regulation or mandated standards, the SBTi's approval confers credibility within the fashion industry. Brand reputation, investor confidence, resilience against regulation and increased innovation are among the top benefits that companies seek by setting a science-based target (Galvin 2018). For example, as reported by the Financial Times, Chanel raised EUR 600 million in a bond issue linked to its environmental goals, with the borrowing terms tied to SBTi-approved targets (Hodgson 2022).

However, the SBTi framework has received growing criticism for its lack of accuracy concerning its underlying emission data. The New Climate Institute

(2022) has raised concerns over the SBTi's recommendations not including a commitment to deep decarbonization. In their analysis of 25 major global companies approved by the SBTi, The New Climate Institute showed that the emission reduction commitments were limited: the net zero targets in the analyzed companies were to reduce combined emissions by only 40% on average, and not 100% as suggested by the term "net zero" (New Climate Institute 2022, p. 5). Their research also showed dimensionality between the analyzed companies: 3 of the 25 companies did commit to the deep decarbonization of over 90% of their full value chain emissions by their respective target years (ibid.).

In the autumn of 2022, a group of acclaimed scientists critiqued the SBTi approach to target-setting in the form of an open letter (Carton et al. 2022). In the letter, eight scientists express concern that the SBTi's current "approach to target setting and validation is critically flawed" and offers "ample opportunity for companies to submit flawed data that misrepresents their GHG inventory" (Carton et al. 2022, p. 1). The SBTi's response to this criticism stressed the difficulties of achieving Scope 3 emissions coverage, but also the importance of this scope for reaching the entire value chain inventory for low-carbon or decarbonization goals (Carrillo Pineda 2022).

In the fashion sector, the Fashion Industry Charter for Climate Action also endorses the SBTi and bases its analysis of the fashion-sector-specific, net-zero pathways on the controversial Higg Index. The Higg Index is the tool most used by the industry. It has been accused of the same kinds of shortcomings as those of the SBTi: its environmental rankings for apparel misuse research and are not reviewed by independent third parties (Klepp and Tobiasson 2020). Thus, the index ultimately harms the most marginalized stakeholders and profits the most powerful in the global fashion industry (ibid.). The Higg Index is managed by commercial company Higg Co., which is a spinoff of a group called Sustainable Apparel Coalition; formed by a cluster of industry players (Klepp and Tobiasson 2020). Sustainable Apparel Coalition also supports the Fashion Industry Charter for Climate Action (UN Climate Change 2022).

The industry actors adhering to both the SBTi framework and the Fashion Industry Charter for Climate Action form the epistemic community defined by Haas (1992): both bodies are a network of professionals with recognized experience and competence in the fashion sector and with an authoritative claim to policy-relevant knowledge within the fashion domain. They are also bonded by a shared belief in the applicability of particular forms of knowledge and specific truths. As such, these groups of professionals from different disciplines produce policy-relevant knowledge (Haas 1992, p. 16) about

climate change in the fashion sector from the perspective of the fashion industry.

Yet, it is evident that these communities do not include all of the fashion industry, especially not those affected by the industry's degradation of environmental and social realms. As noted by Toke (1999), epistemic communities may be formed around one interest group in each domain and their perceptions of the "correct" course of action are driven by the social context. In other words, whereas epistemic communities are driven by knowledge based on empirical evidence concerning environmental and social issues, the recognition and legitimation of expert knowledge is socially constructed (Toke 1999; Davis Cross 2013). As Davis Cross (2013, p. 21) argues, "a consensus among high-status experts who are viewed as free from political interference is often quite powerful." The strategic communication within the fashion sector is to justify communication about sustainability issues. It functions as a technology of legitimacy that moderates publics and problems so that they can appear or disappear in political contexts of importance (Aronczyk and Espinoza 2021).

As the actors forming these communities are overwhelmingly powerful corporations and initiatives from Europe or the US, the knowledge they create about climate change should be increasingly viewed as strategic communication and as an environmentalism that is "a compromise object in and of itself used to make things sound right to all concerned" (Aronczyk and Espinoza 2021), and is highly selective about the risks it addresses. As such, these epistemic communities around low-carbon pathways form an example of strategic, promotional communication about climate change and sustainability in the fashion sector.

Yet, as described by Aronczyk and Espinoza (2021), this kind of public participation to seek out supporters, to reduce issues to their essence and to create antagonistic opposites, have in many instances failed to advance democratization, underpinning rather than overcoming historic inequalities, and preserving the legitimacy of the existing structures of authority. Historically, this kind of engagement is devised by corporate and state interests, but professionals in non-profit and non-governmental sectors are also invested in maintaining the political structures rather than attempting to challenge them (ibid.).

2.7   Conclusions

Climate change is a complex, yet extremely urgent problem. It forces all industries to rapidly develop new processes to replace their old, extractive modes of operations. Corporate actors have answered the call of urgency and are agilely framing and scoping solutions to climate change mitigation that inform the fashion sector's responses. This chapter has focused on the ways in which epistemic communities in fashion sustainability use their power to define problems by forming networks that create and justify knowledge. It pays special attention to the epistemic communities formed around powerful groups of professionals with corporate underpinnings.

By referring to the theoretical background to the epistemic communities' framework developed by Peter Haas and the work of scholars pushing the boundaries of traditional epistemic community thinking (e.g., Toke 1999; Aronczyk and Espinoza 2021; Mai´a 2015) this chapter has argued that fashion research needs to focus more on the emergence, development, and character of the most powerful epistemic communities within the fashion sector.

As political—thus often apoliticized—actors, these epistemic communities both enable and constrain actions toward a more sustainable and just fashion industry and set standards for stakeholders to be *professionals* with authoritative and policy-relevant expertise.

These communities are increasingly shaped by market-led thinking and knowledge production, yet the boundaries of corporate actions and promotional cultures are unclear and sometimes difficult to trace. The promotional cultures around environmental issues efficiently emulate the democratic structures of advocacy to reframe corporate decisions as the best collective agreement outcome for all parties (Aronczyk and Espinoza 2021).

A more comprehensive treatment of this merging of social communication and advertising in the fashion sector, and in fashion sustainability research in particular, could have the potential not only to sharpen intellectual critique but also to contribute to more reflexive research. The issue is the recognition of what Melissa Aronczyk and Maria Espinoza (2021) noted as the possible starting point of common exchange: "(…) that reckoning with the problem of the environment requires dialogue among and participation by all people and all perspectives, even—or perhaps especially—those that have historically appeared antithetical or antagonistic to the cause."

As noted by Klepp and Tobiansson (2020), the misuse of research for commercial benefit and the lack of review by independent third parties, produce strategies and frameworks in fashion sustainability that epistemologically and

institutionally legitimize inherently unsustainable practices in the name of "sustainability" and "climate change mitigation."

Therefore, fashion research should pay more attention to its epistemic communities that frame sustainability. As suggested by Dunlop (2013) and Aronzcyk and Espinoza (2021) it is important to consider how the epistemic communities of promotional culture have emerged and developed over time in this sector, and what characterizes them and the environmental knowledge they produce. Promotional cultures as an epistemic community create a distinct form of environmentalism (Case 2018), which should be assessed for its significance and limitations in fashion sustainability research, while avoiding dichotomous analysis.

More research and discussion are needed on accessibility and the formation of epistemic communities. With complex and global issues such as fashion sector sustainability, policymakers will increasingly rely on the expertise of professional networks to devise transnational solutions to global problems. Thus, the epistemic communities forming as the sectors response to climate change need to aim to represent the global fashion system. As indicated by Schmitz (2015), further examination of the range of relevant actors and the motives of these actors is called for, to clarify and accelerate the transformation toward sustainable practices.

References

Aronczyk, M. and Espinoza, M.I., 2021. *A strategic nature: Public relations and the politics of American environmentalism*. Oxford University Press.

Aronczyk, M., Edwards, L. and Kantola, A., 2017. Apprehending public relations as a promotional industry. *Public Relations Inquiry*, *6*(2), pp. 139–155.

Aronczyk, M. and Powers, D. eds., 2010. *Blowing up the brand: Critical perspectives on promotional culture* (Vol. 21). Peter Lang.

Arvidsson, A., 2006. *Brands: Meaning and value in media culture*. Psychology Press.

Carton, W., Stabinsky D., Lewis, S., Lund Christiansen, K., Cadman, T., Laurance, W. F., Vargas Zeppetello, L., Friis Lund, J. (2022). *Re: science-community concerns over SBTi approach*. Forest and Finance. Available at: https://forestsandfinance. org/wp-content/uploads/2022/10/Scientist-letter-to-SBTi-2.pdf (Accessed 3.3.2023)

Carrillo Pineda, A. (2022). 'The SBTi welcomes stronger scrutiny on corporate climate goals' *Science based Targets* [online]. Available at: https://sciencebasedtargets.org/blog/the-sbti-welcomes-stronger-scrutiny-on-corporate-climate-targets (Accessed: 13.1.2023)

Case, A.N., 2018. *The organic profit: Rodale and the making of marketplace environmentalism.* University of Washington Press

Chouinard, Y. (2022). 'Earth is now our only shareholder', *patagonia.com* [online]. Available at: https://www.patagonia.com/ownership/ (Accessed: 13.1.2023)

Costanza-Chock, S., 2020. *Design justice: Community-led practices to build the worlds we need.* The MIT Press.

Davis Cross, M.K. (2013) Rethinking epistemic communities twenty years later. *Review of International Studies, 39*(1): 137–160. https://doi.org/10.1017/S0260210512000034

Dunlop, C.A. 2012. Epistemic communities. Routledge.

Dunlop, C. A. (2013). Policy transfer as learning: capturing variation in what decision-makers learn from epistemic communities. In *New Directions in the Study of Policy Transfer* (pp. 52–74). Routledge.

Forsyth, T. (2004). *Critical political ecology: The politics of environmental science.* Routledge.

Galvin, D. (2018). 'Six business benefits of setting science-based targets', *Science based Targets* [online]. Available at: https://sciencebasedtargets.org/blog/six-business-benefits-of-setting-science-based-targets (Accessed 2.2.2023)

Garo, I. (2022). 'Thanks, Chouinard, But This Won´t Solve Anything', *Brown Political Review* [online]. Available at: https://brownpoliticalreview.org/2022/11/patagonia-billionaire-philanthropy/ (Accessed 2.2.2023)

Gelles, D. (2022). 'Billionaire No More: Patagonia Founder Gives Away The Company', *The New York Times* [online]. Available at: https://www.nytimes.com/2022/09/14/climate/patagonia-climate-philanthropy-chouinard.html (Accessed 28.1.2023)

Gough, C. and Shackley, S., 2001. The respectable politics of climate change: the epistemic communities and NGOs. *International affairs*, *77*(2), pp. 329–346.

Haas, P.M., 1992. Introduction: epistemic communities and international policy coordination. *International organization*, *46*(1), pp. 1–35.

Hodgson, C. (2022, November 2). *Climate scientists criticize corporate emissions oversight body SBTi.* Financial Times [online]. Available at: https://www.ft.com/content/8efe3f48-1f00-4731-919b-e47f4d5f7c82 (Accessed: 3.4.2023)

Kearnes, M. and Rickards, L., 2020. Knowing earth, knowing soil: Epistemological work and the political aesthetics of regenerative agriculture. *Thinking with soils: Material politics and social theory*, pp. 71–84.

Kering. (2021). 'Regenerative Fund for Nature' [online]. Available at: https://www.kering.com/en/sustainability/safeguarding-the-planet/regenerative-fund-for-nature/ (Accessed: 20.1.2023)

Klein, N., 1999. No Logo: Taking Aim at the Brand Bullies (Picador, New York).

Klepp, I. G., & Tobiasson, T. S. (2020). *Lettkledd. Velkledd med lite miljøbelastning*. Solum Bokvennen AS.

Knight, G., 2010. Activism, branding, and the promotional public sphere. *Blowing up the brand: Critical perspectives on promotional culture*, *21*, p. 173.

Lewis, D., 2010. Nongovernmental organizations, definition and history. *International encyclopedia of civil society*, *41*(6), pp. 1056–1062.

Lindemann, J., 2003. *Brand valuation: the economy of brands*. London: Palgrave Macmillan.

Lury, C. and Moor, L., 2010. *Brand valuation and topological culture* (pp. 29–52). Peter Lang.

Madden, T.J., Fehle, F. and Fournier, S., 2006. Brands matter: An empirical demonstration of the creation of shareholder value through branding. *Journal of the Academy of Marketing Science*, *34*(2), pp. 224–235.

Mai'a K, D. C. (2013). Rethinking epistemic communities twenty years later. *Review of International Studies, 39*(1), 137–160.

Mai'a, K., 2015. The limits of epistemic communities: EU security agencies. *Politics and Governance*, *3*(1), pp. 90–100.

Marsh, D. and Rhodes, R.A.W., 1992. *Policy networks in British government*. Clarendon Press.

McCormick, E. (2022). 'Patagonia's billionaire owner gives away company to fight climate change', *The Guardian* [online]. Available at: https://www.theguardian.com/us-news/2022/sep/14/patagonias-billionaire-owner-gives-away-company-to-fight-climate-crisis-yvon-chouinard (Accessed 20.1.2023)

New Climate Institute. (2022). *The Corporate Climate Responsibility Monitor*. Available at: https://newclimate.org/sites/default/files/202206/CorporateClimateResponsibilityMonitor2022.pdf (Accessed 18.1. 2023)

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T. and Gwilt, A., 2020. The environmental price of fast fashion. *Nature Reviews Earth & Environment*, *1*(4), pp. 189–200.

Osterhammel, J., 2014. *The Transformation of the World: A Global History of the Nineteenth Century: A Global History of the Nineteenth Century*. Princeton University Press.

Pahlevani, M., Choi, T.M., Heydari, J. and Xu, X., 2021. Cooperative donation programs in supply chains with non-governmental organizations (NGOs). *IEEE Transactions on Engineering Management*.

Pendleton, D. and Steverman, B. (2022). 'Patagonia Billionaire Who Gave Up Company Skirts 700 Million Tax Hit', *Bloomberg* [online]. Available at: https://www.bloomberg.com/news/articles/2022-09-15/patagonia-billionaire-who-gave-up-company-skirts-700-million-tax-hit#xj4y7vzkg (Accessed 20.1.2023)

Perry, P., & Wood, S. (2018). Exploring the international fashion supply chain and corporate social responsibility. *Logistics and Retail Management. 5th ed. Kogan Page,* pp. 97–128.

Reilly, J. F. and Braig Allen, B. A. (2003). 'Political Campaign and Lobbying Activities of IRC 501 (c) (4), (c) (5), and (C) (6) Organizations', *IRC* [online]. Available at: https://www.irs.gov/pub/irs-tege/eotopicl03.pdf (Accessed 20.1.2023)

Schmitz, H. (2015). Green transformation. The politics of green transformations, 170.

Science-Based Targets. (2023, April). *SBTi Corporate Net-Zero Standard. Science-Based Targets* [online]. Available at: https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf (Accessed 13.2.2023)

Soederberg, S. (2007). Taming corporations or buttressing market-led development? A critical assessment of the global compact. *Globalizations*, *4*(4), 500–513.

Toke, D. (1999). Epistemic communities and environmental groups. *Politics*, *19*(2), 97–102.

UNFCCC. (2016). 'The Paris Agreement'. UNFCCC [online]. Available at: https://unfccc.int/process-and-meetings/the-paris-agreement (Accessed 20.1.2023)

UNFCCC. (2018). *Fashion Industry Charter For Climate Action*. UNFCCC [online]. Available at: https://unfccc.int/sites/default/files/resource/Industry%20Charter%20%20Fashion%20and%20Climate%20Action%20-%2022102018.pdf (Accessed 20.1.2023)

United Nations Climate Change. (2022). 'Fashion Charter – Participants' [online]. Available at: https://unfccc.int/climate-action/sectoral-engagement-for-climate-action/fashion-charter/participants#Signatories- (Accessed: 20.1.2023)

Wernick, A., 1991. Promotional culture. *CTheory*, *15*(1–3), pp. 260–281.

Xu, X., Chung, S.H., Lo, C.K. and Yeung, A.C., 2022. Sustainable supply chain management with NGOs, NPOs, and charity organizations: A systematic review and research agenda. *Transportation Research Part E: Logistics and Transportation Review*, *164*, p. 102822.

3

The Transition Towards Sustainable Development: A Reality of the Sustainable Fashion Industry in Saudi Arabia

Rana Alblowi

3.1 Introduction

The luxury business has grown worldwide over the last decade, prompting increasing attention and discussion among practitioners, researchers, and academics (Alblowi et al. 2022a; Alosaimi 2022; Singh et al. 2022; Chan et al. 2023). With a large proportion of its Generation Y and Generation Z, Saudi Arabia is predominantly moving towards an environmentally conscious purchase behaviour. This means businesses operating in the country must focus on the emerging sustainability requirements. However, surprisingly, very little research has been dedicated to such luxury fashion start-ups and their struggles in Saudi Arabia (Ahmad et al. 2020; Almulhim and Abubakar 2021; Alosaimi 2022; Soomro et al. 2022; Chan et al. 2023). The purpose of this research is, therefore, to evaluate the current status of sustainable luxury fashion businesses in Saudi Arabia and to assess the impact of the Ministry of Culture on their development.

The research is important as luxury is a key business in Saudi Arabia (Mishra et al. 2021)., and in more recent times, the entire Gulf region has seen a shift in consumption patterns, especially among Millennial consumers towards luxury (Mishra et al. 2021; Ramadan and Nsouli 2022 and Alblowi et al. 2022a.). A similar shift in consumption pattern is noted for the typical female

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consumers of luxury brands, as they are now technology savvy and experienced with distinguishing between the advantages and associated costs of owning products (Mishra et al. 2021). Also, female luxury consumers in the Middle East strive to remain distinctive while at the same time minimizing their carbon footprint (Ramadan and Nsouli 2022). Under the changing sensibilities of luxury consumers in the region, several start-up luxury brands have emerged to cater to the needs of a growing market.

However, these start-ups, which are mostly female-driven, face several challenges. These challenges range from managing pollution, reducing their carbon footprint, managing sustainable sourcing, and environment-friendly waste disposal (Wang et al. 2023). The start-ups need to adhere to the circular economy principles and manage sustainability, both because of the governmental drive towards a circular economy (Alblowi et al. 2022a.; Almulhim and Al-Saidi 2023) and because of the increasing demand for sustainable and responsible luxury fashion consumption from customers (Gazzola et al. 2020). This research fills the gap in existing literature, as research taken from the perspective of luxury fashion businesses, which Saudi females predominantly lead, is also rare. Furthermore, with its varied stakeholders, the luxury fashion business has not received much research interest. As such, this study, in sum, aims to answer the following research questions:

Q1: What is the present state of the sustainable luxury fashion industry with regard to its innovative design initiatives?
Q2: What is the practical influence of the Ministry of Culture's initiatives on the sustainable luxury fashion businesses?

3.2   Literature Review

3.2.1   Saudi Vision 2030 and Drivers of Sustainability in the Luxury Fashion Sector in Saudi Arabia

Saudi Arabia has a large and growing proportion of the young population that is constantly demanding products and services that are environment-friendly and responsibly sourced and manufactured (Aichner and Shaltoni 2019; Alblowi et al. 2022a; Singh et al. 2023). Saudi Arabia's Vision 2030 focuses on sustainable development and deploying clean technologies and processes for producing environment-friendly products (Alblowi et al. 2022a; Alosaimi 2022; Singh et al. 2023). The Ministry of Culture, Kingdom of Saudi Arabia

(KSA), has developed numerous initiatives to help businesses and start-ups transition to circular economy principles and reduce their carbon footprints (Alblowi et al. 2021, 2022a). The Saudi Fashion Commission (SFC) is one of the projects created by the Ministry of Culture to promote sustainability in luxury fashion and to meet the goals of the Vision 2030, and its mission is aligned with the Saudi National Culture Strategy. The SFC is under the Ministry of Culture that effectively oversees the advancement of the cultural sector in Saudi Arabia.

The Saudi Fashion Commission (SFC) collaborates with international fashion schools for courses in costume designing and 3D design software, fostering local luxury brand development using regional resources and artisans (Alblowi et al. 2021; Sambidge 2023). SFC's initiatives like Saudi 100 Brands offer mentorship, legal, and technical support, focusing on sustainability (Alblowi et al. 2022a; Fashion Commission 2023b; Sambidge 2023). SFC supports female entrepreneurship (Alessa et al. 2022; Zarea 2022; Sambidge 2023) and organises events like Fashion Futures for local brand exposure (Alblowi et al. 2022a; Saudi Gazette 2023). Its Swap Shop promotes prolonged luxury item usage (Singh 2022; Fashion Commission 2023b), and collaborations with educational institutes enhance sustainability (KAUST 2022; Zarea 2022). However, data on SFC's sustainability impact in Saudi's luxury fashion is limited, signalling a research gap.

3.2.2   Fashion Industry State in Saudi Arabia

Saudi Arabia's fashion industry, particularly in garments, is rapidly growing, contributing significantly to the GDP and projected to reach US$32 billion by 2025, with a CAGR of 13% from 2021 to 2025 (Alatawy 2022; Fashion Commission 2023b). This growth encompasses various segments like clothing, accessories, footwear, and luxury products. Sustainable luxury brands are emerging, with Sadeem sourcing sustainable materials and Abadia partnering with local artisans (Arab News 2022a). Despite this, challenges persist in sustainability within luxury fashion. The information, primarily from websites and Ministry publications, highlights a gap in academic research on these challenges, underscoring the need for more studies (Dasoar 2021).

3.2.3 Impact of the Ministry of Culture, Saudi Arabia's Initiatives on the Sustainable Luxury Fashion Sector

The Ministry of Culture's programmes in Saudi Arabia focus on advancing sustainable luxury fashion, but more research is needed to assess their practical effects (Arab News 2022b; Fashion Commission 2023a). These initiatives include facilitating design and upskilling in product development, with colleges playing a key role in training skilled individuals (Alblowi et al. 2022a; Arab News 2023; Bell 2023). The 'State of Fashion in the Kingdom of Saudi Arabia 2023' report highlights industry growth and reduced import reliance (Bell 2023). Efforts to promote a circular economy include recycling initiatives and swap shops (Bell 2023), complemented by digital events for global industry insights (Eye of Riyadh 2021). However, recent data (2018) shows most Saudi manufacturers are small, indicating a need for more upskilling (World Bank 2022). This underscores the importance of understanding the Ministry's role in fostering sustainable luxury fashion.

3.2.4 Obstacles Encountered by Entrepreneurs in the Luxury Fashion Industry in Saudi Arabia

The luxury fashion industry in Saudi Arabia faces multiple challenges, the most prominent of which are related to the sourcing of raw materials, managing sustainable supply chains, manufacturing in a cost-effective and environmentally friendly manner, managing waste disposal, and marketing products.

3.2.4.1 Ethical Sourcing Challenges Associated with Raw Material Sourcing

Saudi Arabia's luxury fashion industry faces challenges in sourcing raw materials, managing sustainable supply chains, and producing eco-friendly products (Bhandari et al. 2022; Henninger and Brydges 2023). Ethical sourcing is problematic due to the scarcity of materials and concerns about extraction and sustainability (MBSC et al. 2021; Karaosman et al. 2020). Modern consumers demand transparency and ethical practices, driving the industry to prioritise sustainability (Aichner and Shaltoni 2019; Alblowi et al. 2022a; Fashion Commission 2023a; Franco et al. 2020). Challenges in sourcing natural fibres contribute to deforestation, and producing chemical-based fibres

ethically is complex (Lo and Ha-Brookshire 2018; Henninger and Brydges 2023; Gupta and Gupta 2023; Guercini and Ranfagni 2013). Businesses must balance environmental sustainability with consumer demands, contributing to resource rehabilitation or developing eco-friendly alternatives (Franco et al. 2019; Henninger and Brydges 2023; Gupta and Gupta 2023). However, research gaps persist in evaluating these practices' effectiveness and developing innovative, sustainable solutions in the Saudi luxury fashion sector.

3.2.4.2 Challenges Associated with Supply Chain Management in Saudi Arabia

While luxury fashion businesses have to face challenges related to transparency and sustainability in their sourcing operations, a prominent challenge that they face is related to the fact that Saudi Arabia does not have sufficient indigenous resources to feed the local brands (Alblowi et al. 2022b; Fashion Commission 2023b). The climate and geography of the nation limit the production of natural fibres like cotton or even pasturelands, which creates a scarcity of locally sourced raw materials for the luxury fashion industry.

The country's luxury fashion businesses are almost completely dependent upon external resources, which makes the supply chains vulnerable to changing exchange rates and global economic or conflict conditions (Alblowi et al. 2022a, b). Also, having a long supply chain makes the industry lack sensitivity to the changing needs and preferences of the customers (Gupta and Soni 2021; Wren 2022; Henninger and Brydges 2023). Nevertheless, a literature review has highlighted the paucity of research exploring this aspect of the Saudi Arabian luxury fashion businesses.

It is noted from the above review that there is a lack of research exploring the specific challenges Saudi Arabian luxury fashion businesses face in supply chain management. This is a serious gap in existing literature, particularly as the businesses seem to have a heavy reliance on external resources and are vulnerable to changes in the international business environment or crises.

3.2.4.3 Challenges Associated with Energy and Water Consumption and Waste Management

The luxury fashion businesses also face challenges linked to energy consumption, as the production and manufacturing process is energy-intensive, may lead to air and water pollution, and is often accompanied by large amounts of

waste that can lead to river and soil degradation (John and Mishra 2023). The production processes also use high amounts of electricity and fuel, though according to an estimate, 90% of energy consumption for luxury fashion businesses occurs at the supply chain level (McKinsey & Company 2020; Muthu 2020). Ellen MacArthur Foundation estimates that 1.2 billion tons of greenhouse gas emissions can be traced to the textile industry, along with 98 million tons of non-renewable raw materials (Ellen MacArthur Foundation 2017) and textile waste. In terms of water consumption, the industry uses over 2700 litres per t-shirt production, which is without accounting for the dyeing and finishing parts of the process (World Wildlife Fund 2022).

Also, the production process requires chemicals that may seep into the environment and get into the food chain in the longer term (Rathore 2023). While the above challenges are also applicable to the luxury fashion businesses in Saudi Arabia, it is evident from the review that no focused study is available from the region that could identify or quantify such challenges. It needs to be noted that the government of Saudi Arabia aims to reduce the carbon footprint of the luxury fashion businesses, but without enough availability of actual facts and figures.

For challenges related to energy and water consumption and waste management in Saudi Arabia's luxury fashion sector, there is an absence of region-specific studies that can identify and quantify the environmental impacts of these businesses. In the absence of such data, it is difficult to develop effective, data-driven strategies for sustainability. Additionally, a challenge that the luxury fashion businesses may face is related to their lack of awareness and lack of resources for innovation, which are discussed next.

3.2.4.4   Challenges Associated with Lack of Awareness and Resources for Innovation

The luxury fashion industry faces challenges in innovating due to resource scarcity and the need to meet ethical sourcing standards. Brands like Stella McCartney and Gucci have developed sustainable alternatives such as mycelium-based Bolt threads and recycled Re-Nylon fibres, respectively (Franco et al. 2019; Kelleci 2022), reducing reliance on traditional materials. However, such innovations are rare globally, and in Saudi Arabia, there's a significant gap in understanding and capability for sustainable technological innovation (Mabuza et al. 2023). Research into Saudi Arabia's luxury fashion industry, particularly in sustainable manufacturing and design technologies, is

limited (Lodi 2022), highlighting a need for more studies on local resource access and development of innovative alternatives.

This gap in literature calls for more exploration into the industry's status and the Ministry of Culture's role in fostering sustainability, setting the stage for the next section's focus on research methodology.

3.3   Research Methodology

The research adopted a qualitative method, as the aim was to obtain in-depth information about the current status of forward-thinking design initiatives and the role of the Ministry of Culture in supporting luxury fashion businesses. A phenomenological paradigm was found suited to the above objective, as it allowed for collecting and interpreting data from the stakeholders' perspective (Brinkmann & Kvale 2018) from the luxury fashion businesses in Saudi Arabia.

The sample was selected purposely by approaching luxury fashion businesses through a digital advertisement disseminated through social media platforms, which defined that participants needed to meet the following conditions to be eligible for participation:

1. The proprietor has been operating the fashion business for over three years.
2. The age is up to 18 years and over.
3. Engaging in sustainable luxury fashion business practices.

The data was collected using a semi-structured interview formulated using the insights gained from the literature review and guided by this study's research questions. The adoption of semi-structured interviews allowed the development of a comprehensive protocol encompassing pertinent themes while concurrently providing the flexibility to go deeper into specific subjects or explore novel areas of interest throughout the conversations (Brinkmann & Kvale 2018).

As a result, 18 sustainable fashion businesses were included in the study and the implementation of semi-structured audio-recorded interviews, with each session lasting between 45 and 60 minutes. The interviews were transcribed and recorded exactly as they were given. After conducting 15 interviews, it was observed that no new topics emerged, suggesting that data saturation had been reached (Fusch and Ness 2015). Participants received an individual identifier (see Table 3.1) in line with ethical approval, ensuring their anonymity and confidentiality.

Table 3.1 Participants summary

Participants	Company description	Founding year	Length of interview
Brand 1	Outdoor apparel	2020	37 min
Brand 2	Abaya	2013	22 min
Brand 3	Women apparel	2015	26 min
Brand 4	Outdoor apparel	2019	30 min
Brand 5	Women apparel	2016	43 min
Brand 6	Man apparel	2019	29 min
Brand 7	kids' apparel	2018	33 min
Brand 8	Women apparel	2011	30 min
Brand 9	Abaya	2012	22 min
Brand 10	Outdoor apparel	2016	26 min
Brand 11	Accessories	2020	29 min
Brand 12	Man apparel	2017	27 min
Brand 13	Women apparel	2019	29 min
Brand 14	Abaya	2018	22 min
Brand 15	Outdoor apparel	2016	33 min
Brand 16	kids' apparel	2013	21 min
Brand 17	Women apparel	2018	27 min
Brand 18	Women apparel	2017	34 min

Data analysis was done using Grounded analysis that was based on the method suggested by Easterby-Smith et al. (2018), which consists of seven steps: familiarisation, reflection, open (first) coding, conceptualisation, focused (second) re-coding, linking, and re-evaluation.

3.4   Findings and Discussion

The research adopted a qualitative approach using a qualitative methodology involving interviews (18 sustainable fashion businesses). The interview questions were aligned with the overall research questions mentioned in the introduction section, and the findings are also categorised within the themes that conform to the main research questions.

3.4.1   Forward-Thinking Design Initiatives in the Sustainable Luxury Fashion Industry, Saudi Arabia

A theme emerged: several developments and initiatives urged and encouraged the sustainable fashion business to adopt forward-thinking designs and move towards sustainable fashion development. The interviewed sustainable fashion

businesses (denoted by *Brand*) recounted their status and industry experiences regarding sustainability initiatives and forward-thinking designs. For example, according to *Brand 1*, their company was already engaged in using the latest technology to develop innovative and sustainable designs: *"used 3D technology to design and manufacture garments, contributing to resource conservation and promoting sustainability within the Saudi."* This finding highlighted that sustainable fashion businesses were focused on developing forward-thinking designs through innovative means that could reduce their carbon footprint.

Additionally, there are indications that the Saudi luxury fashion industry is becoming more mature with the development of legal and regulatory frameworks to support new technology implementation and sustainable design. This is further observed in the following response from *Brand 4: "As an entrepreneur in the Saudi fashion industry and a team member responsible for its development in the Saudi fashion sector, we are currently experiencing a phase marked by increased awareness and the establishment of appropriate legal frameworks. These frameworks aim to create a favourable environment for the fashion industry by addressing and regulating licensing, permits, and operational regulations within this sector."*

Interview findings from Saudi sustainable fashion businesses, particularly *Brand 1*'s use of 3D technology and *Brand 4*'s insights on legal frameworks, echo the literature's focus on the industry's growth and sustainability (Alatawy 2022; Arab News 2022a; Dasoar 2021).

These findings align with the Ministry of Culture's initiatives to enhance Saudi luxury fashion's competitiveness (Fashion Commission 2023a; Arab News 2023), indicating an evolving industry increasingly focused on innovation and sustainability. However, there's a noted need for more in-depth research to measure these initiatives' real-world impact (Fashion Commission 2023a).

3.4.2 Practical Influence of the Ministry of Culture, Saudi Arabia's Initiatives on the Sustainable Luxury Fashion Sector

The influence of the Ministry of Culture on the luxury fashion industry was evaluated from the responses that focused on describing the latest trends or achievements of the luxury fashion industry in Saudi Arabia. For example, *Brand 3* stated that, *"The Saudi Fashion Commission has signed many Memorandum of Understanding (MoU) to empower the Kingdom's burgeoning*

sustainable fashion sector." This means that the Ministry of Culture is showcasing its commitment to promoting sustainable luxury fashion in the country and is in the process of supporting the businesses that provide such products. This is also reflected in *Brand 7's* response, as shown below:

"Following my knowledge, the Ministry of Culture (Fashion Commission) has initiated a promising endeavour by entering into several memoranda of understanding with King Abdullah University of Science and Technology (KAUST) and The Misk Foundation's Prince Mohammed bin Salman Nonprofit City. These collaborations aim to promote the development of the Saudi fashion industry and augment its economic impact in alignment with the goals outlined in Saudi Arabia's Sustainable Vision 2030." The emphasis on collaborative efforts with KAUST and The Misk Foundation *Brand 7* aligns with the literature's mention of facilitating design and upskilling opportunities (Fashion Commission 2023a).

Additionally, other sustainable fashion businesses shared their experience with the Ministry of Culture and highlighted the valuable influence of the Ministry in helping them expand or grow. For example, both *Brands 5 and Brand 6* found that the Ministry's initiatives were helpful for them. *"I had the privilege of being a participant at The Tanween Bio-tech Fashion event held at the King Abdulaziz Center for World Culture (Ithra) in Al Khobar, Saudi Arabia. This event aimed to engage designers in a creative challenge to conceptualize and produce a distinctive garment that delves into the possibilities of emerging biomaterials and digital fabrication techniques. In this project, we aim to explore a novel and innovative approach to bio-design by utilizing living creatures and biomaterials derived from organic waste. We seek to transform these resources into intricate designs by integrating developing technologies such as 3D printing and laser cutting."* Brand 5.

"As part of an initiative promoting sustainable and regenerative fashion, I recently had the opportunity to visit the GFX Swap Shop located in Riyadh. This establishment aims to enhance customers' fashion choices while fostering a sense of community centred around exchanging goods from our wardrobes." Brand 6. Both the initiatives mentioned by the two sustainable fashion businesses above, The Tanween Bio-tech Fashion Event and the GFX Swap Shop, are the initiatives of the Fashion Commission, Ministry of Culture; hence, they reflect the deep involvement and commitment of the Ministry towards developing awareness and support for sustainable luxury fashion industry in the country. These initiatives underscore the Ministry's efforts in promoting innovative and sustainable practices, resonating with the literature's focus on encouraging recycling and fostering a circular economy (Bell 2023).

Similarly, sustainable fashion businesses *Brand 13* also narrated the impact of the Fashion Commission in the following manner, "*I joined the Digital Fashion Program" organized by the Saudi Fashion Commission to enhance my proficiency in creative digital abilities. I acquired knowledge on using technologies in a sustainable manner, exemplified through applying the Clo3D digital fashion design program. This software facilitated the incorporation of sustainable practices into our creative processes.*" This programme's focus on enhancing digital skills for sustainable practices reflects the literature's emphasis on upskilling and integrating technology in fashion design (Fashion Commission 2023a; Alblowi et al. 2022a).

An obstacle shared by some of the sustainable fashion businesses was a need for more awareness about the full range of programmes and initiatives created by the Ministry of Culture for sustainable luxury fashion. Some of the participants were not aware of the full range of services and support programmes that the Ministry of Culture was providing for sustainable fashion businesses in the luxury fashion industry, as was evident by the response of *Brand 2: "I would like to discuss the role of the Saudi Fashion Commission in addressing and implementing sustainability in the Saudi Arabian fashion industry, as well as the workshops they hosted to promote awareness of sustainable fabrics."*

A gap is noted in participant *Brand 2*'s response, indicating a lack of awareness about the full range of programmes by the Ministry, echoing the literature's call for more comprehensive studies to assess these initiatives' tangible effects (Arab News 2022b; Fashion Commission 2023a). This lack of awareness suggests the need for broader dissemination and communication of these programmes and their benefits. However, the responses align with and complement the literature which underscores the need for more research and reports assessing the practical effects of the Ministry's initiatives (Arab News 2022b; Fashion Commission 2023a).

3.4.3 Obstacles Faced by the Luxury Fashion Industry in Becoming Sustainable and Producing Environment-Friendly Products and Designs

Several participants mentioned challenges that could be segregated under challenges related to ethical sourcing of raw materials, supply chain management, energy and water consumption, and lack of awareness and resource allocations. These findings are therefore discussed in detail below and contextualised within the previous literature.

3.4.3.1   Ethical Sourcing of Raw Materials

According to *Brand 15, "the lack of raw materials in Saudi Arabia could pose a challenge for the fashion sector, and she emphasised the need for the Fashion Commission to implement strategies that support environmentally friendly fashion businesses."*

The finding from *Brand 15* aligns with the broader literature, which highlights sourcing raw materials as a significant challenge in the luxury fashion industry, especially in Saudi Arabia (MBSC et al. 2021). *Brand 15*'s emphasis on the need for the Fashion Commission to implement strategies supporting environmentally friendly businesses further lends support to the need identified in literature for sustainable practices and transparency in sourcing (Franco et al. 2020). This finding, therefore, confirms what was found in literature, that there is a scarcity of local raw materials and the industry's move towards more sustainable and ethical sourcing practices.

Additionally, *Brand 7* stated that, "*The Tadween industry engages in the recycling of clothes and textiles to produce raw materials. However, the application of this process is limited to the production of filler material for garments, rather than the entire garment itself.*"

Brand 7's insight into the Tadween industry's recycling limitations for textiles, focusing only on filler materials and not entire garments, reveals a specific gap in sustainable resource recycling. While not directly covered in existing literature, this issue adds depth to the discussions on ethical sourcing and the need for innovation in luxury fashion (Franco et al. 2019; Henninger and Brydges 2023). It highlights a niche area in sustainable raw material sourcing, underscoring the potential for development and innovation in the sector.

3.4.3.2   Supply Chain Management in Saudi Arabia

The participants were forthcoming about the challenges in the supply chain management, as can be seen from the following excerpts:

Brand 18 "As a business entity, it is imperative to establish and develop a fashion retail supply chain that is primarily driven by Saudi brands."

Brand 10 "There is a notable demand for training within the fashion industry across various areas, including marketing plan development, supply chain management strategies, and content generation techniques. Therefore, we propose the implementation of paid training classes to address this need."

Brand 18's focus on developing a supply chain driven by Saudi brands addresses the literature's noted challenges of global dependency and the need to strengthen local supply chains (Alsabban and Issa 2020; Alblowi et al. 2022b).

This approach aims to reduce risks from external sourcing and bolster the industry's autonomy. Complementing this, *Brand 10* highlights the demand for training in key areas like marketing, supply chain management, and content generation (Ahmad et al. 2020; Alblowi et al. 2022a, b), proposing paid classes to enhance industry skills. These initiatives, by fostering local expertise and innovation, could lead to more adaptable and efficient supply chain solutions, thereby enhancing the Saudi luxury fashion industry's resilience and responsiveness to market dynamics.

3.4.3.3 Energy and Water Consumption and Waste Management

Some participants also mentioned energy- and water-related challenges. For example, *Brand 12* stated that, *"As a sustainable fashion company, as it is imperative to promote the preservation of natural resources, advocate for energy conservation, minimise waste output, and direct resources towards future economies by implementing reuse techniques"*. *Brand 12*'s emphasis on energy conservation in the fashion industry is crucial for reducing its energy footprint, particularly at the supply chain level where significant electricity and fuel consumption occurs (McKinsey & Company 2020; Muthu 2020). This approach is vital given the industry's substantial greenhouse gas emissions and reliance on nonrenewable materials (Ellen MacArthur Foundation 2017). However, the existing literature highlights a lack of detailed studies specific to Saudi Arabia, underlining the need for targeted research to effectively implement and quantify sustainable practices in the region (John and Mishra 2023).

3.4.3.4 Availability of Resources for Innovation

Some participants mentioned the lack of awareness and resources as a challenge. For example, *Brand 14* mentioned that, "*I took part in the fashion incubator programme offered by this fashion Commission which includes numerous courses on topics like sustainability and technology in fashion. I gained a lot of knowledge about how current technology is applied to design. My knowledge of the*

sustainable fashion sector has increased significantly as a result of the sustainability workshop."

Additionally, *Brand 17* stated that, "*We still need more legislation related to sustainability. However, the Fashion Commission attempts to raise awareness of sustainable fashion and hosts several virtual meetings with representatives from fashion and retail companies and sustainability experts.*"

Participant *Brand 14*'s experience in the fashion incubator programme reveals the importance of educational initiatives for fostering innovation and sustainability in Saudi Arabia's luxury fashion industry. *Brand 14*'s enhanced understanding of sustainable practices through this programme reflects the need to bridge knowledge gaps within the industry. This contrasts with global luxury brands like Stella McCartney and Gucci, who have advanced in sustainable materials like mycelium-based Bolt threads and recycled Re-Nylon fibres (Franco et al. 2019; Kelleci 2022), a level of innovation yet to be widely seen in Saudi Arabia due to challenges like resource scarcity (Mabuza et al. 2023). The situation highlighted by *Brand 17*, too, underscores the necessity of structured, accessible educational programmes and more comprehensive research, particularly under the guidance of entities like the Ministry of Culture, to elevate Saudi luxury fashion to global sustainability and ethical sourcing standards (Lodi 2022).

3.5   Conclusions and Recommendations

3.5.1   Conclusions

The research, utilising a qualitative approach with interviews from 18 sustainable fashion businesses in Saudi Arabia, provides significant insights into the current state and challenges of the sustainable luxury fashion industry in the region. The findings reveal a strong movement towards forward-thinking designs and sustainable practices, supported by technological advancements like 3D technology and collaborative efforts with educational and governmental institutions. These efforts are in line with the increasing maturity of the Saudi luxury fashion industry, which is developing legal and regulatory frameworks to support new technology implementation and sustainable design. The influence of the Ministry of Culture and the Saudi Fashion Commission has been particularly notable, with several initiatives aimed at promoting sustainable practices and fostering a more competitive and innovative fashion industry. The emphasis on collaborative endeavours with

institutions like KAUST and The Misk Foundation illustrates a commitment to augmenting the sector's economic impact and aligning with Saudi Arabia's Sustainable Vision 2030. However, a significant gap exists in the awareness of the full range of programmes and initiatives offered by the Ministry of Culture. This lack of awareness points to the need for broader dissemination and communication of these programmes to ensure their full utilization by sustainable fashion businesses.

3.5.2 Recommendations

To advance the sustainable luxury fashion industry in Saudi Arabia, a dual approach focusing on enhanced communication and rigorous academic research is essential. Increasing awareness of the Ministry of Culture's programmes and initiatives is crucial, necessitating targeted marketing campaigns, interactive workshops, and collaborative events to ensure comprehensive dissemination of information. Concurrently, there is a pressing need for detailed academic studies to evaluate the practical impacts of these sustainability initiatives. Such research should aim to quantify their effects on consumer behaviour and market trends within the Saudi fashion industry, offering a more nuanced understanding of the sector's dynamics and challenges.

Furthermore, the industry should prioritise training and upskilling programmes, especially in areas like supply chain management, marketing, and sustainable design, to bolster local expertise and innovation. Emphasising energy and resource conservation is vital, with companies encouraged to adopt reuse techniques and energy-efficient processes. This approach will help mitigate environmental impacts and align with global sustainability standards. Additionally, fostering a local supply chain predominantly driven by Saudi brands will mitigate external dependencies and strengthen the industry's resilience and sustainability. Implementing these recommendations will significantly contribute to the growth and global competitiveness of Saudi Arabia's luxury fashion sector.

3.5.3 Theoretical Contributions

The research expands the existing literature on luxury fashion businesses in Saudi Arabia by providing first-hand data on the challenges luxury fashion businesses face in managing sustainability. It also adds to the very sparse

knowledge of the impact of the Ministry of Culture, Saudi Arabia, on such businesses. By offering insights into the operational challenges and sustainability management strategies of luxury fashion businesses, it broadens the scope of existing academic discourse. This research also pioneers in highlighting the role and influence of the Ministry of Culture in Saudi Arabia on the luxury fashion sector, an area previously underexplored. This contribution is particularly vital in understanding the interplay between government initiatives and business practices in the realm of sustainable luxury fashion.

3.5.4   Managerial Implications

The research also has practical and managerial implications as it provides suitable and actionable recommendations that can be deployed to develop a more supporting environment for sustainable luxury fashion business. From a practical standpoint, this research offers valuable guidance to managers and decision-makers within the luxury fashion industry. The actionable recommendations derived from the study are tailored to address the specific needs and challenges identified in the Saudi Arabian context. These recommendations can serve as a strategic tool for businesses seeking to navigate the complexities of implementing sustainable practices while remaining competitive. Furthermore, the insights into government initiatives provide a clear indication of the areas where industry and government collaboration can be strengthened to foster a more conducive environment for sustainable business practices. This research thereby serves as a vital resource for managers aiming to align their business strategies with sustainability goals and regulatory frameworks within Saudi Arabia's evolving luxury fashion landscape.

References

Ahmad, S., Miskon, S., Alabdan, R., and Tlili, I. (2020). Towards sustainable textile and apparel industry: Exploring the role of business intelligence systems in the era of industry 4.0. *Sustainability*, 12(7), 2632.

Aichner, T., & Shaltoni, A. M. (2019). Making market research work in Saudi Arabia. *International Journal of Market Research*, 61(1), 10-11.

Alatawy, K. S. (2022). The Role Social Media Marketing Plays in Customers' Purchase Decisions in the Context of the Fashion Industry in Saudi Arabia. *International journal of business and management*, 17(1), 117.

Alblowi, R., Henninger, C. E., Parker-Strak, R., & Blazquez, M. (2021). *The influence of culture on the sustainable entrepreneur: an investigation into fashion entrepre-*

neurs in Saudi Arabia. Handloom Sustainability and Culture: Entrepreneurship, Culture and Luxury, 71–86.

Alblowi, R., Henninger, C. E., Parker-Strak, R., & Blazquez, M. (2022a). *Towards Circular Luxury Entrepreneurship: A Saudi Female Entrepreneur Perspective.* In Sustainable Luxury: An International Perspective (pp. 101–127). Cham: *Springer International Publishing.*

Alblowi, R., Brydges, T., Henninger, C. E., Heinze, L., Retamal, M., Parker-Strak, R., & Blazquez, M. (2022b). Exploring supply chain sustainability drivers during COVID-19-Tale of 2 cities. *Journal of Cleaner Production*, 373, 133956.

Alessa, N. A., Shalhoob, H. S., & Almugarry, H. A. (2022). Saudi Women's Economic Empowerment in Light of Saudi Vision 2030: Perception, Challenges and Opportunities. *Journal of Educational and Social Research, 12*(1), 316–316.

Almulhim, A. I., & Al-Saidi, M. (2023). *Circular economy and the resource nexus: Realignment and progress towards sustainable development in Saudi Arabia.* Environmental Development, 100851.

Almulhim, A. I., & Abubakar, I. R. (2021). Understanding Public Environmental Awareness and Attitudes Toward Circular Economy Transition in Saudi Arabia. *Sustainability*, 13(18), 10157.

Alosaimi, S. I. (2022*). Sustainability, Saudi Arabia and Luxury Fashion Context: An Oxymoron or a New Way?* In Sustainable Luxury: An International Perspective (pp. 81–99). Cham: Springer International Publishing.

Alsabban, L., & Issa, T. (2020). *Sustainability Awareness in Saudi Arabia. In Sustainability Awareness and Green Information Technologies*. Springer, Cham.

Arab News (2022a). 'Six ethical and sustainable fashion brands and platforms from the region. Arab News'. 09 July [Online]. Available At: https://www.arabnews.com/node/2119481/six-ethical-and-sustainable-fashion-brands-and-platforms-region (Accessed: 21 September 2023).

Arab News (2022b). 'Saudi Fashion Commission discusses sustainability with industry leaders'. Arab News. 28 November [Online]. Available At: https://www.arab-news.com/node/2207616/saudi-arabia (Accessed: 21 September 2023).

Arab News. (2023). '100 Saudi Brands to take fashion initiative sustainability to the next level'. Arab News. 24 July [Online]. Available At: https://www.arabnews.com/node/2128181/business-economy

Bell, J. (2023). 'Inside Saudi Arabia's thriving fashion industry and its global ambitions'. 30 August [Online]. Available At: https://english.alarabiya.net/News/saudi-arabia/2023/08/30/Iside-Saudi-Arabia-s-thriving-fashion-industry-and-its (Accessed: 21 September 2023).

Bhandari, N., Garza-Reyes, J. A., Rocha-Lona, L., Kumar, A., Naz, F., & Joshi, R. (2022). Barriers to sustainable sourcing in the apparel and fashion luxury industry. *Sustainable Production and Consumption*, 31, 220–235.

Brinkmann, S., & Kvale, S. (2018). *Doing interviews* (2nd ed.). London: Sage.

Chan, H. H. Y., Henninger, C., Boardman, R., & Blazquez Cano, M. (2023). The adoption of digital fashion as an end product: A systematic literature review of

research foci and future research agenda. *Journal of Global Fashion Marketing,* *15*(1), 155–180.

Dasoar, K (2021) The Emerging and Sustainable Saudi Designers to Have on Your Radar 29 June [Online]. Available At: https://en.vogue.me/fashion/emerging-sustainable-saudi-designers

Easterby-Smith, M., Thorpe, R., Jackson, P. R., and Jaspersen, L. J. (2018). *Management And Business Research*. (6th ed.). Los Angeles, CA, Sage.

Ellen MacArthur Foundation. (2017). 'A New Textiles Economy: Redesigning Fashion's Future'. [Online]. Available At: https://www.ellenmacarthurfoundation.org/publications/a-new-textiles-economy-redesigning-fashions-future

Eye of Riyadh (2021). 'Driving the future of Saudi fashion toward sustainability, diversity, innovation' [Online]. Available At: https://www.eyeofriyadh.com/news/details/driving-the-future-of-saudi-fashion-toward-sustainability-diversity-innovation

Fashion Commission (2023a). A sector of opportunity: Analysis of the KSA Fashion Value Chain and a Future Fashion Data Hub. [Online]. Available At: https://fashion.moc.gov.sa/en/publication

Fashion Commission (2023b). The State of Fashion in the Kingdom of Saudi Arabia 2023 [Online]. Available At: https://fashion.moc.gov.sa/assets/2023_Saudi_State_of_Fashion_Report%20(E).pdf

Fusch, P. I., and Ness, L. R. (2015). Are We There Yet? Data Saturation In Qualitative Research. *The Qualitative Report*, 20(9), 20(9), 1408–1416

Franco, J. C., Hussain, D., & McColl, R. (2019). Luxury fashion and sustainability: Looking good together. *Journal of Business Strategy*, 41(4), 55–61.

Franco, C. J., Hussain, D., & McColl, R. (2020). Luxury fashion and sustainability: Looking good together. *Journal of Business Strategy*, 41(4), 55–61.

Gazzola, P., Pavione, E., Pezzetti, R., & Grechi, D. (2020). Trends in the fashion industry. The perception of sustainability and circular economy: A gender/generation quantitative approach. *Sustainability*, 12(7), 2809.

Guercini, S., & Ranfagni, S. (2013). Sustainability and luxury: The Italian case of a supply chain based on native wools. *Journal of Corporate Citizenship*, (52), 76–89.

Gupta, N., & Soni, G. (2021). A decision-making framework for sustainable supply chain finance in post-COVID era. *International Journal of Global Business and Competitiveness*, 16(Suppl 1), 29–38.

Gupta, V., & Gupta, S. (2023). *Cotton Fiber and Its Sustainable Alternatives. In Novel Sustainable Raw Material Alternatives for the Textiles and Fashion Industry* (pp. 139–160). Cham: Springer Nature Switzerland.

Henninger, C. E., & Brydges, T. (2023). *The 'Whatever' Phenomenon: Investigating Indifference to Sustainability in the Fashion Industry.* In Pioneering New Perspectives in the Fashion Industry: Disruption, Diversity and Sustainable Innovation (pp. 55–63). Emerald Publishing Limited.

John, E. P., & Mishra, U. (2023). A sustainable three-layer circular economic model with controllable waste, emission, and wastewater from the textile and fashion industry. *Journal of cleaner production*, 388, 135642.

Karaosman, H., Perry, P., Brun, A., & Morales-Alonso, G. (2020). Behind the runway: Extending sustainability in luxury fashion supply chains. *Journal of Business Research,* 117, 652–663.

KAUST (2022). KAUST and Ministry of Culture Fashion Commission Sign MoU to Advance Sustainability. 04 September [Online]. Available At: https://innovation.kaust.edu.sa/kaust-and-ministry-of-culture-fashion-commission-to-advance-sustainability/

Kelleci, A. (2022). Key determinants of luxury marketing accordant with sustainability-oriented value perspectives. *Sustainability*, 14(10), 5916.

Lo, C. K., & Ha-Brookshire, J. (Eds.). (2018). *Sustainability in Luxury Fashion Business. Singapore*: Springer.

Lodi, H (2022) How modest fashion is evolving and being embraced by women all around the world. [Online]. Available At: https://en.vogue.me/fashion/modest-fashion-global-importance-evolution-dulce-by-safiya-chador/

Mabuza, L., Sonnenberg, N., & Marx-Pienaar, N. (2023). Natural versus synthetic dyes: Consumers' understanding of apparel coloration and their willingness to adopt sustainable alternatives. *Resources, Conservation & Recycling Advances*, 18, 200146.

MBSC (2021). Sustainability in Saudi: Can Ethical Label Sadeem Dominate Arab Fashion? [Online]. Available At: [https://www.mbsc.edu.sa/wp-content/uploads/2023/05/MBSC-Sadeem-Case-Study.pdf]

McKinsey & Company. (2020). Fashion on Climate. Retrieved from https://www.mckinsey.com/business-functions/sustainability/our-insights/fashion-on-climate

Mishra, S., Jain, S., & Jham, V. (2021). Luxury rental purchase intention among millennials—A cross-national study. Thunderbird International Business Review, 63(4), 503–516.

Muthu, S. S. (2020). Assessing the environmental impact of textiles and the clothing supply chain. Woodhead publishing.

Ramadan, Z., & Nsouli, N. Z. (2022). Luxury fashion start-up brands' digital strategies with female Gen Y in the Middle East. Journal of Fashion Marketing and Management: An International Journal, 26(2), 247–265.

Rathore, B. (2023). Future of textile: Sustainable manufacturing & prediction via chatgpt. Eduzone: International Peer Reviewed/Refereed Multidisciplinary Journal, 12(1), 52–62.

Sambidge, A. (2023). Saudi Arabia's bid to be the next global fashion powerhouse. Arabian Gulf Business Insight (AGBI). 15 January [Online]. Available At: https://www.agbi.com/articles/saudi-arabias-bid-to-be-the-next-global-fashion-powerhouse/

Saudi Gazette (2023). Annual Fashion Futures event returns to Riyadh in November. Saudi Gazette. 28 October [Online]. Available At: from: https://www.saudiga-zette.com.sa/article/626424

Singh, A (2022). Saudi Swaps Fashion for Sustainability.About Her. Retrieved from: https://www.abouther.com/node/57906/people/features/saudi-swaps-fashion-sustainability

Singh, P., Henninger, C. E., Oates, C. J., Newman, N., & Alevizou, P. J. (2022). Children and young people: opportunities and tensions for sustainability marketing. *Journal of Marketing Management*, 38(9–10), 831–843.

Singh, A. K., Raza, S. A., Nakonieczny, J., & Shahzad, U. (2023). Role of financial inclusion, green innovation, and energy efficiency for environmental performance? Evidence from developed and emerging economies in the lens of sustainable development. Structural Change and Economic Dynamics, 64, 213–224.

Soomro, Y. A., Hameed, I., Bhutto, M. Y., Waris, I., Baeshen, Y., & Al Batati, B. (2022). What influences consumers to recycle solid waste? An application of the extended theory of planned behavior in the Kingdom of Saudi Arabia. *Sustainability*, 14(2), 998.

Wang, M., Kim, E., & Du, B. (2023). Art-derived designs promote the inconspicuous consumption of fashion bags. *Journal of Global Fashion Marketing*, 1–16.

World Wildlife Fund. (2022). Cotton: Facts & Figures. [Online]. Available At: https://www.worldwildlife.org/industries/cotton

World Bank (2022). What You Need to Know About Net Zero. [Online]. Available At: https://www.worldbank.org/en/news/feature/2022/05/23/what-you-need-to-know-about-net-zero.

Wren, B. (2022). Sustainable supply chain management in the fast fashion Industry: A comparative study of current efforts and best practices to address the climate crisis. Cleaner Logistics and Supply Chain, 4, 100032.

Zarea, A (2022) Saudi Fashion Commission launches seven-prongd strategy roadshow 14 October [Online]. Available At: https://saudigazette.com.sa/article/625968

4

Clothing Care

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4.1   Introduction

"And he don't even care for clothes" sang Nina Simone in "My Baby Just Cares For Me", but what does it mean to "care for clothes"? In the song, the man cares more about his love for her than the clothes he wears or how they look. It is implicit that caring about clothes is so natural and important that when he doesn't do it, it leads her to question "I wonder what's wrong with baby". However, there is not necessarily a contradiction between caring about clothes, people, and the planet we share, quite the opposite. More care can be a prerequisite for guarding natural resources, as well as each other. There is a connection between care as something practical and mundane, such as washing and repairing clothes, and the more general feeling when we care about clothes, people, and nature. We, the authors, live and work in Norway, a country with high labour costs and cheap clothing. Like many other countries in Global North, we rely on imported clothing, usually produced far away, and are therefore rather detached from the production conditions, as well as the people making our clothing. This impacts which aspects we prioritise in our care practices. In this chapter, we draw on knowledge of Norwegian and international clothing consumption and interviews conducted in Norway. We

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will argue that we need to care more for clothes to reduce environmental burdens from clothing consumption and conclude by giving suggestions on measures to achieve this goal.

4.2   Method

Clothing consumption is a topic that can be studied based on knowledge and perspectives from both cultural and social studies, as well as technology and science, and there is a lot to be gained by using interdisciplinary research where several viewpoints are combined. This impacts, for instance, how we understand what is clean or not—and how something becomes clean in a practical sense. By consumption, we mean planning, acquisition, use, maintenance, and disposal of products and services. Clothing consumption studies entail therefore a large spectrum of topics such as acquisition methods and quantities, and how clothes are used, washed, repaired, stored, and eventually disposed of.

As described in other chapters of this book, the clothing and textile industry's environmental impact is substantial and occurs at all stages of production and consumption. In this chapter, we will emphasise how caring for clothes can reduce the environmental burden in the different phases of clothing consumption. We will use examples from literature as well as Haugsrud's thesis on favourite clothes (Haugsrud 2016). She did a wardrobe study with six informants in their 20 s, with a semi-structured interview about the clothing they identified as valuable and therefore something they cared for. In total, 63 favourite garments that the informants valued especially were registered. The interviews were transcribed verbatim and analysed inductively with thematic content analysis principles. The data were sorted into categories of value induced from the material (Time & memories, Comfort & well-being, Love, Invincibility), along with categories based on common perceptions of clothing value (Personal style & expression, Novelty & fashion, and Pecuniary value). Here, we show how the informants discussed various aspects related to clothing and care (Table 4.1).

4.3   Terms and Theoretical Perspective

Care can be defined as activities to "maintain, continue, and repair our 'world' so that we can live in it as well as possible" (Fisher and Tronto 1990, p. 40)—and can be related to caring for other people, the environment, and spaces

Table 4.1 Demographic information about the informants and the number of registered favourite garments

Pseudonym	Gender	Age	Employment status	Number of registered valued garments
Astrid	Female	26	Employed	20
Bendik	Male	25	Employed	9
Charlotte	Female	22	Student	12
David	Male	25	Student	10
Emilie	Female	26	Student	8
Filip	Male	25	Student	4

around us, as well as materials such as clothing (Godin and Langlois 2021). It is important to note that care is not necessarily the same as love (Neto and Ferreira 2023). You can practice care without love and conversely, care is however a labour of love and involves hard work (Puig de La Bellacasa 2017). It also implies interdependence and vulnerability (Godin 2022). Care practices are essential in everyday life, and can expand the view of consumption and its place in the social world and impact how we think about living sustainably (Godin 2022). Caring for your belongings is key to keeping them in good condition, however, it requires skills, tools, and determination (Ackermann et al. 2018).

Responsibility for environmental impacts, including product durability, is a subject for consumers and businesses, as well as in policy-making, and interest in care is increasing (Godin and Langlois 2021; Klepp and Tobiasson 2021). The industry's awareness can be seen as a genuine commitment and desire to contribute with better products that are replaced less often, but also as a way to shift responsibility to the consumers (Tölg and Fuentes 2022). It is striking that an industry that has been somewhat unconcerned with the use of its products now is informing and educating the consumer on better care. The discussion of the relationship between design and production and the consumer role is also included in the definitions of care and durability, especially the designers' concept of emotional durability.

We agree with Gwilt (2021) that "within most wardrobes, it is possible to find garments that are worn often and carefully maintained" (p. 870), although it is difficult to pinpoint the characteristics of these clothes. In the article, she argues that it is a combination of "the attributes that the majority of clothing users consider important in clothes worn regularly include comfort, versatility, functionality, ease of use, and aesthetics" (p. 874), but these are vague concepts that could be applied to most things (Klepp 2008; Klepp and Bjerck 2014). Gwilt seeks to explain why some garments are worn for a long time through the concept of emotional durability but does not find empirical

support for it: "The rationale given for why these garments are worn often is related to the functional and/or aesthetic qualities in the product, rather than because of any perceived or identifiable emotional attachment" (p. 874). Chapman (2005) has suggested that emotional durability can be triggered by design. However, there are several problems with this idea. In clothing design, the idea has been applied to improve garment satisfaction (Laitala and Boks 2012), though emotional attachment does not necessarily bring about active use and care (Niinimäki and Armstrong 2013). Maldini and Balkenende (2017) found that these design strategies were not validated empirically. The idea of designing products that facilitates emotional attachment is part of excessive trust in design. Most prominently in the often-cited myth that 80% of the environmental impact is determined in the design phase (EC 2022; Ellen MacArthur Foundation 2022), yet this idea is not backed up by research (Foulkes-Arellano 2022).

Neto & Ferreira (2023) have developed an alternative theory. They suggest that attachment cannot be part of the design of a product, it is a result of a relationship with the garment over time. Niinimäki and Koskinen (2011) argue for the role of work and commitment to care practices in creating attachment to clothing. Thus, concentrating solely on the properties of certain products excludes an important part of attachment (Neto and Ferreira 2023). Taking care of something requires spending time on it and that can change how you feel about the item. Mending and other forms of care can potentially contribute to the clothes gaining value for the owner. This way of understanding care makes sense from a consumer perspective. It highlights the importance of the use phase rather than the design phase and provides opportunities to take care of our belongings through various practices, even if the products are not initially designed to be loved. This perspective is also supported by research on love (Russo 2010), and the conventional wisdom that love works in mysterious ways.

Another reason for not using the term "emotional durability" is that durability is about the design of the product, not its lifespan and how it is used. Different factors can influence this, not only physical factors such as strength but also social and cultural norms. There is no simple correlation between physically strong clothing and product lifespans (Laitala et al. 2018) because the lifespan is not only affected by strength but also by care. Therefore, we will use the term "perceived value" about the reasons for wanting to use and care for something. Neto and Ferreira (2023) use a more complex framework to describe this but point to the fact that appreciating one's clothes is fundamental to the choice to take care of them. Perceived value depends on many factors, including how many clothes we have and how easy or difficult it is to get

new ones (Laitala et al. 2023), and as Neto and Ferreira have shown, the time and effort invested in the relationship.

4.4   Care of Clothes

Let us now turn to describe how people care for clothes. This includes a range of daily practices such as dressing and undressing, putting them away, dropping them or folding them neatly, and keeping them clean. There are several small nuances and subconscious hand movements, for example in how a zip is pulled up, there are also global patterns (Klepp et al. 2019; Laitala et al. 2020) and development over time (Klepp 2005 and 2006).

4.4.1   Laundry

Clothes get dirty through external influences, such as spills, soot, and smell. Traditionally, clothing in Norway, as in many other countries, has been protected by using aprons, pinafores, and other protective clothing. These clothes are still used by some occupational groups, such as carpenters and bakers. However, laundering is a more common way to keep clothes clean today. It is primarily done to remove dirt and odours arising from the body, more than visible dirt and stains from the external environment. Appearing freshly washed is an important norm. Laundry thus has a double role. It contributes to making the clothes socially acceptable, while also wearing them out and thus shortening their potential lifespan. Active use of clothing is often connected to regular maintenance to keep it functional, as described by Charlotte (22) about her favourite shirt "*It is probably the garment that I wash most frequently.*" However, in favourite clothing, some can accept stains or other faults to a larger extent, like Astrid (26) elaborated: "*It does not bother me if something has a stain that can't be removed, because then I know where the stain comes from.*" The stain contributes to the story of the garment and adds to the value for her. Such a stain might also be easier tolerated when she knows where it's from, it's her own, and not someone else's.

The most common way to launder clothes in Norway today, as in other wealthy Western societies, is by using privately owned electric washing machines. Handwashing is more common in some countries (Laitala et al. 2017), but it is also practiced in Norway, especially for clothes that people are particularly fond of and careful with. Using professional drycleaners is less common in Norway.

Drying clothes can be done in a variety of ways. Tumble drying requires more energy and contributes to more wear and tear than line drying, especially if the clothesline is placed outside or in an unheated room. In the twentieth century, finishing practices were widespread, including stiffening with laundry starches and smoothing by ironing or rolling textiles, which were considered a part of the housewives' pride. Today, there is far less interest in finishing, due to changes in textiles but also to changes in preferences. Textiles do not require ironing to function, and the cultural preferences and acceptance of wrinkled clothes change.

The frequency of washing is what matters most for the environmental impact of laundering. The differences between best and worst practices globally are great (Laitala et al. 2020; Wiedemann et al. 2021). Consequently, there is a large potential for saving energy and using fewer chemicals by changing practices. Reflecting on why clothes are washed often and what can be done to keep them clean for a longer time is important. Some clothes end up in the laundry as a result of tidying up. This practice is not very efficient in terms of environmental impact nor time consumption. The choice of fibre can also affect the washing frequency due to the odour intensity of different fibres (Laing 2019; McQueen and Vaezafshar 2019; Nautiyal et al. 2023). Further, aspects such as laundering temperature and washing machine filling grade impact the environmental impacts of each cycle (Klint 2024).

A new and important perspective on laundry is how it contributes to the spread of microplastics and other pollutants that wastewater treatment plants are not designed to filter out (Cesa et al. 2017). The knowledge in this area is expected to develop greatly in the years to come.

Machine washing is by no means the only practice for keeping clothes clean. Historically, other significant techniques have been stain removal, airing, shaking, brushing, and using natural cleaning agents such as snow, sun, and even ants and other insects to eat the dirt and unwanted smaller insects (Klepp 2006). New methods are also being developed, such as machines that use steam, ozone, or ultrasonic cavitation bubbles instead of, or in addition to, liquid water (Bansal et al. 2011; Epelle et al. 2023).

4.4.2   Repair

Repairing clothes has been one of the most mundane and time-consuming aspects of textile work, though remarkably little has been written about the history of repair. The seminal cultural researcher Eilert Sundt described repair among other household tasks in Norway in the mid-nineteenth century. He

observed that "it is considered a great shame for a wife to let her husband and children walk in tattered clothes, this is therefore rarely seen" (1869, p. 257). Mending clothes was the woman's duty and responsibility, and a mark of being a thrifty, skilled housewife in this era. Through hard work, she would be able to keep her family well-dressed even in scarcity. Sundt was interested in repair because it enabled people to change between clothes which contributed to improved hygiene (Klepp 2006).

Up until the 1970s the focus was on a wide range of different techniques to achieve the desired results, functional garments with as invisible repairs as possible. This was demanding work, and the only resource not spared was the hours put into it. Needlework was an important subject in school, and teaching girls to mend was a central part of textile education (Klepp and Tobiasson 2021). Repairing textiles were also part of trades associated with men, such as trade, fishing, and seafaring—keeping sails, rigging, and clothes "ship shape" (Klepp 2005).

The view on repairs changed throughout the twentieth century—from being motivated mainly by saving money, it is seen as a sign of good morals in the 1940s: "A proper, conscientious person will not throw away clothing as soon as it has a hole" (Christiansen 1943, p. 60). In the years after the 1950s, repair work is viewed as boring and time-consuming, an unpopular yet necessary task for the housewife (Klepp 2000). New ideals at the end of the twentieth century contributed to a shift towards creativity rather than knowledge transfer and frugality, both in school and in the home. Mending was no longer part of the discourse; however, clothes were still repaired, the stores sold equipment, and repair businesses still existed despite the idea that it did not pay to have anything repaired considering the declining clothing prices.

The motivation for practicing mending has changed throughout the past century, and currently, there is a renewed interest in mending. Patching, darning, and other repair techniques are revitalised and promoted by artists, activists, and craftspeople. The term *visible mend*, using repairs to embellish garments, has gained popularity. The renewed interest in repairs draws inspiration from the Japanese *kintsugi* and other folk traditions. The recurring claim "no one repairs anymore" is not accurate, at least not in Norway. In 2017, we asked if people had fastened a button in the last year, and 51% said yes, additionally 25% had mended a hole, and 41% had fixed a broken seam. In comparison, 5% had sewn a completely new garment, and 25% had knitted one (Laitala and Klepp 2018a). However, these numbers are an average. Women repair more clothes than men, and there is a gendered labour division in many households. Many of those who answered that they had not fastened a button had received help from close relatives. In 2019, 36% of Norwegian

women reported that they had repaired clothing themselves during the past two years, 12% had received help, and 10% had paid for repairs. Fewer men had done it themselves (12%), while more men had received help (18%) or paid for repairs (14%) (Klepp and Tobiasson 2021; Laitala et al. 2021). There are also age and generational differences: older people repair more than young, here the vast majority mends. Of Norwegian parents, 84% repaired their children's clothes themselves and only 29% reported that they paid for such services (Roos et al. 2020).

There is reason to believe that more people have repaired something and forgotten about it than vice versa. There have been large changes in the number of repairs, and also what and why it is being repaired. From being daily, time-consuming, and never-ending work, it can now be opted out. However, the renewed interest in repair is both a protest against the fashion industry and a way to improve it. The idea of mending as somewhat impoverished still impacts the attitudes towards wearing mended clothes. A third of Norwegian parents state that their children never wear clothes showing visible signs of repair, while only 2% answer that they do so very often. In other words, the idea that repairs should be invisible is still applicable (Roos et al. 2020).

We know a great deal about who repairs and the techniques in use. There is less knowledge of what is repaired and why. What we know is that expensive clothes are repaired more than inexpensive ones (especially commercially) (Laitala et al. 2021) and that people mend the clothes they are fond of. Astrid described one of her favourite items:

> *I have this second-hand umbrella, which is quite unique (..) It had this elastic to fasten it. I have to fix it because it's broken again. So, I have to find something or other, and fasten it (..) it's so special, you know! If I forget it at people's houses, I will always pick it up.* (Astrid, 26).

Astrid has repaired the umbrella several times, but it has only contributed to the attachment she feels. As shown by Neto and Ferreira (2023), our will to resolve conflicts is greater if the relationship is initially good. Such conflicts are alluded to in the previous quote, such as forgetting or losing something valuable to you or favourite clothes that "fails us" by falling apart. In these cases, it is necessary to take action to maintain the relationship, either through searching for the lost item or mending the broken ones. It is uncertain whether we mend our clothes out of respect for the clothes or whether it is to be able to continue wearing them. Nonetheless, there is a lot of care— not only for the environment or one's finances but also for other people and their clothes.

4.4.3 Wearing and Storage

Our wardrobes are constituted of active and passive garments to varying degrees. Studies indicate that around 15–30% of clothing in wardrobes have not been worn during the past year (de Wagenaar et al. 2022; Gracey and Moon 2012; Maldini et al. 2017; Shinohara 2019). Further, clothing disposal studies from Norway showed that between 18% and 25% of clothing going out of use had never or very rarely been used by the person disposing of it (Klepp 2001; Laitala and Boks 2012). Most of these studies say less about why we choose to keep the clothes we do not use or even intend to use. Are we doing it for the clothes' sake? People sometimes wish to keep specific clothes for the future or take pleasure in owning them without them necessarily being in active use, or being borrowed and used by someone else:

> *[something valuable to me] is things that were made for me when I was little, I still have a sort of connection to them. And my nephews use them now, I like that (..) They are garments that I do not want to be thrown away because if I ever have children, I want them to use them too.* (Bendik, 25).

These items are still part of Bendik's wardrobe, but he cannot wear them. Now, his nephews borrow them, and he plans to keep them for his potential future children. Sometimes clothing is kept because of the potential that someday they will be in use, either for the first time or again:

> *I've bought a lot of clothes with the intention that maybe someday I will use them. And with some garments I do, maybe after a couple of months, I will have the courage to use it. And then… some are still lying there, and maybe the day will come, I don't know.* (Emilie, 26).

Emilie explained that she feared that these garments would make her look too dressed up or make her stand out, and she usually did not want any attention to her clothes. She needed time to get used to them. Sometimes people keep clothes without wearing them because they want to avoid wear and tear on precious garments. These clothes can hold strong memories of major events in one's life or be memories of other people. For instance, a child's first shoes or the first clothes they wore after they were born. The care for clothes can also point to how we care for other people, which we will elaborate on in the following.

4.5   "Care for me", and Other People

That our clothes protect us against weather conditions and other external influences is a well-known fact. However, neither historically nor in today's practice is this completely true. If the social circumstances do not allow for it, we do not take off our clothes and we do not always put on more if we are cold. In Christianity, the dominant religion in Norway, clothes are part of the narrative of the Fall. The first piece of clothing, the fig leaf, was used to hide Adam and Eve's nakedness. Being naked in most circumstances is considered disrespectful and problematic in most religions and is even prohibited by law. Wearing clothes is thus part of the consideration and caring for others in our society. What the clothes are supposed to hide, on the other hand, varies and depends on what is considered sexual at any given time.

What is viewed as appropriate wear varies and depends on the activity, the place, and the people you are going to meet (Woodward 2007). We use the term occasion to describe this, and dressing for the occasion is a rule of thumb that makes life easier:

> *I have a burgundy woollen sweater, which is kind of a safe garment. I can use it if I'm attending two different things, like different dress codes. And I have some shirts which are like that, as well. They are like "oh, this I can wear regardless"* (David, 25).

The clothes David describes are among his favourite, they make him socially acceptable in different situations, and this contributes to making him feel well and safe. In social sciences, consumption is often understood as a competition, to be "better than" others. That may in some instances be the case, nevertheless, in our studies of clothing, most people prefer to have clothing that does not get in the way, does not attract much attention, and shows consideration for others rather than competing with them. When attending a party, we dress up out of respect for the host and the other guests, with the wish to contribute to a cheerful atmosphere. Such care for others also extends to the workplace. By using prescribed attire, be it a suit in white-collar professions, or uniforms in the healthcare system, we show respect for our assigned role and express our desire to do a good job for our employer, customers, or patients (Bjerck 2017).

This type of care is far less studied than laundry practices and other more technical aspects of caring for clothes. Still, our research on clothing habits shows that it is important. This form of care does not only apply to our relationship with others—we use clothes to take care of ourselves as well. Wearing clothes we feel safe in can mitigate demanding, scary, or new situations:

I wear the same shirt for every exam I take [..]There is something safe about it. Taking an exam is a horrible experience, every time. So, you prepare yourself a bit, and it might become a ritual that you have to do when you've done it enough times. Try to sort of leave out all those stress factors. (Filip, 25).

In 1998 anthropologist Daniel Miller wrote A Theory of Shopping, which made a lasting impact on the understanding of care. From being dominated by the competitive perspectives of Veblen (Veblen 1899), Miller emphasised how housewives try to meet the family member's demands and wishes, while simultaneously considering factors such as health and finances in their purchasing. There is a lack of studies on these aspects of clothing consumption. Women in particular spend a lot of time and money buying clothes as gifts for family members, especially for younger children and older men (Borch 2019). Making sure that everyone has clothes that fit the occasion, and are clean, neat, and whole, was not something only required for women in the mid-nineteenth century but is also part of women's gender norms today (Klepp 2005). Moreover, it is fundamental in childcare, to the extent that failing at it may be part of the basis for a child welfare notice (Killén 2009).

Knitting is a popular pastime in Norway, 48% of all women and around 3% of men knit (Laitala and Klepp 2018a). People knit for themselves and for others, especially close family members. A lot of knitted items are gifted to small children, but also to adults of all ages. A lot of love goes into knitting for others. By wearing a sweater knitted for you, you show love for the knitter and appreciation for the bond the garment creates. These bonds may impact how the clothes are worn and taken care of. The fact that something is homemade and especially home-knitted is a good argument for spending time or money on repairing it. Thus, there is a connection between different forms of care associated with clothing. When asked if there was a garment she would save if her house burned down, Charlotte answered:

If I have been gifted something, a knitted jumper my mother has made for me, for example. I would probably have saved that. Something someone else has spent a lot of time on. Because I know I won't get that back. (Charlotte, 22).

The jumper's value consists among other things of the time her mother had put into making it, and that it was a gift, thus being a manifestation of love. Charlotte described wearing it on different occasions, such as skiing events, which also gave it value by being in her words "perfect for the occasion". In Norway, there is a well-known expression about clothes—"There is no such thing as bad weather, only bad clothes". This implies that we are expected to

be able to dress for the conditions and take part in outdoor activities regardless of the temperature. This idea has consequences for how schools and nursery schools are organised with allotted time spent outside every day of the year in temperatures and weather conditions that in other countries would mean that the children were kept inside (Copeland et al. 2016). Carrying out this type of care thus requires extra expertise and financial resources (Klepp et al. 2019).

Inheriting and handing-down clothes is another way to tie people together. If you pass your clothes on to someone regularly, it can give a sense of community. The arguments for using or not using second-hand clothes are often similar. For some, having the clothes of a dear and deceased relative can maintain ties and add something to the relationship of the clothes:

> *My national costume was my sister's, and I inherited it. My mother has embroidered it, and made it for her, actually. But now… we've been talking about whether I'm going to take it over. I've never really wanted something like that because I don't know when I'm going to use it. So now I feel that it is kind of a big responsibility for me to take it. But I'll probably do it. They're just going to customise it a bit for me. And of course, the fact that my mother has made it makes it extra important to put it to use in a way.* (Emilie, 26).

Emilie's sister has passed, and inheriting her national costume made Emilie willing to give it a chance, also considering the effort their mother had put into making it. For the national costume to not be in use would feel wrong. Others could use the relationship as an argument against wearing the clothes, they can't bear to wear something that reminds them of the passing of a loved one. Wearing clothes that used to belong to someone else can create closeness and be part of a wish to keep a relationship or not. Our relationship with the clothes will in any case be influenced by the relationship we have or had with previous users and owners (Laitala and Klepp 2018b). This shows how clothes are not only the result of a design process but that they change both physically and symbolically through use.

4.6   Care for the Environment

As individual consumers, reducing environmental impacts from our private clothing consumption is quite simple: Buy fewer new clothes, wash them less often, and take good care of them so they last longer. Astrid described how she had changed her consumption pattern like this:

*When I started shopping in second-hand stores, I became conscious of quality imme-
diately… […] Cotton, wool, silk, leather. Lasts forever [..] While cheap clothes are
ruined straight away and… It's like a short-lived joy. Like drugs.* (Astrid, 26).

Careful considerations are needed in the selection of new items for the
wardrobe to identify the garments that will give the lowest environmental
impacts over their lifecycle. Further, you can avoid synthetic fibres in clothes,
to reduce microplastic pollution. Politically, however, this is a controversial
topic. There is no agreement on what "sustainable clothes" are if they even
exist (Kassatly and Baumann-Pauly 2022), and whether the marketing of
"green" clothes contributes to increased consumption or has the potential to
reduce it (Sigaard and Laitala 2023). The industry has several strategies and
business models to amend environmental issues. However, it does not take
steps to reduce the environmental burdens, only to stop increasing them. The
many strategies, seminars, organisations, and reports over the past decade
have not contributed to reducing the environmental impact of the clothing
industry.

The businesses primarily care about their finances and are along the lines of
authorities that view growth as the guarantee for increased prosperity. It is
paradoxical that the authorities and companies' interest in care, and the result
of care: extended product lifetimes, is increasing but not the interest in reduc-
ing the amounts produced. We see a trend in various policy discussions and
documents based on the belief that making garments more durable will reduce
the quantity of clothing produced. Scientific research does not provide evi-
dence for this (Klepp et al. 2023). There is no empirical research that shows
that longer lifespans lead to a decline in the production of new clothes, on the
contrary, there is a clear connection. If we own less, we must take better care
of what we have. Therefore, increasing repairs and other care practices can be
done most effectively by ensuring that the production and import of new
goods are drastically reduced.

The consumer and press interest in large wardrobes is a parallel to the
industry and authorities' preoccupation with longevity. The amount of clothes
in the wardrobes has increased due to lower production costs and increased
affluence in countries like Norway. However, constantly tidying up and
throwing away or donating clothes that have rarely or never been in use does
not save the environment. A large wardrobe can also be the result of few pur-
chases combined with love and good care. Similarly, a small wardrobe can be
the consequence of frequent replacements and purchases, and thus large envi-
ronmental impacts.

4.7   Conclusion

A reduction in clothing volumes will have consequences for clothing care. Neto and Ferreira (2023) have shown that building relationships takes time. If we have fewer clothes and keep them for a longer time, it will be necessary with more care such as mending. This will give us more time with them and open the possibility of developing good relations in line with Neto and Ferreira's argument.

Even though we have discussed care only from the consumers' point of view, it is also something that the producers and other stakeholders can contribute to, not least by caring about the production conditions and people making the clothes. Further, enabling care practices for consumers is important, including making care easier through the choice of materials, labelling, and other instructions related to cleaning and repair. Businesses can also provide services for those tasks that are difficult for consumers to do themselves, such as complicated mending, or tasks requiring special equipment. The products that are put into the market should be made in a way that they are found valuable and worth taking care of.

It is easy saying that everything is connected. When wishing to change the world for the better, it is important to try to understand what can lead to change. As we see it, a lot of the efforts to change this have started in the wrong order, it is not the size of the wardrobe that matters, or the durability of products, but how many new items are produced. The aim should be clear: the environmental burdens should be quickly reduced, by reducing the production. The good news is that it can be done without compromising our ability to appear warm, socially acceptable, and beautiful, while also ensuring better working conditions and living wages for the people making our clothes. We have to care for our clothes, and through them, we can care both for "my baby", our surroundings, and ourselves.

References

Ackermann, L., Mugge, R., & Schoormans, J. (2018). Consumers' perspective on product care: An exploratory study of motivators, ability factors, and triggers. *Journal of Cleaner Production*, *183*, 380-391. https://doi.org/10.1016/j.jclepro.2018.02.099

Bansal, P., Vineyard, E., & Abdelaziz, O. (2011). Advances in household appliances-A review. *Applied Thermal Engineering*, *31*(17), 3748-3760. https://doi.org/10.1016/j.applthermaleng.2011.07.023

Bjerck, M. (2017). *Apparel at work. Work unifors and women in male-dominated manual occupations*. Copenhagen Business School. Copenhagen.

Borch, A. (2019). Julekalendre og julegaver. In A. B. Bugge, I. G. Klepp, A. Borch, A. Schjøll, K. Laitala, & V. A. R. Haugrønning (Eds.), *Jul—pynt, gaver, klær og mat* (Sifo rapport Nr. 12-2019, pp. 27-50). OsloMet.

Cesa, F. S., Turra, A., & Baruque-Ramos, J. (2017). Synthetic fibers as microplastics in the marine environment: A review from textile perspective with a focus on domestic washings. *Science of The Total Environment*, *598*, 1116–1129. https://doi.org/10.1016/j.scitotenv.2017.04.172

Chapman, J. (2005). Emotionally durable design: objects, experiences and empathy. Earthscan.

Christiansen, R. (1943). *Håndarbeidsboka for skole og heim. Rettleiing i kvinnelig håndarbeid* (3. ed.). Cappelen.

Copeland, K. A., Khoury, J. C., & Kalkwarf, H. J. (2016). Child Care Center Characteristics Associated With Preschoolers' Physical Activity. *American Journal of Preventive Medicine*, *50*(4), 470–479. https://doi.org/10.1016/j.amepre.2015.08.028

de Wagenaar, D., Galama, J., & Sijtsema, S. J. (2022). Exploring Worldwide Wardrobes to Support Reuse in Consumers' Clothing Systems. *Sustainability*, *14*(1), 487. https://doi.org/10.3390/su14010487

EC. (2022). *Impact asssment Accompanying the document "Proposal for a Regulation of the European Parliament and of the Council establishing a framework for setting ecodesign requirements for sustainable products and repealing Directive 2009/125/EC"* (SWD(2022) 82 final Part 1/4. https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12567-Sustainable-products-initiative_nb

Ellen MacArthur Foundation. (2022). *An introduction to circular design*. Retrieved 24 April from https://ellenmacarthurfoundation.org/news/an-introduction-to-circular-design

Epelle, E. I., Macfarlane, A., Cusack, M., Burns, A., Okolie, J. A., Mackay, W., … Yaseen, M. (2023). Ozone application in different industries: A review of recent developments. *Chemical Engineering Journal*, *454*, 140188. https://doi.org/10.1016/j.cej.2022.140188

Fisher, B., & Tronto, J. (1990). Toward a feminist theory of caring. In E. K. Abel & M. K. Nelson (Eds.), *Circles of care: Work and identity in women's lives* (pp. 35–62). State University of New York Press.

Foulkes-Arellano, P. (2022). *Are designers truly responsible for 80% of a pack's environmental footprint?* Packaging Europe. Retrieved 24 April from https://packagingeurope.com/comment/are-designers-truly-responsible-for-80-of-a-packs-environmental-footprint/8610.article

Godin, L. (2022). Care and consumption. *Consumption and Society*, *1*(2), 398–406. https://doi.org/10.1332/iuyx1774

Godin, L., & Langlois, J. (2021). Care, Gender, and Change in the Study of Sustainable Consumption: A Critical Review of the Literature [Original Research]. *Frontiers in Sustainability*, *2*. https://doi.org/10.3389/frsus.2021.725753

Gracey, F., & Moon, D. (2012). *Valuing Our Clothes: the evidence base* (Technical report). http://www.wrap.org.uk/sites/files/wrap/10.7.12%20VOC-%20FINAL.pdf

Gwilt, A. (2021). Caring for clothes: how and why people maintain garments in regular use. *Continuum*, *35*(6), 870–882. https://doi.org/10.1080/10304312.2021.1993572

Haugsrud, I. (2016). *Sikre kort, kjærlighet og minner-En studie av seks personers verdifulle klær*. Høgskolen i Oslo og Akershus.

Kassatly, V. B., & Baumann-Pauly, D. (2022). *The Great Greenwashing Machine—Part 2: The Use And Misuse of Sustainability Metrics In Fashion*. Eco-Age. https://eco-age.com/wp-content/uploads/2022/03/Great-Green-Washing-Machine-Report-Part-2_FINAL.pdf

Killén, K. (2009). *Sveket* (4th ed.). Kommuneforl.

Klepp, I. G., Laitala, K., & Skuland, S. (2019). Uniformity without uniforms: Dressing school children in Norway. In A. Borch, I. Harsløf, K. Laitala, & I. G. Klepp (Eds.), Inclusive consumption (pp. 39–62). Universitetsforlaget. https://doi.org/10.18261/9788215031699-2019-03

Klepp, I. G. (2000). *Fra eggvendte laken til festlig lapp på baken—Råd og teknikker for å økonomisere med tekstiler 1900–2000*. Arbeidsrapport nr. 3-2000. https://hdl.handle.net/20.500.12199/3871

Klepp, I. G. (2001). *Hvorfor går klær ut av bruk? Avhending sett i forhold til kvinners klesvaner*. Report No. 3-2001. https://hdl.handle.net/20.500.12199/5390

Klepp, I. G. (2005). The meaning of cleanliness: Modern demonstrations of female purity. In G. Hagemann & H. Roll-Hansen (Eds.), *Twentieth-century housewives: Meanings and implications of unpaid work* (pp. 191–216). Unipub.

Klepp, I. G. (2006). *Skittentøyets kulturhistorie-hvorfor kvinner vasker klær* [The Cultural History of Laundry—Why Women Wash Clothes]. Novus forlag

Klepp, I. G. (2008). *Clothes, the body and well-being. What does it mean to feel well dressed?* (1-2008). https://hdl.handle.net/20.500.12199/6038

Klepp, I. G., & Bjerck, M. (2014). A methodological approach to the materiality of clothing: Wardrobe Studies. *International Journal of Social Research Methodology*, *17*(4), 373–386. https://doi.org/10.1080/13645579.2012.737148

Klepp, I. G., Fletcher, K., Maldini, I., Berg, L. L., Tobiasson, T. S., Måge, J., … Hvass, K. K. (2023). *Research briefing: Research input for policy development based on understanding of clothing consumption*. OsloMet. Retrieved 25 April from https://clothingresearch.oslomet.no/wp-content/uploads/sites/1026/2023/03/Research-briefing-on-clothing-consumption-1.pdf

Klepp, I. G., & Tobiasson, T. (2021). *Lettfiks. Klær med ni liv*. Bokvennen Forlag.

Klint, E. (2024). *Washing with (con)science—Combining psychology and life cycle assessment to better understand the environmental impacts from domestic laundering*. Chalmers University of Technology, Gothenburg. https://research.chalmers.se/en/publication/542014

Laing, R. M. (2019). Natural fibres in next-to-skin textiles: current perspectives on human body odour. *SN Applied Sciences*, *1*(11), 1329. https://doi.org/10.1007/s42452-019-1388-1

Laitala, K., & Boks, C. (2012). Sustainable clothing design: Use matters. *Journal of Design Research*, *10*(1/2), 121–139. https://doi.org/10.1504/JDR.2012.046142

Laitala, K., & Klepp, I. G. (2018a). Care and Production of Clothing in Norwegian Homes: Environmental Implications of Mending and Making Practices. *Sustainability*, *10*(8), 2899. https://doi.org/10.3390/su10082899

Laitala, K., & Klepp, I. G. (2018b). Motivations for and against second-hand clothing acquisition. *Clothing Cultures*, *5*(2), 247–262. https://doi.org/10.1386/cc.5.2.247_1

Laitala, K., & Klepp, I. G. (2019, 18–20 September). Global differences in consumer practices affect clothing lifespans. Plate, Berlin.

Laitala, K., Klepp, I. G., & Berg, L. L. (2023). The impact of modes of acquisition on clothing lifetimes. In K. Niinimäki (Ed.), *Recycling and Lifetime Management in the Textile and Fashion Sector* (pp. 89–109). CRC press.

Laitala, K., Klepp, I. G., Haugrønning, V., Throne-Holst, H., & Strandbakken, P. (2021). Increasing repair of household appliances, mobile phones and clothing: Experiences from consumers and the repair industry. *Journal of Cleaner Production*, *282*, 125349. https://doi.org/10.1016/j.jclepro.2020.125349

Laitala, K., Klepp, I. G., & Henry, B. (2017). Global laundering practices. Alternatives to machine washing. *H&PC Today—Household and Personal Care Today*, *12*(5), 10–16. http://www.teknoscienze.com/tks_article/global-laundering-practices-alternatives-to-machine-washing/

Laitala, K., Klepp, I. G., & Henry, B. (2018). Does Use Matter? Comparison of Environmental Impacts of Clothing Based on Fiber Type. *Sustainability, 10*(7), 2524. https://doi.org/10.3390/su10072524

Laitala, K., Klepp, I. G., Kettlewell, R., & Wiedemann, S. (2020). Laundry care regimes: Do the practices of keeping clothes clean have different environmental impacts based on the fibre content? *Sustainability*, *12*(18), 7537. https://doi.org/10.3390/su12187537

Maldini, I., & Balkenende, A. R. (2017). Reducing clothing production volumes by design: a critical review of sustainable fashion strategies. *Research in Design Series* Product Lifetimes And The Environment—PLATE 2017, Delft.

Maldini, I., Duncker, L., Bregman, L., Piltz, G., Duscha, L., Cunningham, G., … Balgooi, F. v. (2017). *Measuring the Dutch Clothing mountain. Data for sustainability-oriented studies and actions in the apparel sector*. CREATE-IT Applied Research. https://research.hva.nl/files/3144178/Measuring_the_Dutch_Clothing_Mountain_final_report_002_.pdf

McQueen, R. H., & Vaezafshar, S. (2019). Odor in textiles: A review of evaluation methods, fabric characteristics, and odor control technologies. *Textile Research Journal*. https://doi.org/10.1177/0040517519883952

Nautiyal, M., Hunting, A., Joseph, F., & Cleveland, D. (2023). Examining Practices of Apparel Use and End of Life in New Zealand. *Sustainability*, *15*(6), 5141. https://doi.org/10.3390/su15065141

Neto, A., & Ferreira, J. (2023). Lasting Bonds: Understanding Wearer-Clothing Relationships through Interpersonal Love-Theory. *Fashion Theory, 27*(5), 677–707. https://doi.org/10.1080/1362704X.2023.2170706

Niinimäki, K., & Armstrong, C. (2013). From Pleasure in Use to Preservation of Meaningful Memories: A Closer Look at the Sustainability of Clothing via Longevity and Attachment. *International Journal of Fashion Design, Technology and Education*, *6*(3), 190–199. https://doi.org/10.1080/17543266.2013.825737

Niinimäki, K., & Koskinen, I. (2011). I Love this Dress, It Makes Me Feel Beautiful! Empathic Knowledge in Sustainable Design. *Design Journal*, *14*(2), 165–186. https://doi.org/10.2752/175630611x12984592779962

Puig de La Bellacasa, M. (2017). *Matters of care: Speculative ethics in more than human worlds* (Vol. 41). University of Minnesota Press.

Roos, G., Klepp, I. G., Laitala, K., Haugrønning, V., Bugge, A. B., Skuland, S. E., … Teigen, H. F. (2020). *Barn og unges forbruk: Klær, mat og kropp*. SIFO-rapport nr. 13-2020. https://hdl.handle.net/20.500.12199/6458

Russo, B. (2010). *Shoes, Cars, and Other Love Stories: Investigating The Experience of Love for Products*. TU Delft. http://resolver.tudelft.nl/uuid:fb4b87ce-ff66-44f3-9c 81-0e7c5bfa7c78

Shinohara, Y. (2019). Development of Life Cycle Inventory Worksheets for Sustainable Wardrobe Management. An inspection by university students for the ESD lessons in high school Home Economics. *International Journal of Curriculum Development and Practice*, *21*(1), 15–26. https://doi.org/10.18993/ jcrdaen.21.1_15

Sigaard, A. S., & Laitala, K. (2023). Natural and sustainable? Consumers' textile fiber preferences. Fibers, 11(2), 12. https://doi.org/10.3390/fib11020012

Sundt, E. (1869). *Om renligheds-stellet i Norge: til oplysning om flid og fremskridt i landet*. JC Abelsted.

Tölg, R. I., & Fuentes, M. (2022, 1.9.2022). *Consume with care and responsibility! The material-semiotic making and distribution of responsibilities in green marketing* ESA Sociology of Consumption, Oslo.

Veblen, T. (1899). *Theory of the leisure class: An economic study in the evolution of institutions*. Macmillan.

Wiedemann, S. G., Biggs, L., Nguyen, Q. V., Clarke, S. J., Laitala, K., & Klepp, I. G. (2021). Reducing environmental impacts from garments through best practice garment use and care, using the example of a Merino wool sweater. *The International Journal of Life Cycle Assessment, 26*, 1188–1197 https://doi. org/10.1007/s11367-021-01909-x

Woodward, S. (2007). *Why women wear what they wear*. Berg.

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5

Good Growth Case Study

Paula Oliveira

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5.1 Good Growth: A Landscape Approach That Shifts the Logic of the Fashion Value Chain

"It's a systemic challenge that requires a systemic answer." That's how the co-founders of Good Growth look at the fashion industry. The organisation is on a mission to restore nature and improve livelihoods by taking a 'landscape first' approach to their value chains. But what does this mean?

5.2 The Good Growth Model

Let's take cashmere as an example. In the current supply chain model, fashion brands have little or no visibility of where the threads they purchase are coming from, how animals are treated or what the overall environmental impact is. Animal hair is traded by weight as a commodity, so the more animals herders have, the more they produce and the more they earn. That is leading to the deterioration of many rangelands, where the animal population is too high, and overgrazing is leading to poor land health. In Mongolia, for example, in one of the regions where the company operates, in 2015 only 9% of the Mongolian-Manchurian grassland was badly degraded, whereas in 2023 it is

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42%. But according to Good Growth, the trend could be reversed in between two and five growing seasons if this predominant supply chain model is transformed.

Good Growth's model starts by looking at the land first – what are the current conditions and health of the landscape, the role it plays *in* and *for* the planet, and its natural cycle. This helps to determine what is the ideal number of animals in a certain area based on land health or its need to recover, and therefore how much 'animal hair' could be produced within a year, in which season, so animals can be protected during winter months. The company also uses a combination of satellite analysis and monitoring of photos taken by local herder communities to see what plants are growing where and understand the health of the land – this information is important to support herders to decide where to move their herds and balance the ecosystem (Fig. 5.1).

That collaboration with herders is critical to the company's model. Good Growth commits to purchasing all fibres produced by the herders (cashmere, sheep, camel, horse, yak) at an above market (and fairer) value in exchange for
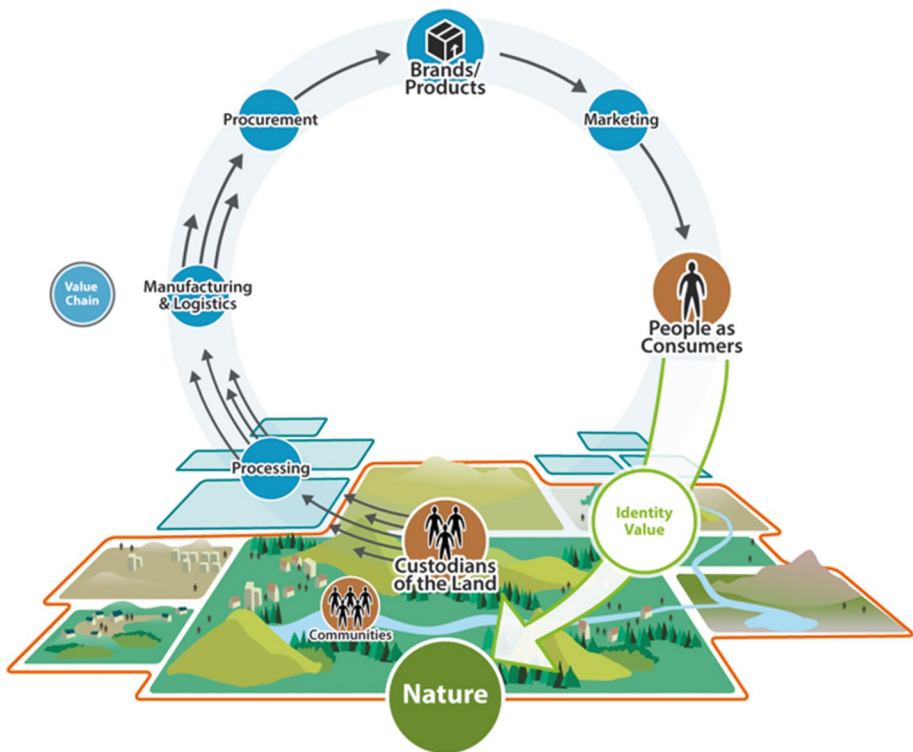
Fig. 5.1 Land first fibre value chain, illustrated by Nexial

regenerative practices across the landscape, animal welfare, and science-driven herd size. It is good for the herders, who can diversify and improve their income, good for the land and its biodiversity, and good for Good Growth, which improves its impact and has a healthier and higher quality mix of animal hair to commercialise and innovate from.

This holistic business model attracts investment from philanthropic funding focused on regeneration of landscapes, but companies can also support by helping to develop scalable monitoring and value chain technologies and collaborating to create demand and value for all fibres cultivated in a given landscape.

5.3   More than an Aggregator

It's not all about regenerating landscapes and commercialising better commodities. Good Growth aims to create natural products from all the materials in a landscape, such as yak wool blankets and scarves, fertiliser pellets made from sheep wool, acoustic ceiling panels made from camel wool, or natural insulation products made from sheep wool. Current brands and partners include Navygrey (which started by making jumpers from natural fibres) and Khunu (which produces clothing and accessories from yak wool) (Fig. 5.2).

By also developing products and collaborating with brands that are committed to land regeneration and sustainable development, the company expects to help people who work across the value chain and users of end

Fig. 5.2 Lightweight yak wool blanket, using undyed yak wool from Mongolia, hand woven in Nepal. (Photo by Julian Wilson, Khunu)

products to connect with the places where those products come from, and with the prosperity of the land and community of those places.

5.4   Looking Ahead

To be truly sustainable, Good Growth founders believe the fashion industry must question its timings and volumes.

1. *How to recalibrate and rebalance the timing by which all different actors of the fashion industry operate?* As users, people want things "now" because brands and businesses have built and successfully delivered on this expectation; businesses tend to focus on short-term imperatives and quarterly reports, with systemic long-term value creation and care for 'externalities' being lost in the process; and supply chains often work under 6-month time-frames to allow more flexible and agile stock management, lowering costs and risks. But at the end there are those communities whose livelihoods depend on the raw materials, and they need to work aligned with natural ecosystems, which might take years or decades to respond, independent of what the rest of the system wants.
2. *What business models would enable the industry to prosper independently from volume growth?* The industry produces between 80 and 150 billion garments per year (depending on the sources). The current focus on regenerative agriculture and nature-based solutions is good, but the simple substitution of materials whilst maintaining the same volume growth mind-set could put even more pressure on the environment and compete with other human needs such as food. Nature should guide production, not pressure for commercial growth (Fig. 5.3).

For the founders of Good Growth, we can't afford to tinker around the edges of the current system anymore. We need to fundamentally change the prevalent economic model and learn how to prosper from less volume, not more. This is the only way the planet will be able to regenerate itself and sustain life in the future.

About Good Growth
Good Growth is an organisation that creates 'business systems' integrating various activities traditionally fragmented across value chains, with the purpose of regenerating landscapes.

https://www.goodgrowth.earth
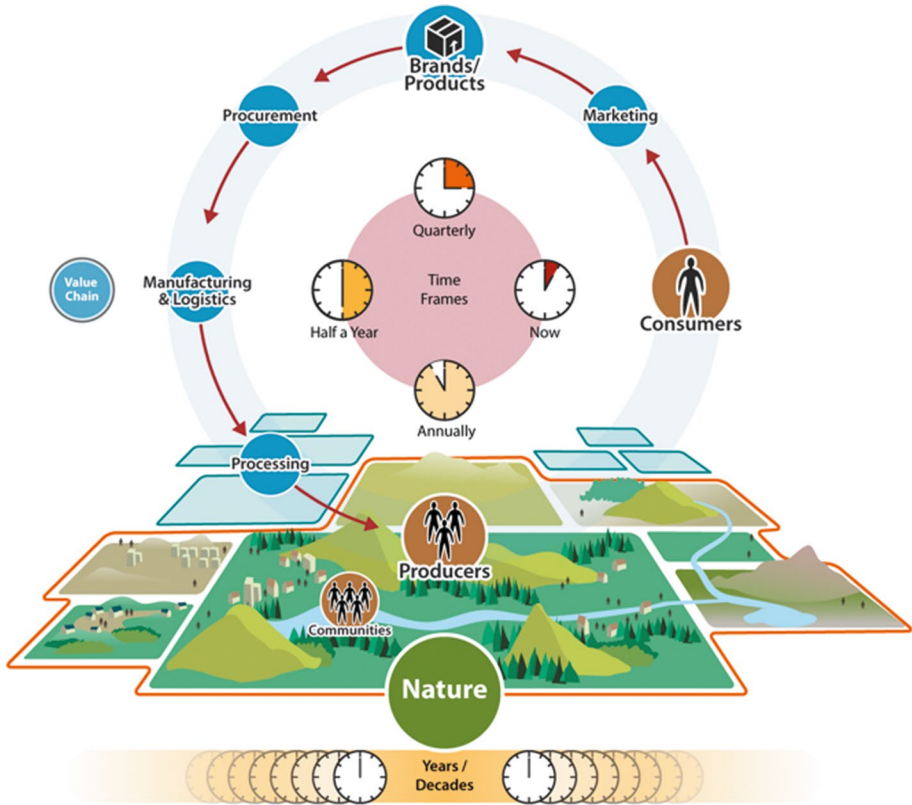
Fig. 5.3   Timing disconnect, illustrated by Nexial

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now-on creates and supports initiatives that advance the sustainable development goals by providing research, systemic insights, strategy, facilitation, and coaching.
   https://www.now-on.info

6

In Conversation with Erica Charles

Helen Goworek and Erica Charles

Erica Charles has over 25 years of industry experience as a Brand Development & Marketing Consultant across fashion and fashion-related sectors and is currently Programme Leader for MSc Sustainable Fashion at Glasgow Caledonian University (London campus). She is also a founding member of modern slavery Community Interest Company (CIC) Justice in Fashion (Fig. 6.1).

6.1 Experience of Sustainability in the Fashion Business and Academia

When I first started out in fashion marketing, it was all about the product. A lot of the marketing communication narrative and design processes at the time were not focused on sustainability at all. I worked with the likes of ASOS, Marks & Spencer and The Limited Inc., which owned several brands including Victoria's Secret, Express, Henri Bendel and Abercrombie & Fitch. Many of the brands and retailers I worked with were very much about pushing product. However, back in March 2010, I joined Save the Children's retail

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Fig. 6.1   Erica Charles

team and was part of the 'Lead Team' responsible for launching the first 21 of Mary Portas's revolutionary concept shops: Mary's Living & Giving Shop for Save the Children. These charity shops strategically pursued both social and commercial impact by putting community and sustainability at the heart of the business. We created an outlet for premium brands and retailers to dispose of their excess and old stock without damaging the value of the brand, as well as brought the community and local businesses together. The overall premise was that, as a charity shop, we could be attracting new consumers and encouraging better purchasing behaviours by providing a retail space that really embedded the principles of retailing, in terms of merchandising, customer service and captivating visual merchandising—showing products in a way that was unusual for a charity context. These shops were very profitable, with the majority of them consistently contributing more than three times the average weekly earnings per shop than that of the average UK charity retail sector. This was my first foray into charity retailing, where I truly learned that it wasn't just about the product itself, it was also about mobilising an entire community who effectively would come together to raise vital funds for a great cause.

Then in 2016, I joined Glasgow Caledonian University (GCU London campus) as the Programme Leader for the newly launched MSc Fashion

Business Creation programme. This programme was very much about the business of fashion and entrepreneurship, and although sustainability was not necessarily stated in the title of the programme, it was embedded in everything we did. My aim with this programme was that students who wanted to go on and set up their own businesses, did so in a responsible way. This programme has now developed and re-launched in January 2024 as the MSc Sustainable Fashion Business. It looks at sustainability as the initiator of innovation and equips students with the essential toolkit to lead sustainability departments or manage sustainability transitions within a fashion organisation. It's about creating or developing responsible business strategies that keep people and planet at the heart of decision-making.

6.2   Incorporating Environmental and Social Sustainability into the Curriculum

Every decision that is made within a fashion business needs both people and planet at its heart, and that is exactly what we have done with our fashion programmes at GCU London. The MSc Sustainable Fashion Business is structured around three pillars: the development of sustainable business models and practices, analysis and measurement of sustainable impact and the communication of purpose-led brands. So in terms of the content, we directly address current global challenges in the fashion industry (specifically those relating to the creation and development of fashion businesses). Students get to explore the phenomenon of degrowth, and how, with current business models, this can be applied to help achieve some of the targets and goals set in terms of the United Nations Sustainable Development Goals (SDGs). The modules covered in the programme provide the exploration and careful due diligence that is needed to assess sustainability impact and ensure sustainability initiatives in a commercial context offer real long-term solutions. We've been very purposeful to ensure learning and teaching activities are created to ensure students develop a broad and deep understanding of the discipline and recognise the tools and techniques available to them. Given the programme team's research activities relating to fashion ethics, sustainability and innovation, as well as them undertaking consultancy projects with leading international NGO's who operate in this domain, we are able to directly draw upon academic and industry professionals who are at the forefront of this continuously developing discipline.

Although in the industry we talk about sustainability, I prefer to use the term 'responsible business' because there are so many different definitions of sustainability. Whether it's from an ecological, economic, social or institutional perspective, the meaning has different connotations, and therefore stating that you're working towards making responsible choices and operating in a more responsible way, forces us to really think about our choices, from raw material and creation right through to delivering it to the end user. Terminology and impact are something we get our students to really explore throughout their studies. For example, a module which looks at profit and loss is key in terms of assessing successful businesses; however, success and growth can be measured in many ways. Equally while we are talking about growth, which seems at odds to sustainability in that we are encouraging over-consumption, it is important that they address growth in a responsible way, that is, whether that is the rising interest in degrowth as a conscious strategy or the rise of Impact Investors and what they are looking for in brands. And let's not forget the power of storytelling in encouraging more responsible purchasing behaviours; we challenge students to not just think about what is said, but how it is said, especially with recent legislation addressing the rise of greenwashing and purpose-washing. It's really about exploring the relationship that we have with ourselves, with our communities, organisations and the environment.

6.3   Significant Sustainability-Related Issues in the Fashion Business

The fashion industry is becoming increasingly more concerned with climate change, especially as textile production contributes more to climate change than international aviation and shipping combined. With the fashion industry being responsible for around 8% of total greenhouse gas emissions, we are already seeing the consequences of this with recent climate-related disasters occurring across the world. Every part of the fashion value chain is affected by the climate crisis, and as such, we are now hearing them talk about climate de-risking; however, it really should be a key priority for fashion businesses now.

Equally, conversations in terms of circular fashion are continuing to be very important, and we're seeing a lot of organisations looking at how they can encourage more circularity within their business, whether that's from waste, pollution or energy perspectives to looking at how they don't just try to fix the problem, but try and address the root cause. For example, some would argue

that take-back schemes encourage over-consumption, as consumers now can be absolved of their exacting behaviour. Therefore, businesses should look at how they can address it so that they are designing with sustainability and circularity right from the outset. I've seen some really innovative Swedish brands whereby they design with raw materials that will disintegrate naturally, so designing into a concept where the product naturally goes back to nature. We're also starting to see more narrative around the marketing communications relating to sustainability, so we know about greenwashing of course and there is new legislation in terms of making brands more accountable, but a new challenge we are seeing is 'purpose-washing'; organisations that are trying to signal virtues without actually being transparent and having it at the heart of their ethos. Brands need to really consider how and what they communicate to consumers within the fashion industry around sustainability.

6.4   Progress in Sustainability in the Fashion Sector

Christopher Raeburn is often cited as leading the way in terms of his approach to design and fashion, especially his drive to ensure more responsible practices continues year on year. The Spanish retailer EcoAlf is also phenomenal in the area of sustainability. Founded by Javier Goyeneche, the idea was to create a brand that was truly sustainable; a brand that sincerely looked to reduce the negative impact of the fashion industry and addressed the indiscriminate use of natural resources; even up to the fact that wherever they find the raw material (debris from the sea) that is where they manufacture. They invest heavily in Research and Development (R&D) and their fabrics are really beautiful.

The fashion sector has made some progress in terms of sustainability, but sometimes it seems like we're having the same conversations with CEOs and design teams as we did five years ago, and still asking the same questions without having any answers. There are many fashion brands that are pushing in terms of Research and Development, but overall it's slow progress and it's questionable whether we'll make enough progress in time to impact and reach the targets that we need to at the current speed. The fashion system should be encouraged to change because even with business models like recycling, unless you address the design element right at the beginning as in the fabrics, making sure trims and buttons are easily removeable so we can actually recycle, it's just prolonging the time before it ends up in landfill. The narrative is that we're telling consumers to bring back garments but not all of the components

can be recycled and then we're also pushing more products because you might get a 10% discount, or money-off voucher to buy more product, so it's contradictory, bringing back old so you can buy more new. There are fundamental complexities within that, which really need to be addressed.

In relation to modern slavery, again, relatively little progress is being made. Although there are new policies and legislations being put in place, there is still a lack of enforcement. Not-for-profit organisations like Justice in Fashion, International Justice Mission UK and Unseen are making real change in this area, calling out injustices and raising awareness. It's such a complex situation though, as it is not as simple as just encouraging brands to really look to see if there is slavery in their supply chain, so they cease working with certain manufacturers. As, what do the garment workers then do in this scenario? They struggle to find other jobs. So rather than helping to solve one issue, which is symptomatic of brands and retailers focusing too much on growth, they create another. Fashion is an exciting industry and there is more progress that can be made; so, we therefore shouldn't lose hope, but it is an industry that needs improved regulations and strict enforcement of legislation. It's not just the brands that are culpable; but if they are forced from the outset to make better and more responsible choices, that then feeds into consumer behaviours and purchase intentions.

7

From Resale to Reuse: Does Second Cycle Shape Fashion Consumption Habits?

Linda Lisa Maria Turunen

7.1   Introduction

Resale platforms, flea markets, thrift-stores and branded resale services have successfully increased the circulation of previously used garments in the market and engaged consumers in the process. Compared to the overall apparel market, the secondhand apparel market is expected to grow three times faster in the coming years, and online resale is suggested to be the fastest growing sector of secondhand (ThredUp 2023).

The resale market brings the focus on circulation of clothing: in the circular economy literature, resale is framed as a way to extend the lifetime or intensify the usage times of garments (e.g. Lüdeke-Freund et al. 2019; Henninger et al. 2021). Despite the efficient systems to pass used garments from one owner to another, research has shown that the change of ownership does not always mean more usage time for circulated garments (Laitala and Klepp 2021).

Prior literature acknowledges the consumer's role in the circular economy (Hobson et al. 2021; Ellen MacArthur Foundation 2017). In collaborative fashion consumption models—of which secondhand consumption can be regarded as one format—consumers' active participation and engagement is required (Brand et al. 2023; Armstrong and Park 2020; Machado et al. 2019). Consumers' acceptance, intention and motivations have been examined in

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the secondhand fashion context, especially from purchasing perspective (Machado et al. 2019; Styvén and Mariani 2020; Ferraro et al. 2016; Turunen and Pöyry 2019). Yet, disposal forms a vital part of secondhand consumption practice (Turunen et al. 2020; Laitala 2014; Joung and Park-Poaps 2013) and is often closely linked to purchase of new items. The consumption cycle, which consists of the acquisition, use and disposal phase, forms a collection of consumption practices along the lifetime of a garment.

An attractive secondhand market of garments requires branded products with resale value, consumers who dispose of these garments and those who are willing to buy previously used items. With the help of the platforms and third-party resale service providers, increasing number of primary operating fashion brands are involved in the circulation of their own items from one consumer to another (Turunen and Henninger 2022). Secondhand consumption seems to gain momentum, yet less attention is paid to whether and how active involvement in buying and selling practices of garments influence on purchase orientation, usage phase, product engagement and premature disposal habits in general.

To shed light on the consumption habits and practices along the consumption cycle, this chapter focus on secondhand consumers' practices and reasonings during purchase, usage and disposal of garments. To offer an overview of the secondhand market of fashion clothing and accessories, the diverse purchase and disposal channels, such as online resale platforms, peer-to-peer platforms, self-service flea markets and thrift stores will be examined. The qualitative interviews and secondhand market observations were collected in Finland.

7.2   Secondhand Consumption Along the Consumption Cycle

The growing body of literature on secondhand fashion consumption has uncovered the motivations and fascination behind previously used items (e.g. Brand et al. 2023; Camacho-Otero et al. 2019; Ferraro et al. 2016). The consumption practices orchestrated by different secondhand channels have provided insights into constantly changing phenomena (Styvén and Mariani 2020; Seo and Kim 2019; Sihvonen and Turunen 2016; Ferraro et al. 2016). Secondhand consumption can be regarded as a form of collaborative fashion consumption in which consumers have access to already existing garments, instead of buying new fashion items (Iran and Schrader 2017). As a way to

prevent premature disposal, extended and intensified usage of garments, sec-ondhand is often associated with environmental benefits (Hur 2020; Armstrong and Park 2020; Becker-Leifhold and Iran 2018).

Consumers are increasingly aware of the environmental impact of fashion consumption, waste generation and disposal. Simultaneously, short lifetimes of products and constantly changing trends may invite to excessive consump-tion behaviours, such as high frequency of purchase, short usage time and rapid disposal of garments (e.g. McNeill et al. 2020). A consumer's decision-making process includes acquisition, use-phase-related considerations and disposition (Arnould and Thompson 2005), which form a consumption cycle. Besides a purchase decision, consumers' engagement with the product during its lifetime can contribute to either sustainable or unsustainable consumption practices of garments.

The act of purchasing is a vital step in entering the consumption cycle. Consumers can turn into secondhand consumers either by purchasing previ-ously used items or by being engaged in selling-activity in the disposal phase. The secondhand market requires active engagement from consumers (Machado et al. 2019), as the market relies on both consumer-sellers who dispose of items and those who are willing to buy previously used items (Turunen et al. 2020). It is suggested that there are nearly twice as many buy-ers as there are sellers in the resale market, and while most sellers also buy secondhand, fewer buyers are involved in the act of selling (Morning Consult 2023).

Previous research has shown that the secondhand market is not a homoge-neous one but instead consists of diverse business models and attracts a variety of consumer groups with different intentions and motivations (e.g. Henninger et al. 2021). Active participation in secondhand acquisition is influenced by socio-demographic and contextual factors (Norum & Norton 2017), but some key motivations shaping consumer purchase behaviour and shopping preferences have been identified. Ferraro et al. (2016) suggest four main driv-ers guiding secondhand acquisition: economic, critical, recreational and fash-ion motivations. In other words, the attraction of secondhand can be related to product-related aspects such as affordability and lower prices (Hur 2020; Gopalakrishnan and Matthews 2018; Xu et al. 2014), uniqueness of goods (Cervellon et al. 2012; Guiot and Roux 2010) and the ecological aspects of items (Ferraro et al. 2016; Guiot and Roux 2010).

The fascination with secondhand shopping can also be driven by experien-tial or hedonic reasons, such as the thrill of bargain or treasure hunting (Cervellon et al. 2012), nostalgic pleasure (Turunen and Leipämaa-Leskinen 2015) or other shopping experience-related aspects, such as social interaction

between sellers and buyers (Guiot and Roux 2010; Armstrong and Park 2020). Additionally, some consumers are suggested to be drawn to second-hand channels to distance themselves from the mainstream market, avoid large corporate chains and express sustainable values (Ferraro et al. 2016; Styvén and Mariani 2020; Brand et al. 2023). However, while attracting increasing numbers of customers with different motivational backgrounds, there are concerns about a rebound effect, where increased involvement in the secondhand market may lead to the purchase of unnecessary items (Iran and Schrader 2017; Parguel et al. 2017; Armstrong and Park 2020).

Greater appeal of the secondhand market has also resulted in a wider range of options and services (ThredUp 2023). Within the secondhand market, you can find anything from vintage to ultra-fast fashion pieces, from worn-out to nearly new and "hangtags on" and in diverse price points. Preferring previously used items can be regarded as a sustainable choice when it replaces the purchase of new items (Becker-Leifhold and Iran 2018; Hur 2020) and/or enables more usage in the hands of new owners (Klepp et al. 2020). Ferraro et al. (2016) suggested that even among secondhand shoppers, fashion and fashionability play a significant role in their motivations when they are shopping in secondhand store.

In terms of fashion consumption in general, preferences for fast and slow fashion brands are not necessarily regarded a determining factor for overconsumption. Instead, the intrinsic interest and reactiveness to fashion trends is (Niinimäki 2010). The fashion-sensitive consumer who has a need to express one's social identity through clothing decision and constantly surfs in the trend wave tends to purchase fashionable items in greater volumes and disposes of them more frequently (Lang et al. 2013). Secondhand channels may serve the fashion sensitive consumers both by offering a channel to find unique pieces but also circulate unwanted garments.

Practices related to the purchase situation may influence the possession and usage phases. For example, impulse or mispurchases are suggested to lead to fewer usage times for garments (Xu et al. 2014; Herjanto et al. 2016). Further, McNeill et al. (2020) suggested that if fashionability is the main consideration in the purchase phase, this is also reflected in the disposal behaviour.

The possession and consumption phase of garments, especially from the perspective of wearing and utilizing garments, has gained extensive attention, particularly from the standpoint of self-expression and identity construction (Kaiser 1997). The possession phase also consists of practices when an item is not used, such as washing, storing, and caring (Klepp et al. 2020). Despite sustainability having been investigated in the use phase of fashion garments, research concerning repair, maintenance and end-of-life have only recently

gained more momentum (McNeill et al. 2020). Yet, while the circulation of garments seems to be compelling for large audiences, product maintenance, curation and other end-of-life extension behaviours have not reached a mainstream audience.

In terms of secondhand consumption, the disposal phase, which follows usage and possession, is crucial, as it also determines what items, in which channel and at what price and condition becomes available. From a sustainable consumption perspective, consumers have a central role to play in defining what happens with garments at the end-of-use. If the product enters secondhand market, it may, at best, gain more usage times in the hands of a new owner (Machado et al. 2019). Past literature has successfully exemplified various clothing disposal behaviours, methods and reasons. For instance, Joung and Park-Poaps (2013) differentiated disposal practices into discarding, donating, trading and selling. They uncovered product-related reasons behind garment disposal, such as poor fit, outdated style or worn-out condition. Also, motivations for specific disposal behaviours and channel preferences can be pointed out, and, for example, economic interest, environmental awareness considerations, effort intensiveness and engagement may determine how consumer is getting rid of the used items (e.g. Bianchi and Birtwistle 2010; Joung and Park-Poaps 2013).

The secondhand market allows consumers to actively participate as buyers, users and sellers of their previously owned products. Through the consumption decisions and practices, consumers engage in acquisition, usage and disposition phases, which form an overlapping process that evolves simultaneously. Depending on the consumption practices and engagement, active consumers in secondhand landscape can influence whether they are either speeding up or slowing down their consumption cycle. While previous studies have focused on single phases of consumption, and in specific secondary channels, this chapter includes different phases of consumption cycle and diverse secondhand channels in Finland to provide an overview of secondhand consumption practices.

7.3 Methodology and Empirical Context

7.3.1 Data Collection and Analysis

The empirical data consists of interviews conducted with dedicated secondhand consumers and ethnographical observations from the market. The interviewed women were aged between 18 and 30 years, and they have utilized a

variety of secondhand channels, both online and offline, to buy and sell clothing and accessories. A total of 13 interviews were conducted, each lasting 45 to 90 minutes. The interview themes followed the phases of the consumption cycle and covered purchase and shopping practices and reasonings, usage and consumption of previously used items and disposal behaviours of garments. The interviewees were asked to reflect on and critically consider whether their fashion consumption practices, such as purchase preferences, product engagement and disposal tendencies, differed based on the purchase channel (primary vs. secondary channels).

A purposeful sampling technique was applied to collect rich data, which includes diversity in terms of utilized secondhand channels, product preferences and frequency of secondhand activity. Secondhand buying and disposing activities were related to donation-based thrift shops, self-service flea markets, consignment stores and platforms, peer-to-peer platforms and non-facilitated marketplaces, such as Facebook groups. All interviewees lived in Finland, and while most of the secondhand transactions were taken place in multiple secondhand channels in Finland, many of them had experience with international secondhand platforms.

The empirical data were analysed using content analysis (Spiggle 1994). First, the data were coded and categorized based on the discussed phase of the consumption cycle. The different practices were then examined within each phase. The analysis revealed a diversity of consumption practices, which closely linked to channels and product preferences. Subsequently, the interview data were examined by evaluating frequency and reasonings of product circulation, product engagement and preferred items, based on which a continuum of the consumer's orientation towards fashion consumption was crafted. Sustainability-related issues were often mentioned but rarely served as a guiding principle for consumption decisions, or translated in concrete actions throughout the phases.

7.3.2 Secondhand Market in Finland

According to a study by the Finnish Commerce Federation (2022), 68% of Finns regard the purchase of durable products as the most significant factor in defining responsible consumerism. Durability offers favourable conditions for the growth of the secondhand market, and the study indicates that nearly 55% of Finns purchased secondhand products in 2022 (Statista 2022). See Table 7.1 about household consumption of used (adult) clothing in 2019.

According to Statistics Finland's databases (2020), Finnish households spend an average of 387€ per year on previously used items, including

Table 7.1 Households' participation on sharing economy in 2019, Statistics Finland (2020)

	Percentage of households that buy clothing and shoes, 2019	Percentage of households that sell clothing and shoes, 2019
Traditional flea market	30%	21%
Online platforms	12%	9%
Non-facilitated online marketplaces, such as social media groups	11%	10%

clothing, shoes, furniture, books, magazines, appliances and interior items. In 2019, the average income from selling used items for Finnish households was 342€. The spending on online platforms in 2019 was significantly higher, 318€ per year, compared to traditional flea markets (163€ per year) and non-facilitated marketplaces with 125€ per year on average (Statistics Finland 2020).

The average Finn spends approximately 700€ on clothes per year (Statista 2024). However, the amount of money spent on washing, repairing and renting clothes remains relatively low in Finland (STJM 2022). The clothing market in Finland is estimated to be around 4€ billion per year, and the retail sale of secondhand goods in stores is estimated to reach around 2% (Statista 2022). Not all transactions are reported, as peer-to-peer transactions, for example, in social media groups or lightly facilitated marketplaces where buyers and sellers meet without heavy involvement of intermediaries (Sihvonen and Turunen 2016).

The growing interest towards resale and previously used fashion goods can also be observed in Finland with the emergence of facilitated resale and secondhand operators entering the market. Ethnographic market observations were undertaken to gain insight into the current landscape of secondhand companies and their offerings within the Finnish context. Small, curated secondhand consignment stores have appeared in large cities, enhancing the shopping experience with carefully selected pieces. Even self-service flea market operators are building attraction through service offerings for sellers and moving towards consignment models.

The availability of used textile items is constantly increasing, and due to the variety of operators, services are becoming more specialized. Several large donation-based operators in Finland, such as U-landshjälp från Folket till Folket i Finland sr (UFF), Finnish Red Cross (SPR, Suomen Punainen Risti), Fida (Finnish missions and development cooperation organization) and local recycling centres, offer an easy way to dispose of used items and provide a wide selection of items ranging from quality vintage to used (ultra) fast fashion pieces.

Traditional flea markets and self-service flea markets also attract treasure hunters with diverse products and affordable pricing. Some self-service flea market players have adopted consignment models by upgrading their services for sellers. Curated consignment stores in Finland have emerged in recent years, along with companies operating in online secondhand markets through decentralized/consignment or facilitated peer-to-peer transactions. While curated consignment stores are local gems, most peer-to-peer secondhand platforms operate in multiple regions around the Nordics and engage thousands of active users. International luxury secondhand platforms also have active users in Finland.

Centralized secondhand platforms that offer services make buying and selling more convenient for both sellers and buyers. The consumer-seller sends used clothes or drops them off in a collection box, for example, in a department store. The company quality-checks, prices, photographs and sells the items on the platform. Once the selling period ends, the seller receives 40–60% of the sales. Unsold items are often shipped to charity unless the seller decides to reclaim them. As the items are stored by the platform company, the shopping experience for buyers resembles a traditional online purchase, and multiple items can be bought simultaneously.

Finnish fashion brands have also launched their own branded resale offerings with different operational models. Some small fashion firms have built their resale operations in-house, while many brands collaborate with third parties to help with the reverse supply chain operations (Turunen and Henninger 2022). Furthermore, some multi-brand retailer companies offer take-back services combined with the resale of well-maintained used items.

Thus, a variety of secondhand players exist in the Finnish market, aiming to circulate and move the garments resting in the closets of Finns. The increasing competition and diversity in the secondhand market have pushed operators to find ways to attract consumers. Even some donation-based operators have launched curated shops or sections, focusing on vintage pieces to increase the attraction among secondhand buyers with narrower interests. Next, consumption practices will be examined more precisely from the viewpoint of active secondhand consumers.

7.4   Findings

The qualitative interviews and ethnographical observations offered an overview of the Finnish secondhand market, consumers' practices and reasonings around their behaviours. The in-depth interviews with 13 informants are not

generalizable, but they offer a snapshot of a heterogeneous group of consumers who are actively engaged in the secondhand market of clothing and fashion items: they are anything from enthusiast fashion-lovers to premium-seekers who value affordability to considerate treasure hunters.

Sustainability and circularity discussions have brought additional attractiveness to the secondhand phenomenon, and resale companies urgently search to provide ease and convenience to support the circulation. Over half of the interviewees acknowledged that there has been a notable increase in general interest towards secondhand items in recent years, and it has had an impact on the market offerings: it is more challenging to find unique gems, pricing is higher and a greater number of unused items circulating.

Secondhand market players' ability to manage the logistics in the fashion market is heavily dependent on consumer-sellers and their willingness to circulate their used items. Ethnographical observations of available products, their condition and pricing narrate a valuable story of the Finnish secondhand market. Depending on the secondary channel, enormous diversity of products was observed. Within secondhand channels, one can find nearly new, unused and fashionable items, but also worn-out, low-quality garments from past seasons. Specialized channels also offered a range of vintage treasures and well-preserved, high-quality pieces. As the outdated or wrong-season items are not attractive, many secondhand players accept only products currently suitable for season and trends.

The increasing number of players in secondary channels has led to homogenization of service offerings, and products available in the market, yet consumers involved seem to become more diverse. Findings showed that in terms of consumption habits and frequency of circulation, there seem to be two opposite orientations: involvement in the secondhand market either speeds up the consumption and decreases the product engagement or secondhand engagement offer a channel for slower consumption practices and access for premium priced treasures that would otherwise be inaccessible (see Fig. 7.1).

For both ends of the continuum, the secondhand market is the preferred purchase channel, yet consumption practices and engagement with the product differ extensively. While fashion-oriented consumers may find the secondhand market a convenient and *'sustainability-minded'* channel to circulate fashion goods to keep their wardrobe constantly rotating, stylish and treasure-oriented consumers use secondhand markets as a channel to uncover unique gems and enjoy the treasure-hunting experience. Perception of product's resale value was common for all interviewees, and it seemed to influence purchase and disposal behaviours and decisions, yet it was constructed differently and in different timeframe: while resale value was gained through quick rotation
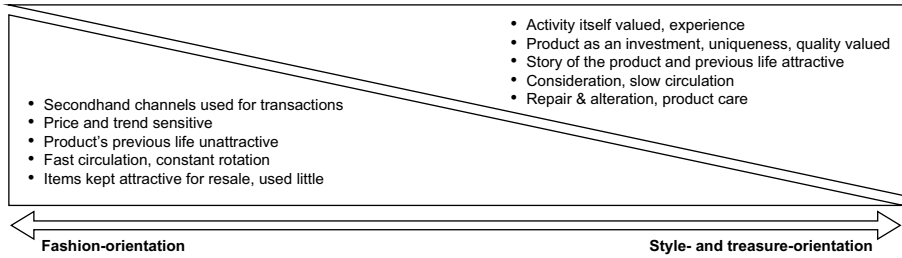
Fig. 7.1 Continuum of consumer's orientation of fashion consumption

of trendy items among fashion-oriented consumers, style- and treasure-oriented interviewees emphasized quality materials and brands, which hold their desirability also in the future. The opposite ends represent the rough categories, and not many customers represent the extreme ends of the continuum.

Findings showed that fashion-oriented consumers were product-focused, and, especially, (1) price-sensitive, that is, use the secondary channels either to buy nearly new items but cheaper, or (2) trend-driven, that is, uncover popular and emerging trends from secondary channels (e.g. Y2K fashion). For them, secondary channel gave an access to more affordable or authentic pieces. Instead, style- and treasure-oriented consumers enjoyed the act of searching the perfect piece, which could bring value in long-term usage. For them, the activity itself was valued, and the investment piece was purchased only if it perfectly fit to the criteria (e.g. brand, material, unique or rare item).

Next the consumption practices among engaged secondhand consumers will be reviewed in more detailed along the consumption cycle.

7.4.1   Bargains and Investments

Different secondary channels attract different target audiences. Self-service flea markets, thrift stores and non-facilitated marketplaces fascinated both fashion-oriented consumers and style- and treasure-driven explorers. However, according to the interviews, the underlying drivers seem to be different: while fashion-oriented consumers searched for trendy bargains, treasure hunters used these channels to find unvalued gems. Depending on the secondary channels and consumer's orientation, purchasing practices, frequency of visits and amount of purchased items differed.

Among interviewees, online secondhand platforms (peer-to-peer platforms and centralized platforms) and branded resale offerings seemed to be preferred

Fig. 7.2 Quotations illustrating consideration in secondhand purchases

channel to scroll through when in need for some specific item. The extensive selection in online platforms has brought the secondhand purchase experience closer to traditional e-commerce. Besides higher prices, the wide selection also seems to have made interviewees more considerate of their online secondhand purchases (Fig. 7.2).

While the increasing availability of nearly new and unused items on online platforms reflects current overconsumption—excessive purchase and low usage rates of clothing—the convenience of enhanced screening tools and the availability of these nearly new items have invited new audiences who prioritize previously used goods.

Some interviewees pointed out that after being involved in the secondhand market, they have slightly shifted their purchase habits of new garments (Fig. 7.3).

While for others, the affordable pricing and product's uniqueness has invited for quick decision-making (Fig. 7.4).

The value of the garment was not determined in the secondhand market only by price, but also by effort and time finding it. Perceived value of the item clearly guided the usage practices and product engagement. While trendiness and affordability were key factors leading to purchase decision among fashion-oriented consumers, style- and treasure-oriented consumers consideration was more complicated, including product's quality, material and condition, rarity and uniqueness, garments fit and brand.

"Buying nearly new items from secondhand has helped me to upgrade to premium, without compromising my budget."

"I am tempted to be more experimental and bold with colors and patterns when shopping at flea markets and thrift stores. (…) I no longer buy fast fashion items as new."

"Realizing that I can potentially make money by investing in better brands was an eye-opener for me. When I buy something from a fast fashion brand, I can only donate it after using it. However, if I pay more and purchase something from a Finnish brand, there is a possibility of getting a nice return if I ever decide to sell it."

Fig. 7.3   Quotations illustrating shifts in purchase habits

"I consider myself a very considerate consumer when buying new items, but in flea markets and thrift stores, I usually forget my 'think twice' -rule."

"When my local thrift store has sales, I get nuts. The products cost next to nothing. (…) Even if I only use them once, I feel like I can donate them back."

"I used to be addicted to Facebook flea market groups (…) I got hooked on the thrill of finding something cheap, but it required being alert all the time. It's like a game where people reserve and queue for items, which makes them even more attractive. (…) After being misled multiple times by the long queue and being forced to sell them for next person in line, I decided to delete the fb-app from my phone."

Fig. 7.4   Quotations illustrating the decision-making practices in the second-hand market

Unlike expected, interviewees did not record major changes in their consumption behaviour, other than increased usage of resale platforms instead of buying new. Among interviewees the active involvement as a seller seemed to be biggest change as the channels make circulations as *convenient to pass it on and even get some money in return.*

While flea markets or thrift stores offer a huge selection of different products and styles, it was described as *overwhelming, difficult to find anything good* or *real treasury that requires a trained eye* or *to make it work, you need clear target*

you are looking for. Finnish secondhand market has evolved to serve the convenience-driven consumers: For some interviewees, secondhand became attractive only when curated consignment stores and online secondhand platforms emerged. These formats resemble the most the traditional stores and e-commerce platforms in terms of navigation, experience, merchandising, and curated selection, which brings convenience for shopping. The prices were higher, items unworn or nearly new, yet these interviewees felt the products still were bargain, compared to purchase of brand-new items.

7.4.2   From Wardrobe Rotation to Care of Investment Pieces

The purchase situation often set the tone for usage and disposal phases. The consumer's orientation, whether it emphasized fashionability or more individualistic style and treasures, became clearly visible in how interviewees described their usage and engagement of the items they purchased.

All the informants washed items before they were used, which is well-aligned with previous research about hygiene issues and contamination in relation to shared consumption practices (Brand et al. 2023; Becker-Leifhold and Iran 2018). Washing was described even as a ritualistic way to *undress* the meanings and previous life of the garment and make it one's own—it needed to *smell and feel like my own.* Differently to consumers who preferred nearly new and unused items, some style-oriented consumers described how they observed *potential* in items which needed some *pampering and love.*

As fashion-oriented consumers focused especially on the constant rotation and flow of the wardrobe, also the practices during possessing and meaning of garments differed among interviewees. While items were regarded as *artefacts of expression,* their main importance was on how they looked and fit to current trend: *I don't get attached to items, but they are tools for me to underline my statements. (…) I love to exuviate constantly and represent my own style – second hand gives me access to find something else what is available in market.* It became clear that fashionable statement pieces were used little and circulated quickly, whereas the wardrobe's cornerstones were items mostly bought as new and used long.

One fashion-oriented consumer also described a clear system of her consumption cycle (Fig. 7.5):

On the opposite end, the slower style- and quality-oriented consumers valued more about the story of the product, the material and uniqueness of the item. The past owner or heritage gave the *soul of the product*, and thus, also the

> "After using a dress a couple of times, I list it on a peer-to-peer platform. However, if it still fits my wardrobe, I can continue using it. (…) If it doesn't sell, I may eventually send it to (decentralized) flea platform or consignment-based flea market along with my other items. (…) I prefer to sell it myself because companies typically take around 50% of the selling price. (…) If it still doesn't sell, I can choose to donate it directly to charity."

Fig. 7.5 Quotation reflecting a selling process of a fashion-oriented consumer

wear and tear were valued. Due to deeper engagement with the product lead to care and maintain practices, but also sometimes difficulty to pass it on afterwards. One interviewee also described how she purchase clothing based on the high-quality fabric and colour, as she applies alteration services to make it fit. The alteration services seemed not often be option when purchased something cheap and low quality: *I once found beautiful [fast fashion brand] red evening dress from flea and took it to alteration (…) I was devastated about how much it cost. (…) It became perfect, but despite of the alternation, it is forever [fast fashion brand] dress.*

The results showed that garments became part of the wardrobe during the usage phase. The value of the garment evolved through engagement and combinations: *after I have washed it, it becomes irrelevant where I bought it. (…) How I style it with my other items becomes more important than the individual garment.* While the secondary channel offers access to items currently not available in the traditional market, the ability to combine and style enabled the unique and individualistic representation, which is not available to all: *My friend knows how to find real gems (…). To me they look awful at the shop, but once she wears and combines them, I am amazed.* Thus, the value of the item is multifaceted, and it can be constructed during use, fit and styling.

7.4.3   Thrill of Transaction or Convenience?

Similarly, the disposal practices and channel decisions were continuity of the consumers' orientation towards fashion consumption and emerged from perceived value of possessions. Many interviewees mentioned that they donated some items to thrift stores and charity shops, especially if (1) no-one bought them after selling period; (2) the item was too low in quality or cheap in the first place, and thus it was too much effort to sell; (3) it is out of fashion or it has minor issues making it difficult to sell.

"Many people fail to value their own time.(…) The worst scenario I can think of is when I have to engage in discussions with potential buyers, provide measurements, offer additional pictures, only to have them not follow through with the purchase. (…) That's why, I would be willing to pay someone to handle the process for me."

"I frequently browse peer-to-peer apps, but I am hesitant to reveal my identity when selling on these platforms. (…) I prefer not to leave a trail of what I have bought or sold, as it feels too personal."

"One aspect I appreciate about peer-to-peer platforms is the full control I have throughout the entire process, from taking pictures and setting prices to managing shipping. (…) I have even started to include nice notes and attach lollipops to the items I sell."

"I use consignment services at flea markets for trendy and expensive items, as they price my items higher than I would. (…) I find it convenient to use decentralized platforms for premium and basic products, especially when I want to sell multiple items at the same time."

Fig. 7.6 Quotations reflecting interviewees' reasoning for choosing secondhand channels

Less than half of the interviewees were comfortable offering their used items for friends or families: *I don't want to see my clothes on my friends, what if I feel like I want it back?* On the other hand: *A beautiful skirt got too small for me. (…) It took several years until I could give it for my Goddaughter, as I knew she would value it as much as I did.* Both personal meanings and attachment with the product seem to guide the disposal methods, similarly to Turunen et al. (2020).

The increasing number of secondhand channels has brought more variety and options for disposal methods. The interviewees had different emphasis and preferences, but determining factors related to the product's value (monetary, trendiness, seasonality), number of products, available time and effort, personal interest of selling activity (enjoyment of selling vs. resale as service), need and urgency for money (Fig. 7.6).

The frequency of being involved in selling process differed greatly among interviewees. While some informants were talking about constant rotation (channels: peer-to-peer platforms, consignment stores, Facebook flea markets), where it was easy to sell only a few pieces, others were collecting more items before selling (channels: flea-markets, centralized platforms). The act of selling often took place in the beginning or at the end of the season. Some Finnish platforms and flea markets have guided the potential sellers to rethink the fit of the pieces to meet the current demand in the market. This suited well for wardrobe rotators who keep up with the fashion wave, but most of the interviewees pointed out that timing related to seasonal changes: *When I unpack my summer clothes for use, I usually do wardrobe inventory and sell things that are not pleasing me anymore.*

Close connection of purchase and disposal have been suggested in previous literature (Sarigöllü et al. 2021; Bianchi & Birtwistle 2010), and it was detected especially among fashion-oriented wardrobe rotators: *I don't get rid of clothes until it is getting too crowded in my closet.* While interviewees described that the disposal takes place after the purchase of new, some platforms are also encouraging purchases after disposing: *I just sold a couple of dresses in [branded resale platform], and now I have a voucher to buy something new from their collection!* Thus, resale operators' services facilitate the circulation of garments and may, in some cases, also encourage for additional purchases.

7.5   Conclusions

The Finnish secondhand market consists of diverse players orchestrating on garment circulation. Increasing interest towards secondhand market has focused on resale and act of transactioning. The change of ownership may encourage for disposable mindset, and thus, it is relevant to ask whether and how consumer's active involvement in buying and selling of garments could be directed towards *reuse* and engagement with garments to encourage active secondhand consumers towards sustainable fashion consumption practices.

Secondhand fashion consumption consists of multiple and interrelated phases, which either start or end in secondhand stores or platforms. The purchase situation, which has received the most attention among secondhand consumption literature, clearly influences the practices and habits applied in the usage and disposal phases of the consumption cycle—such as the duration of product usage, how it is cared for, and when and how it is disposed of. The diverse secondhand marketplaces attract Finnish consumers with either convenient services or experiential treasure hunting. A combination of affordable and unique offerings, slower and considered consumption decisions and enjoyable thrill of hunt were uncovered among interviewees, but the main determining factor influencing on sustainable consumption practices was the fashion-orientation or the lack thereof.

Engaged secondhand consumers were positioned on a continuum with two opposite ends: *fashion-oriented wardrobe rotators,* who utilize the secondhand market to keep up with the constant flow, and *style- and treasure-oriented quality seekers*, who focus on experiences and investment pieces. The consumption cycle is slowed down by their emphasis on usage and carefully selected pieces. The results did not show clear evidence of active involvement in the secondhand market shaping fashion consumption habits. However, it was uncovered that engagement in the secondhand market accelerated current practices due

to its two-way nature. For fashion-oriented consumers, it offered a channel for rapid and frequent garment disposal. On the other hand, style- and treasure-oriented consumers gained easier access to personal, unique styles and quality items.

Interestingly, the secondhand market is one of the few consumption arenas that can serve these diverse consumer groups with opposite orientations. While the secondhand market enables the circulation of garments, attract larger audiences to adopt previously used items, it is also the arena which enables garments to find new owners and gain usage times. The ethnographic observations unveiled the heterogeneous mass of garments available in secondary channels. Especially the resale platforms are full of unused or lightly used fashion pieces. While each use of a garment reduces its relative environmental impact, secondhand companies should act as advocates, encouraging reuse rather than resale and disposable circulation. Secondhand operators are dependent on both the primary market and consumers' willingness to dispose of and purchase used items. Therefore, responsible secondhand companies serve as invaluable interfaces, educating and guiding consumers towards increased usage and engagement with the items.

References

Armstrong, C.M.J., & Park, H. (2020). Online clothing resale: a practice theory approach to evaluate sustainable consumption gains. *Journal of Sustainability Research*, *2*(2).

Arnould, E.J., & Thompson, C.J. (2005). Consumer culture theory (CCT): Twenty years of research. *Journal of Consumer Research*, 31(4), 868–882.

Becker-Leifhold, C., & Iran, S. (2018). Collaborative fashion consumption–drivers, barriers and future pathways. *Journal of Fashion Marketing and Management: An International Journal*, 22(2), 189–208.

Bianchi, C., & Birtwistle, G. (2010). Sell, give away, or donate: an exploratory study of fashion clothing disposal behaviour in two countries. *The International Review of Retail, Distribution and Consumer Research*, 20(3), 353–368.

Brand, S., Jacobs, B., & Taljaard-Swart, H. (2023). I rent, swap or buy second-hand–comparing antecedents for online collaborative clothing consumption models. *International Journal of Fashion Design, Technology and Education*, 1–13.

Camacho-Otero, J., Boks, C., & Pettersen, I.N. (2019). User acceptance and adoption of circular offerings in the fashion sector: Insights from user-generated online reviews. *Journal of Cleaner Production*, 231, 928–939.

Cervellon, M. C., Carey, L., & Harms, T. (2012). Something old, something used: Determinants of women's purchase of vintage fashion vs second-hand fashion. *International Journal of Retail & Distribution Management*, *40*(12), 956–974.

Ellen MacArthur Foundation, 2017. Infographic: circular economy system diagram. Accessed 15th December 2022. https://ellenmacarthurfoundation.org/circular-economy-diagram

Ferraro, C., Sands, S., & Brace-Govan, J. (2016). The role of fashionability in second-hand shopping motivations. *Journal of Retailing and Consumer Services*, 32, 262–268.

Finnish Commerce Federation (2022). Digital consumers' attitudes towards responsibility in the midst of pandemic and war. Accessed 25th February 2023. https://kauppa.fi/en/services-and-databank/

Gopalakrishnan, S., & Matthews, D. (2018). Collaborative consumption: a business model analysis of second-hand fashion. *Journal of Fashion Marketing and Management: An International Journal*, *22*(3), 354–368.

Guiot, D., & Roux, D. (2010). A second-hand shoppers' motivation scale: Antecedents, consequences, and implications for retailers. *Journal of Retailing*, *86*(4), 355–371.

Henninger, C.E., Brydges, T., Iran, S. & Vladimirova, K. (2021). Collaborative fashion consumption – a synthesis and future research agenda. *Journal of Cleaner Production*, 319, 128648

Herjanto, H., Scheller-Sampson, J., & Erickson, E. (2016). The increasing phenomenon of second-hand clothes purchase: Insights from the literature. *Jurnal Manajemen dan Kewirausahaan,* 18(1), 1–15.

Hobson, K., Holmes, H., Welch, D., Wheeler, K., & Wieser, H. (2021). Consumption Work in the circular economy: A research agenda. *Journal of Cleaner Production*, 321, 128969.

Hur, E. (2020). Rebirth fashion: Secondhand clothing consumption values and perceived risks. *Journal of Cleaner Production*, *273*, 122951.

Iran, S., & Schrader, U. (2017). Collaborative fashion consumption and its environmental effects. *Journal of Fashion Marketing and Management: An International Journal*, 21(4), 468–482.

Joung, H.M., & Park-Poaps, H. (2013). Factors motivating and influencing clothing disposal behaviours. *International Journal of Consumer Studies*, 37(1), 105–111.

Kaiser, S.B. (1997). *The social psychology of clothing: Symbolic appearances in context*. Fairchild Books.

Klepp, I.G., Laitala, K., & Wiedemann, S. (2020). Clothing Lifespans: What Should Be Measured and How. *Sustainability*, 12(15), 6219.

Lüdeke-Freund, F., Gold, S., & Bocken, N. M. (2019). A review and typology of circular economy business model patterns. *Journal of Industrial Ecology*, 23(1), 36–61.

Laitala, K. (2014). Consumers' clothing disposal behaviour–a synthesis of research results. *International Journal of Consumer Studies*, *38*(5), 444–457.

Laitala, K., & Klepp, I.G. (2021). Clothing longevity: The relationship between the number of users, how long and how many times garments are used. 4th PLATE Virtual Conference Limerick, Ireland, 26–28 May 2021.

Lang, C., Armstrong, C.M., & Brannon, L. A. (2013). Drivers of clothing disposal in the US: An exploration of the role of personal attributes and behaviours in frequent disposal. *International Journal of Consumer Studies*, 37, 706–714.

Machado, M.A.D., de Almeida, S.O., Bollick, L.C., & Bragagnolo, G. (2019). Second-hand fashion market: consumer role in circular economy. *Journal of Fashion Marketing and Management: An International Journal*, 23(3), 382–395.

McNeill, L.S., Hamlin, R.P., McQueen, R.H., Degenstein, L., Garrett, T.C., Dunn, L., & Wakes, S. (2020). Fashion sensitive young consumers and fashion garment repair: Emotional connections to garments as a sustainability strategy. *International Journal of Consumer Studies*, 44(4), 361–368.

Morning Consult (2023). What Retailers Need to Know About Resale's Buyers and Sellers. Accessed 18th May 2023. https://morningconsult.com/2022/04/22/what-retailers-need-to-know-about-resales-buyers-and-sellers/#:~:text=Most%20sellers%20buy%2C%20but%20fewer,one%20over%20the%20same%20period

Niinimäki, K. (2010). Eco-clothing, consumer identity and ideology. *Sustainable Development*, 18(3), 150–162.

Norum, P., & Norton, M. (2017). Factors affecting consumer acquisition of second-hand clothing in the USA. *Journal of Fashion Marketing and Management*, 21(2), 206–218.

Parguel, B., Lunardo, R., & Benoit-Moreau, F. (2017). Sustainability of the sharing economy in question: When second-hand peer-to-peer platforms stimulate indulgent consumption. *Technological Forecasting and Social Change*, 125, 48–57.

Sarigöllü, E., Hou, C., & Ertz, M. (2021). Sustainable product disposal: Consumer redistributing behaviors versus hoarding and throwing away. *Business Strategy and the Environment,* 30(1), 340–356.

Seo, M.J., & Kim, M. (2019). Understanding the purchasing behaviour of second-hand fashion shoppers in a non-profit thrift store context. *International Journal of Fashion Design, Technology and Education*, 12(3), 301–312.

Sihvonen, J., & Turunen, L.L.M. (2016). As good as new–valuing fashion brands in the online second-hand markets. *Journal of Product & Brand Management*, 25(3), 285–295.

Spiggle, S. (1994). Analysis and interpretation of qualitative data in consumer research. *Journal of Consumer Research*, *21*(3), 491–503.

Statista (2022). Industry revenue of retail sale of second-hand goods in stores in Finland 2012–2025. Accessed 17th March 2023. https://www.statista.com/forecasts/391244/retail-sale-of-second-hand-goods-in-stores-revenue-in-finland

Statista (2024). Household consumption expenditure on clothing in Finland from 2012 to 2023. Accessed 25th September 2024. https://www.statista.com/statistics/575254/household-consumption-expenditure-on-clothing-in-finland/

Statistic Finland (2020). More than 70% of households have bought items from fleamarkets. Accessed 17th March 2023. https://www.stat.fi/tup/kokeellisettilastot/vertais-ja-jakamistalous/yli-70-prosenttia-kotitalouksista/index.html

STJM (2022). Finns spend 920 euros a year on clothes, household textiles and footwear. Accessed 17th March 2023. https://www.stjm.fi/en/uutiset/finns-spend-920-euros-a-year-on-clothes-household-textiles-and-footwear/#:~:text=Statistics-,Finns%20spend%20920%20euros%20a%20year%20on%20clothes%2C%20household%20textiles,euros%20on%20textiles%20and%20fashion.

Styvén, M., & Mariani, M.M. (2020). Understanding the intention to buy second-hand clothing on sharing economy platforms: The influence of sustainability, distance from the consumption system, and economic motivations. *Psychology & Marketing*, 37(5), 724–739.

ThredUP (2023). Resale Report 2023. Accessed 18th May 2023. https://www.thredup.com/resale

Turunen, L. L. M., & Leipämaa-Leskinen, H. (2015). Pre-loved luxury: Identifying the meanings of second-hand luxury possessions. *Journal of Product & Brand Management, 24*(1), 57–65.

Turunen, L.L.M., Cervellon, M. C., & Carey, L. D. (2020). Selling second-hand luxury: Empowerment and enactment of social roles. *Journal of Business Research*, 116, 474–481.

Turunen, L.L.M., & Henninger, C.E. (2022). The Hidden Value of Second-Hand Luxury: Exploring the Levels of Second-Hand Integration as Part of a Luxury Brand's Strategy. In *Sustainable Luxury: An International Perspective* (pp. 13–33). Cham: Springer International Publishing.

Turunen, L.L.M., & Pöyry, E. (2019). Shopping with the resale value in mind: A study on second-hand luxury consumers. *International Journal of Consumer Studies*, 43(6), 549–556.

Xu, Y., Chen, Y., Burman, R., & Zhao, H. (2014). Secondhand clothing consumption: A cross cultural comparison between American and Chinese young consumers. *International Journal of Consumer Studies*, 38, 670–677.

Can Modular Garments Be a Sustainable Fashion Solution?

Xiaoqing Zhang, Songyi Yan, Aurelie Le Normand, and Claudia E. Henninger

8.1 Introduction

The boom of fast fashion comes at the cost of waste (Brydges et al. 2022). According to the Environmental Audit Committee (2019), it was estimated that around 300,000 tonnes of textiles were thrown away in the UK alone, of which less than 1% was recycled to go back into new production. The development of fashion should not be built on wasting valuable resources, as this comes at the cost of the earth's long-term survival and is unsustainable (Binet et al. 2019). To counteract the situation, a new economic model for fashion is required and sustainable fashion has been deemed to be the future (Gwilt 2020; Niinimäki et al. 2020; Environmental Audit Committee 2019). Sustainable fashion finds its origins in the 1960s (Gwilt 2020), and research on it has increased further over the last ten years (Mukendi et al. 2020; Kozlowski et al. 2016). People increasingly realize that the fashion industry

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must slow down; yet, fast fashion has continued to grow (Niinimäki et al. 2020). Numerous strategies proposed intend to reduce consumption by extending the garment lifespan, such as reuse and recycling, and thus focus on the end-of-life phase of a garment. However, these approaches are seemingly failing to tackle the root cause, seeing as garment production and consumption continue to rise, along with the surge in textile waste (Niinimäki and Hassi 2011). The main reasons for such strategies' failure are twofold.

Firstly, slowing down the fashion industry, in terms of the number of collections provided in a season, seems to be contradicting the nature of fashion, which is a continuous cycle of new trends that goes in and out of season (Henninger and Singh 2017). Under this pressure, production cycles are shorter and the latest fashion trends are brought to market faster (Hur and Cassidy 2019). This leads to a constant excess of products and waste with fashion collections being reported to be burned (Environmental Audit Committee 2019). Secondly, people's desire for fashion is a result of material pursuits and emotional needs (Fletcher 2008). Seeking out pleasure through material consumption is in the nature of human beings and this hedonistic value drives people's inner desire to consume (Kozlowski et al. 2016). Meanwhile, consumers' overconsumption and discarding behaviour is not simply because garments are physically broken but because the emotional bond with the garment is fading over time (Saha and Lehew 2018; Fletcher 2008), followed by a desire for new fashion trends (Cooper and Claxton 2022). To explain, the physical durability of a garment usually outlasts its trendiness (Fletcher 2008). As a result, most out-of-date clothes are thrown away or kept in wardrobes with less frequency of use even if they are of high quality.

Hence, it is challenging to slow down people's desire to consume and the fashion industry by emphasizing the physical durability of textiles to encourage the long-term use of garments (Saha and Lehew 2018). A more innovative sustainable strategy is needed for increasing garments longevity considering additional factors aside from developing the longevity of fabric materials. Here design can be brought into the discussion (Fletcher and Grose 2012). Design is a powerful strategy to extend garments' lifetimes beyond physical durability and even to reshape manufacturing and consumers' behaviour since it is the first stage in the production process of a garment and can impact the subsequent phases from manufacturing to end-of-use (Claxton and Kent 2020; Hur and Cassidy 2019; Gwilt and Pal 2017; Fletcher and Grose 2012). Modular garments have been highlighted for their sustainable potential (Chen and Li 2018; Fletcher and Grose 2012; Niinimäki and Hassi 2011). In contrast with traditional garments, a modular garment is composed of several

separate modules, such as sleeves, main body, and collars, which are assembled without stitches and can be disassembled and reassembled.

Extant research indicates that modular garments present a potential for extending the longevity of garments (Chen and Li 2018; Gwilt and Pal 2017; Hur and Thomas 2011; Niinimäki and Hassi 2011; Karell 2013). Additionally, if modular garments become a reality, their emergence probably brings a new behaviour in consumption, which is changed from purchasing a single garment to purchasing individual parts of a garment. This is likely to provide the pleasure of shopping but also has the potential to scale down consumption. However, current discussions are inconclusive regarding the effectiveness of modular garments in increasing physical and emotional durability. Another noteworthy consideration is that the potential of modular garments for mitigating the conflict between fulfilling the desire to consume and reducing overall consumption has not yet been fully explored. Meanwhile, the potential negative impacts of modular garments are easily overlooked. To explain, more consumption would be induced if consumers bought excessive garment modules for pursuing over-diversity.

Therefore, this chapter aims to present a comprehensive critical discussion on the sustainable impacts that modular garments potentially have on prolonging a garment's lifespan. Through a critical literature review, this chapter will provide a brief introduction to modular garments and the modular structure, and then examine the sustainable potential of modular garments in terms of (1) physical durability, (2) emotional durability and (3) fashion aspect. Finally, this chapter will discuss the implications of modular garments on both sides of these three aspects and provide recommendations on how to maximize the positive potential of modular garments and minimize the corresponding negative aspects, thereby leading to the development of modular garments towards a sustainable future.

8.2 Modular Garment: Definition and Features

The history of modular garments can be traced back as far as the mid-seventeenth century. At that time, 'the stays' were a popular type of women's underwear, featuring detachable sleeves (Gwilt 2020, p.132). Besides, the modular (detachable) structure was also used in men's dressing. In Victorian and Edwardian times, men's dinner dresses often had detachable collars and cuffs that could be attached to their waistcoats or coats with hooks and eyes (Gwilt 2020; Fletcher 2008). Although modular structures in clothing began

early, the concept of modular garments was not explored formally until the late 1900s and the beginning of the 2000s (Ulrich et al. 2003).

Niinimäki (2013) defines a modular garment as an item constructed from a series of non-stitched modules (parts) that can be disassembled and reassembled. Gwilt and Pal (2017, p. 151) elaborate that these detachable parts in clothes can be 'sleeves, front and back panels, collars and cuffs, etc.'. This reveals that a modular garment is not a complete piece anymore (Chen and Li 2018) but a combination of parts that can easily be detached and reassembled. Thus, this chapter defines a modular garment as a piece of clothing that is made up of detachable garment modules, such as sleeves, main body (stitched together with front and back panels) and collars, that can be assembled and disassembled by an individual through closure methods, including but not limited to zips, buttons, or hooks and eyes.

Due to its detachability and the feature of reassembling, researchers in sustainable fashion imply that modular garments could be a potential solution to promote sustainable fashion consumption (Chen and Li 2018; Gwilt and Pal 2017; Fletcher and Grose 2012; Niinimäki and Hassi 2011; Fletcher 2008). Specifically, Gwilt and Pal (2017) point out that these detachable garment modules facilitate replacement, repair or even modification. Moreover, a modular structure features independence (Cabigiosu et al. 2013), which means garment modules can vary across the same type and the modification of one would not affect the rest of the garment (Gershenson et al. 2003). For example, sleeve modules can vary from short to long, and can be attached either as a pair (both long or both short) or a combination of both (one short and one long sleeve), depending on an individual's taste and style. This is a simplified example, as it does not even take into account the actual fabric or colour of a sleeve, which could also be changed and combined. Consequently, a garment with modular structures is more versatile and can offer more looks by simply modifying parts of the garment through garment modules (Chen and Li 2018; Gwilt and Pal 2017; Koo et al. 2014). This brings along questions of whether the advantages of modular structure in garments can lead to a positive effect on the environment by extending the lifetime of clothing and reducing consumption, thus being a solution to the development of sustainable fashion, or whether the opposite may be the case.

8.3   Prolonging the Lifespan of Garments

A WRAP (2012) report highlighted that extending the lifespan of clothing by actively using and re-using are the main effective ways to mitigate the negative environmental effect caused by clothing waste. Fletcher and Grose (2012) propose that three dimensions can be considered to extend the lifetime of garments: physical durability, emotional durability and fashion aspects. Physical durability refers to 'durable' (long-lasting) materials and construction that are more resistant to damage arising from wear and tear (Haeggblom and Budde 2021; Fletcher and Grose 2012). Emotion is about creating an emotional attachment (Fletcher and Grose 2012) to optimize the lifespan of garments, rewriting the fate of those clothes that might otherwise be thrown away due to the fading interest from end-users. A challenge here is also to ensure to keep the interest, as fashion is implicitly linked to staying on trend or ensuring timelessness (Fletcher and Grose 2012). To explain, clothing can be designed in classic colours, such as white and black, that can be worn across seasons and matched with more items. It also refers to designing timeless clothing that intercepts the retail 'season' and responds to the change in temperature and personal needs (Fletcher and Grose 2012). For example, a sleeveless waistcoat with a removable inner layer can be worn as an integration under another coat on severe cold days yet can be worn alone or with the inside layer removed in warmer seasons. This chapter discusses the possibilities that modular garments may have to increase the longevity of garments in the following aspects based on Fletcher and Grose's concepts of (2012): physical durability, emotional durability and fashion aspect.

8.3.1   Physical Durability: Material, Versatility and Easier Repair

Physical durability first refers to the material and structural quality of clothing that provides a strong physical performance (Saha and Lehew 2018; Fletcher and Grose 2012). Durable material is the first step to extending the physical durability of garments; however, for a sustainable fashion future, it is not sufficient. (Saha and Lehew 2018; Fletcher and Grose 2012). A garment sewn with durable material is not equal to physical longevity as even if garments could be used for longer, they may not necessarily be in use as long as they could. The fact is that many clothes are thrown away before they have been worn out (Degenstein et al. 2020; Fletcher and Grose 2012). When the physical durability of a garment exceeds the use time, the physical durability

becomes a negative factor affecting nature, as the garment may end up being landfilled (Fletcher and Grose 2012). Yet durable material itself should not be a sustainable impediment; instead, it is an essential condition to change the throwaway culture resulting from fast fashion, making recycling and reuse become significant and possible (Ellen MacArthur Foundation 2017). To improve the physical longevity of garments in the sense of usage, more importantly, it should manage to transfer this durability on fabric to garments effectively, thus optimising the lifetime of garments. The key is to keep garments active in use.

A garment with multi-functional characteristics, such as a winter coat with a removable interlayer or a reversible dress, is probably used more frequently and longer as its versatility offers more possibilities and chances for consumers (Saha and Lehew 2018; Koo et al. 2014). This can be verified from a clothing care study (Gwilt 2021), which suggested that 33% of respondents mentioned multi-purpose when asked why they would like to wear a specific item frequently. As an umbrella concept of transformative garments that can be transformed into more than one look to meet diverse demands functionally or aesthetically (Koo et al. 2014), modular garments can be adapted into various versions by mixing and matching different garment modules. This makes it possible that garment modules can be worn to meet multi-demands and even across seasons. Imagine a main body that is assembled with a pair of short-sleeve modules for use in summer, and this main body is yet appropriate on cooler days as long as replacing the short-sleeve modules with longer ones or adding a hood module. Due to the repeatability of garment modules, this versatility will likely keep the garment active in use and increase the use frequency.

Additionally, modular garments offer an easier repair alternative (Niinimäki 2013). Due to frequent physical contact and friction between the body and other objects, strengthening areas are more prone to wear and tear. For example, for a top, these vulnerable areas could be the elbows, cuffs and collars (Laitala et al. 2015). Repair practices can partially fix damaged clothing and restore it to a wearable condition (Niinimäki and Durrani 2020). This would overcome one of the challenges identified in recent research, which indicated that most consumers throw away garments if clothing is damaged even if the damage is only minimal (e.g., stain) (McQueen et al. 2022; McNeill et al. 2020). One of the reasons for this throwaway phenomenon is the fact that new replacements are available at a low price, further reasons are a skills barrier to repairing items, and time (McQueen et al. 2022). When a modular design is used in garments, it would permit easy removal and replacement (Gwilt and Pal 2017) for those garment modules prone to frequent abrasion

without needing sewing skills and/or tools (e.g., needle and thread, sewing machine). Only simple actions such as unzipping or zipping, unbuttoning or buttoning are required. Whenever parts of a modular garment are damaged, they can be disassembled and replaced with new garment modules (Niinimäki and Hassi 2011) having the same specifications. In this manner, the rest of the parts that are still in pristine condition would not be affected and the whole garment could remain active.

While modular construction endows modular garments with versatility and an easier repair approach through modular adaptation and replacement, it is also left with the problem of waste. When those replaced garment modules are removed, it is difficult to determine their final destinations, whether they will be re-used or discarded. It would be a waste if they were thrown away directly even though the waste caused by abandoning a single module would be less than an entire garment would cause. In addition, the method of repairing by replacing modules may not be suitable for all types of damaged garments, especially for some minor damage such as a tiny hole and stitching getting loose. If a new garment module is used to replace an old one that is slightly damaged and can be restored by simple stitching, then unnecessary waste is caused.

To minimise waste, a supporting system, including free repairing and recycling services, is needed to complement modular garments. Free repair stations can be set up in the shops and used for those garment modules with minor damages. Through this setup, unnecessary waste could be reduced. For those garment modules that are broken and replaced, they can be returned to the providers, waiting for sorting and for entering recycling or upcycling. This take-back scheme even can be designed with rewards. By promoting such sustainable processes, more consumers are likely to engage (Hole and Hole 2020), and the volume of garment modules being abandoned could be reduced. Although the complimentary service can be a strategy to motivate consumers to maintain their clothing (McNeill et al. 2020) and to reduce discard behaviour, it does not guarantee that these repaired garments can be kept in active use (Gwilt 2021) and all broken garment modules can be taken back. It is because recycling behaviour is also driven by other factors, such as ethical norms and past experience, which cannot be planned and predicted (Tonglet et al. 2004).

8.3.2 Emotional Durability: Co-creation and Mass Customization

Emotional durability is a sustainable strategy that has the potential to reduce consumption and waste, yet it relies on establishing a relationship between consumers and their products (Chapman 2015). To create such an emotional bond, the product is commonly designed to be meaningful for the end-users (Niinimäki and Hassi 2011), which can be understood as empathy, and social and cultural values that are embedded in the garment (Saha and Lehew 2018), such as sensory design, attractive dressing methods, memories and narrative reflections (Haines-Gadd et al. 2018). When a continuous and effective relationship is developed between wearers and clothing, people tend to continue caring for, maintaining and valuing these items long after their life cycle is over (Gwilt 2020), thus reducing unnecessary waste.

The value of emotional power is beyond people's imagination and the durability created by the emotional attachment outweighs that of the physical ones (McQueen et al. 2022). According to research conducted recently in South Korea to investigate how fashion-sensitive young consumers would like to address their damaged clothing, these young consumers chose to repair fast fashion items once the connection was made (McNeill et al. 2020). This connection is so significant that people tend to repair even low-quality or priced garments they love instead of some expensive or branded clothing they do not (McNeill et al. 2020). The importance of emotional connection is also demonstrated by the behaviour of consumers who would repair these clothes regardless of the cost of repairing (McQueen et al. 2022). Empirical data (McQueen et al. 2022; McNeill et al. 2020) confirm that emotional durability contributes significantly to extending the lifespan of clothing and under the influence of emotional bonding, consumers may spontaneously practice more sustainable behaviour.

Furthermore, Claxton and Kent (2020) put forward that design-led and user-centred strategies can be used to embed emotional effects into garments and enhance emotional durability. It is because these two approaches make a unique design process and wearers are engaged, which is usually an indication of a strategy used to make an emotional connection (Niinimäki and Hassi 2011). As one of the innovative design practices for sustainable fashion, the emergence and implementation of modular garments are fully integrated with a unique design process, embodied in a co-creation process and led to the realisation of mass customisation.

Co-creation is defined as a user-centred design process that entails inclusivity, collaboration, participation and community engagement (Hur and Thomas 2011). When co-creation is practised, the end-users will be involved in the design stage and design products with designers and/or with other people (Fletcher and Grose 2012). Regarding mass-customization, it is described as the mass production of customized products and services for individuals (Pine 1993, cited in Ulrich et al. 2003) without sacrificing efficiency, effectiveness and cost (Rahman and Gong 2016). The deployment of modular products is the ultimate stage of mass customisation as it potentially minimises production costs and enables consumers to customise pre-designed modules to maximise customisation (Ulrich et al. 2003). Whether co-creation or mass customisation, they offer the possibility of personalisation and identification, thus creating a sense of belonging and emotional connection (Niinimäki and Hassi 2011).

Modular garments offer an ideal platform for the practice of co-creation and achieving customization (Hur and Thomas 2011), which is a similarity between modular garments and the Lego game. All Lego bricks are pre-designed and produced with the same specification enabling assembling and disassembling. With these Lego bricks, users can create various Lego motifs and build them into more complex combinations. Turning to modular garments, the nature of modular garments is assembling and disassembling based on the pre-designed garment modules. By participating in the modularization process, consumers are actively involved in the process and after assembling, the end users can create unique and personalized looks. The uniqueness of this product is not only reflected in the product itself but also in the precious and enjoyable experience (Saha and Lehew 2018; Fletcher and Grose 2012; Hur and Thomas 2011) which is likely to provide a sense of fulfilment. Therefore, each modular garment assembled is personalized and unique and might be a vehicle to carry interesting memories for the consumers (Chen and Li 2018; Hur and Thomas 2011; Niinimäki and Hassi 2011). This personalization process creates an emotional attachment (Hur and Thomas 2011), which in turn makes it emotionally durable.

Moreover, during the co-creation process, consumers will realize that they are empowered by being able to decide the final appearance of their garments and regain control over what is considered fashionable. This awareness has the potential to deepen the bonds established and strengthen the emotional durability of the modular garment. This preliminary regaining of authority over fashion from a small group of people (fashion designers, retailers and buyers) can also be seen as a small step towards democracy in fashion history (Fletcher 2008). People not only get involved to make design decisions on their

garments but also are provided with a platform to collaborate, advocate and share their views of fashion. This offers the possibility of an alternative action and lifestyle, escaping the 'passivity, indifference and disconnection' (Fletcher 2008, p. 188) resulting from the current mass production and consumption in the fashion industry.

Nevertheless, establishing an emotional connection between modular garments and their wearers can be challenging. The conversation between people and products is triggered by an aesthetic acceptance on the basis of the product and the positive experience it provides (Lang, 1988 cited in Niinimäki and Koskinen 2011). Modular garments break the structure of conventional garments and become a clothing configuration assembled through a closure system, such as zips and buttons. This means that the appearance of modular garments will not be seamless. On the contrary, assembly marks will inevitably be visible to a greater or lesser extent. This compartmentalised appearance may result in a lack of willingness to engage with modular garments for consumers who are used to one-piece garment construction. If the interaction between consumers and modular garments cannot be activated due to a lack of aesthetic agreement, any potential for modular garments to build emotional durability through co-creation will be of no significance. It remains unclear to what extent consumers show a willingness to accept modular garments, as there remains a lack of research. More studies are needed to understand consumers' perception of modular garments and at the same time, the challenges modular garments may have for designers need to be explored.

8.3.3   Fashion Aspect: Keeping Trendy but Reducing Consumption

As previously stated, the waste created by over-production and over-consumption is primarily the result of a conflict between the nature of fashion and sustainability. Under the pressure of ever-changing fashion and consumers' demands for novelty, the fashion industry has to shorten its lead time and offer more choices for consumers (Hur and Cassidy 2019; Fletcher 2008), which results in over-production. To stimulate consumption as much as possible, the fashion industry creates an artificial 'season' to market and advertises new trends constantly (Fletcher and Grose 2012). Meanwhile, considering humanity's own hedonistic need to satisfy their materialistic desires (Hur and Cassidy 2019), as well as young consumers' (18–34 years) aspiration to be fashionable as a cultural and identity necessity (McNeill et al. 2020), it is difficult to bring over-consumption under control especially when these

consumers are surrounded by all kinds of fashion advertising campaigns (Hur and Cassidy 2019).

Contrarily, sustainability in fashion is to seek longevity (Hur and Cassidy 2019) and slower consumption, improving the durability of products, whilst at the same time reducing production (Goldsworthy et al. 2018). This indicates restraint, conflicting essentially with consumers' psychology of the desire to purchase more for staying on trend. To address this paradox, an innovation needs to be devised that will curtail consumers' consumption by modifying their purchasing behaviour, thus striking a new balance between the gratification derived from shopping and reduced consumption. In this sense, modular garments seem an option that can meet this expectation.

Fashion trends are seasonal and are often not a radical revolution of the clothing structure, but more a matter of introducing new trendy colour schemes, fabrics and prints within the confines of pre-existing items (Diantari 2021). For example, the trendy blue of last year was taken over by new popular colours this year. Since a modular garment is no longer a complete item stitched tightly, but rather an item that is constructed by detachable garment modules (Chen and Li 2018; Fletcher and Grose 2012; Hur and Thomas 2011; Niinimäki and Hassi 2011), it is possible for the consumer to refresh the garment's style by substituting entire parts with different fabrics, prints, or shapes in the form of garment modules (Niinimäki 2013) as long as these modules are compatible on the specification for assembling and disassembling.

For example, in terms of being on-trend, there comes a time when a leg-of-mutton sleeve, which is puffed at the top and getting narrow at the wrist (Bryant 1991), is replaced with a lantern sleeve, a long or 3/4-length sleeve with crosswise seams to add width (Bryant 1991). A modular dress can de decoupled into the main body (the dress section without sleeves) and a pair of leg-of-mutton sleeves. After that, the lantern-sleeve modules can be coupled to make this dress adapted into a fashionable style and this once-considered obsolete dress is revived. In this manner, consumers' inclination towards the latest trends can be satisfied with less consumption as they do not need to buy an entire stylish piece but a single garment module with trendy elements. Additionally, the main-body module serves as a flexible core having the capability to match with different but compatible sleeve modules no matter colours, materials or shapes. This advantage of repeatability of modular garments enables clothing to be renewed and reused over time flexibly (Chen and Li 2018; Niinimäki 2013; Hur and Thomas 2011; Gershenson et al. 2003). Regarding the rest of the removable garment modules, they can be stored, or

mixed and matched with other compatible garment modules and thus used for longer.

If fashion-sensitive consumers are encouraged to chase the latest fashion trend through module adaptation, the overall consumption of clothing is likely to be reduced. Instead of purchasing new ready-to-wear items endlessly for projecting a fashionable role, people can expand their banks of garment modules by purchasing modules with various styles to increase the diversity of dressing. During the process of picking up and trying on garment modules, consumers are likely to have double entertainment, which comes from the pleasure of shopping and the fulfilment of the co-creation process. Considering the repeatability of garment modules and the adaptability of modular structures, the consumption pattern may be shifting from a whole piece to a single module (Connor-Crabb et al. 2016). This can be a promising sustainable strategy to reshape consumers' purchasing behaviour, thus reducing the need for new items and overall consumption.

Compared with modular garments, the style of ready-to-wear is fixed and cannot be altered randomly along with the evolution of the new need of wearers. The unchangeability of one-piece of clothing in structure would result in an imbalance between the invariable appearance of garments and people's evolutional needs. When this imbalance occurs, it is commonly a sign that a failed relationship between the product and the user is on the horizon (Chapman 2015). Although the adaptability of modular garments could address this disequilibrium, thereby being expected to reduce consumers' newness needs for items (Connor-Crabb et al. 2016), there is no evidence linking the performance of modular garments to a decrease in consumption.

Apart from the reason that research on modular garments remains undeveloped, the other factor is that it is difficult to ascertain to what extent the modular consumption model can reshape consumers' purchasing behaviour and in turn influence their actions and usage. If the module consumption pattern is embraced in parallel with whole-piece purchases, the promotion of modular garments might instead become an accelerator of rising consumption. Since it is uncertain whether consumers will keep purchasing conventional clothing whilst also experiencing the novelty of modular garments, or even buying an excessive volume of garment modules for the sake of diversity.

Not only that but there is also a potential risk of backfiring if modular garments are not executed properly. The initial intention of modular garments is to meet consumers' demand of keeping consumers on trend through module adaptation and consumption, thus reducing overall consumption. From a perspective of diversity, the key to taking advantage of the modular structure lies in the variety of modules, which is essential to enable mass customisation

(Salvador 2007; Gershenson et al. 2003). The more variants of modules offered, the more demand and styles can be met and achieved (Salvador 2007), which also applies to modular garments. However, excessive pursuit of diversification could potentially give rise to a new type of waste that is module-based. Consumers' desire for a wide range of garment modules may lead to overproduction by the producers, while the consumers themselves may end up purchasing more than what they actually require. Furthermore, the availability of an extensive selection of modules beyond daily usage needs might discourage wearers from using modular garments as they may be overwhelmed with the unlimited options, and the increased time and skill required for assembly (Fletcher and Grose 2012).

'Rigours of restraint' is essential for modular design in garments (Fletcher and Grose 2012, p. 79). What modular garments should seek to achieve is a balance between providing a variety of module variants to meet the aesthetic and functional needs of consumers, while not exceeding the basic functionalities of the garment. Maintaining this balance is not only the responsibility of designers but also requires systemic changes. Firstly, reasonable design rules can be established in advance. These pre-established rules play an important role in unifying the classification of detachable garment modules, determining specification design, establishing a size system, and clarifying the functional requirements of garment modules. Once a modular garment design guide is established across the industry, the design and manufacture of modular garments can begin to be controlled. Given the fact that consumers' purchasing behaviour is difficult to predict (Gwilt and Pal 2017), and the need to minimize waste resulting from possible overconsumption of garment modules, in addition to the aforementioned recycling and upcycling systems, more follow-up services can be considered, such as an exchange centre organized by local modular garment operators. Those garment modules appearing boring to some could be regarded as a treasure by others. The establishment of an exchange centre could provide consumers with an informative and transparent platform for sharing and exchanging garment modules, promoting more rational resource allocation and achieving more sustainable consumption and lifestyle.

8.4   Discussion and Conclusion

This chapter outlines three aspects where modular garments may prolong the longevity of garments: physical durability, emotional durability and fashion aspect (see Fig. 8.1). In relation to physical durability, modular garments
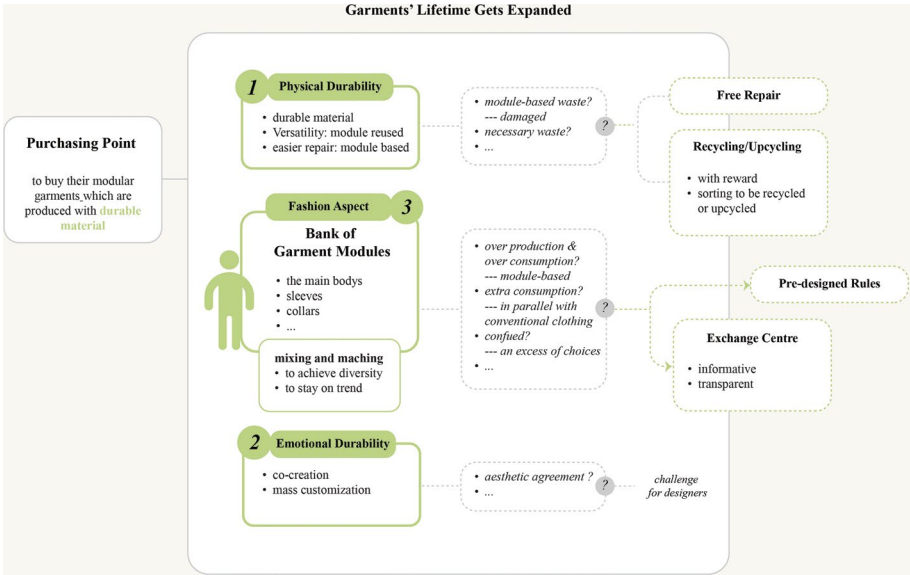
Fig. 8.1 Concept Map: Illustrating the discussion whether modular garments can be one sustainable fashion solution

demonstrate their unique advantage for keeping garments actively in use, aside from adopting durable material. Due to the independence, detachability and reassembling of the modular structure, modular garments provide versatility by reusing garment modules and an easier repair method that is module-based. Besides, modular garments offer a platform for co-creation and realising mass customization, which are critical for creating emotional bonds and establishing emotional durability. Moreover, modular garments might reduce overall consumption while satisfying consumers' demands of staying on trend and enjoying the pleasure of shopping. It is because modular garments introduce a new consumption pattern and might further transfer people's consumption behaviour from purchasing a whole piece to buying individual garment modules.

It seems that modular garments bring a promising strategy to extend the longevity of garments. Yet, as illustrated in Fig. 8.1, the advantages of modular garments envisioned to prolong the durability of garments might also result in the opposite effect, potentially stimulating overconsumption and exacerbating waste. In terms of physical durability, it remains unverified whether the repeated use of garment modules can keep garments active in use with less module consumption. Additionally, the repair method of module replacement may not be applicable in all cases. If a garment module is only

slightly damaged, such as a small hole appears, replacing the entire module may instead result in waste. Proper disposal of the replaced garment modules is also a matter that requires careful consideration. As for the emotional durability brought by modular garments, it could be established through the process of co-creation and the result of mass customization. However, unlike conventional garments, the appearance of modular garments is fragmented. This may challenge consumers' traditional perception and aesthetic of clothing. The degree to which consumers accept modular garments will determine the possibility of whether modular garments can create emotional durability to prolong the lifetime of garments.

The chapter proposes that modular garments have the potential to reconcile the contradiction between consuming for a fashionable image and reducing overall consumption and waste to promote sustainable fashion. Meanwhile, this chapter indicates that improper implementation of modular garments, such as the extreme pursuit of diversification, may lead to excessive production and consumption of garment modules, resulting in a new waste pattern that is garment modules based. Excessive choices of garment modules might further confuse consumers and increase the difficulty of assembly, which is not conducive to the long-term development of modular garments.

Therefore, this chapter suggests that it is crucial to establish and improve an operating system centred on modular garments, including establishing unified design rules across the fashion industry and a follow-up service system, in order to guide the future of modular garments towards the desired direction, thereby reducing overall consumption and promoting the development of sustainable fashion. A universal design guideline for modular garments can increase the compatibility of garment modules by standardizing the specifications and assembly methods. This allows for fewer modules to satisfy a wider range of needs, increasing the frequency of wearing and reducing unnecessary waste. The pre-established design rules can also help control and reduce ineffective garment module designs and overproduction. While the realization of a practical design guideline for a novel design approach is not an easy task, which needs time and professional knowledge to test and perfect. Apart from effective interventions before the stages of design and production, follow-up service for modular garments is equally important. Services such as free repair for slightly damaged garment modules, reward-based recycling and upcycling for replaced garment modules, and exchange centres for those modules that are in good condition but no longer preferred by consumers can become parts of the future commercialization of modular garments. These measures could minimize the potential of new overconsumption and waste that modular garments may bring.

Given the lack of empirical data, it is difficult to predict to what extent modular garments can increase the lifetime of garments (Maldini and Balkenende 2017) and reduce additional purchasing of clothing. Moreover, it raises a question of whether this new consumption and purchasing pattern, by moving away from purchasing 'an item' to purchasing 'modules', will lead fashion towards a sustainable future with less overall consumption or have the opposite effect. This uncertainty is likely to put modular garments in a predicament. More work needs to be done for modular garments to move toward an environmentally friendly path. Nevertheless, marketing modular garments might lead to a systematic revolution in the fashion industry as modular garments transfer production and consumption from an 'item' to 'modules'. Businesses might need to build a new model that is compatible with and accommodate modular garments. This new business model will provide insight into the current fashion industry model and transfer people's mindset towards how to develop fashion centred on sustainability. Assessing modular garments in the long term, the significance of modular garments also resonates with the emergence of fashion democracy, as modular garments allow consumers to express their judgement on fashion.

This chapter will serve as a base for future studies on modular garments and contribute to the knowledge by explaining the potential of modular garments for increasing garment longevity. Through the discussion, this chapter suggests that more research is needed to determine whether modular garments can reduce over-consumption as expected and to develop a theoretical system for modular garments. This will maximise the potential of modular garments in terms of sustainability while reducing their potential negative effects.

References

Binet, F., Coste-Manière, I., Decombes, C., Grasselli, Y., Ouedermi, D., & Ramchandani, M. (2019). Fast fashion and sustainable consumption. *Fast fashion, fashion brands and sustainable consumption*, 19–35.

Bryant, N. (1991). Fashion terms and styles for women's garments. *Oregon State University, Corvallis, Oregon*.

Brydges, T., Henninger, C. E., Barbu, L., & Lupu, R. (2022). Designing for longevity and neutrality: Investigating how the Swedish children's clothing industry implements circular economy principles. *Fashion Practice*, 1–23.

Cabigiosu, A., Zirpoli, F., & Camuffo, A. (2013). Modularity, interfaces definition and the integration of external sources of innovation in the automotive industry. *Research Policy*, *42*(3), 662–675.

Chapman, J. (2015). *Emotionally durable design: objects, experiences and empathy*. Routledge.

Chen, Y., & Li, M. M. (2018). Modular design in fashion industry. *Journal of Arts and Humanities*, *7*(3), 27–32.

Claxton, S., & Kent, A. (2020). The management of sustainable fashion design strategies: An analysis of the designer's role. *Journal of Cleaner Production*, *268*, 122112.

Connor-Crabb, A., Miller, K., & Chapman, J. (2016). Design strategies for the eternal reoccurrence of the new. *Fashion Practice*, *8*(1), 22–43.

Cooper, T., & Claxton, S. (2022). Garment failure causes and solutions: Slowing the cycles for circular fashion. *Journal of Cleaner Production*, *351*, 131394.

Degenstein, L. M., McQueen, R. H., McNeill, L. S., Hamlin, R. P., Wakes, S. J., & Dunn, L. A. (2020). Impact of physical condition on disposal and end-of-life extension of clothing. *International Journal of Consumer Studies*, *44*(6), 586–596.

Diantari, N. K. Y. (2021). Trend Cycle Analysis on Fast Fashion Products. *Journal of Aesthetics, Design, and Art Management*, *1*(1), 24–33.

Ellen MacArthur Foundation. (2017). A New Textiles Economy: Redesigning Fashion's Future [Online]. Available at: http://www.ellenmacarthurfoundation.org/publications (Accessed: 21 March 2023).

Environmental Audit Committee. (2019). Fixing Fashion: Clothing consumption and sustainability. *19th February, House of Commons Environmental Audit Committee*. Available at: https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1952/report-summary.html (Accessed: 13 April 2023).

Fletcher, K. (2008). *Sustainable Fashion and Textiles: Design Journeys*. Routledge.

Fletcher, K., & Grose, L. (2012). *Fashion & sustainability: Design for change*. Hachette UK.

Gershenson, J. K., Prasad, G. J., & Zhang, Y. (2003). Product modularity: definitions and benefits. *Journal of Engineering Design*, *14*(3), 295–313.

Goldsworthy, K., Earley, R., & Politowicz, K. (2018). Circular speeds: a review of fast & slow sustainable design approaches for fashion & textile applications. *Journal of Textile Design Research and Practice*, *6*(1), 42–65.

Gwilt, A. (2020). *A practical guide to sustainable fashion*. Bloomsbury Publishing.

Gwilt, A. (2021). Caring for clothes: how and why people maintain garments in regular use. *Continuum*, *35*(6), 870–882.

Gwilt, A., & Pal, R. (2017). Conditional garment design for longevity. In *PLATE Conference, Delft, November 8–10, 2017* (Vol. 9, pp. 149–153). IOS Press.

Haeggblom, J., & Budde, I. (2021). Circular Design as a Key Driver for Sustainability in Fashion and Textiles. *Sustainable Textile and Fashion Value Chains: Drivers, Concepts, Theories and Solutions*, 35–45.

Haines-Gadd, M., Chapman, J., Lloyd, P., Mason, J., & Aliakseyeu, D. (2018). Emotional durability design nine—A tool for product longevity. *Sustainability*, *10*(6), 1948.

Henninger, C. E., & Singh, P. (2017). Ethical consumption patterns and the link to purchasing sustainable fashion. *Sustainability in fashion: a cradle to upcycle approach*, 103–126.

Hole, G., & Hole, A. S. (2020). Improving recycling of textiles based on lessons from policies for other recyclable materials: A minireview. *Sustainable Production and Consumption*, *23*, 42–51.

Hur, E., & Cassidy, T. (2019). Perceptions and attitudes towards sustainable fashion design: challenges and opportunities for implementing sustainability in fashion. *International Journal of Fashion Design, Technology and Education*.

Hur, E. S., & Thomas, B. G. (2011, July). Transformative modular textile design. In *Proceedings of Bridges 2011: Mathematics, Music, Art, Architecture, Culture* (pp. 217–224).

Karell, E. (2013). Planned continuity: Multi-life garments through modular structures and supplemental services. In *Sustainable fashion: New approaches* (pp. 110–123). Aalto ARTS Books.

Koo, H. S., Dunne, L., & Bye, E. (2014). Design functions in transformable garments for sustainability. *International Journal of Fashion Design, Technology and Education*, *7*(1), 10–20.

Kozlowski, A., Searcy, C., & Bardecki, M. (2016). Innovation for a sustainable fashion industry: a design focused approach toward the development of new business models. *Green Fashion: Volume 2*, 151–169.

Laitala, K. M., Boks, C., & Klepp, I. G. (2015). Making clothing last: A design approach for reducing the environmental impacts.

Maldini, I., & Balkenende, R. (2017). Reducing clothing production volumes by design: A critical review of sustainable fashion strategies. In *PLATE: Product lifetimes and the environment. Conference proceedings of PLATE 2017, 8-10 November 2017, Delft, the Netherlands* (pp. 233–237). Technische Universiteit Delft.

McNeill, L. S., Hamlin, R. P., McQueen, R. H., Degenstein, L., Garrett, T. C., Dunn, L., & Wakes, S. (2020). Fashion sensitive young consumers and fashion garment repair: Emotional connections to garments as a sustainability strategy. *International journal of consumer studies*, *44*(4), 361–368.

McQueen, R. H., McNeill, L. S., Kozlowski, A., & Jain, A. (2022). Frugality, style longevity and garment repair–environmental attitudes and consumption behaviour amongst young Canadian fashion consumers. *International Journal of Fashion Design, Technology and Education*, *15*(3), 371–384.

Mukendi, A., Davies, I., Glozer, S., & McDonagh, P. (2020). Sustainable fashion: current and future research directions. *European Journal of Marketing*.

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews Earth & Environment*, *1*(4), 189–200.

Niinimäki, K., & Durrani, M. (2020). Repairing fashion cultures: from disposable to repairable. *RESPONSIBLE CONSUMPTION AND PRODUCTION*, 153.

Niinimäki, K. (2013). *Sustainable fashion: New approaches*. Aalto University.

Niinimäki, K., & Hassi, L. (2011). Emerging design strategies in sustainable production and consumption of textiles and clothing. *Journal of cleaner production*, *19*(16), 1876–1883.

Niinimäki, K., & Koskinen, I. (2011). I love this dress, it makes me feel beautiful! Empathic knowledge in sustainable design. *The Design Journal*, *14*(2), 165–186.

Rahman, O., & Gong, M. (2016). Sustainable practices and transformable fashion design–Chinese professional and consumer perspectives. *International Journal of Fashion Design, Technology and Education*, *9*(3), 233–247.

Saha, K., & LeHew, M. (2018). Durable Fashion Apparel: A Potential Sustainability Solution?. *Obtido de* https://www.researchgate.net/publication/328517777_Durable_Fashion_Apparel_A_Potential_Sustainability_Solution.

Salvador, F. (2007). Toward a product system modularity construct: literature review and reconceptualization. *IEEE Transactions on engineering management*, *54*(2), 219–240.

Tonglet, M., Phillips, P. S., & Bates, M. P. (2004). Determining the drivers for householder pro-environmental behaviour: waste minimisation compared to recycling. *Resources, conservation and recycling*, *42*(1), 27–48.

Ulrich, P. V., Jo Anderson-Connell, L., & Wu, W. (2003). Consumer co-design of apparel for mass customization. *Journal of Fashion Marketing and Management: An International Journal*, *7*(4), 398–412.

WRAP. (2012). Valuing our clothes: the true cost of how we design, use and dispose of clothing in the UK [Online]. Available at: https://wrap.org.uk/resources/report/valuing-our-clothes-true-cost-how-we-design-use-and-dispose-clothing-uk-2012 (Accessed: 29 April 2023).

9

Hetty Rose Shoes

Hetty Grogan

9.1 Presenting Hetty Rose Shoes

Hetty Rose Shoes is an entrepreneurial venture founded by Hetty Rose in 2007. Talking to Hetty on numerous occasions, it becomes apparent that she is very passionate about her business, which is highly infectious. Hetty Rose Shoes is based in Kent, with shoemaking workshops taking place in her wonderful and well-equipped studio. For anyone who cannot make it to Kent—no problem, Hetty has been running pop-up workshops across the United Kingdom and is often found at design exhibitions. If you are interested in bespoke shoes and not from the United Kingdom? Hetty has a solution here, too, by offering video consultations. Her work has also been featured in a variety of high-end magazines, including but not limited to Vogue, Instyle, Timeout, and You & Your Wedding.

9.2 Hetty Rose Shoes : Ethos

Hetty highlights that *"I believe in **creating ethical and environmentally considerate** products by reusing vintage materials. I'm passionate about shoe making and love to work with clients who appreciate something truly unique and*

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handmade" (HettyRose n.d.). And this is truly shining through in all her creations and also the way her studio is laid out (see Fig. 9.1).

Using reclaimed kimonos to make her creations allows her not only for every pair of shoes to be truly unique but also is good for the environment at the same time. Reclaiming materials rather than using virgin ones reduces the environmental impact these shoes may have. Kimonos are also rather large, as such the material lasts for a long time and is of very good quality, with some of the materials used being classified as vintage.

Hetty is conscious of waste creation and as such she carefully places her patterns on the fabric. Over the years she has developed a unique way to cut her patterns to avoid large amounts of waste. If there is any waste, for example pieces of fabric that are too small to make patterns, she collects these in a box of fabrics that can be used to cover the heels of shoes. And for anything else, she has formed collaborations with other entrepreneurs, who have used fabric pieces to, for example, make unique handbags that match the styles and designs of her bespoke shoes.

As all materials Hetty is using for her bespoke shoes are of high quality, it ensures the longevity of the products, and thus, ultimately the joy and

Fig. 9.1 Hetty Rose Workshop

happiness of the consumer wearing her creations. Hetty outlines that she can also re-heel shoes and/or put a new sole on the bottom, which may be the parts that wear off first, thereby ensuring that the actual shoe has a life extension.

9.3   What Makes Hetty Rose Shoes Unique?

A good question that is difficult to answer—What doesn't make Hetty Rose Shoes unique? It is an entrepreneurial venture that can make the dream of *"that perfect pair of shoes"* (Timeout 2015) become a reality. Although *"it doesn't come cheap, (…) you'll leave with a pair of shoes to treasure"* (Timeout 2015). As such, Hetty Rose Shoes are not simply shoes, but rather they are an investment, which, ideally, also create an emotional attachment with their owners.

As alluded to, Hetty Rose Shoes are made from second-hand kimonos. What may not be as well-known is the fact that the patterns on kimonos are indicators for *"social status, personal identity and cultural sensitivity"* (V&A 2023). Popular patterns and/or images displayed on kimonos are, for example, the crane, which symbolises longevity and good fortune, whilst cherry blossoms have a seasonal significance (V&A 2023). Moreover, colours play a key part in meaning, with purple showcasing undying love and red visualising youthful glamour and allure (V&A 2023). In linking this back to Hetty Rose Shoes, this is a unique feature, as symbols have hidden meanings on shoes, making them even more mysterious.

And last but not least the fact that the shoes are bespoke and made to order implies that customers can be sure—no one else will have their shoes. They will be the only ones owning this unique pair, which can make their special moment (e.g. wedding) even more special!

9.4   How Is Hetty Rose Addressing Current Challenges in the Industry?

How does Hetty Rose Shoes address the current challenges of waste and over-consumption that the fashion and textile industry is facing? A very good question! In order to address this, we need to go back in time and understand a little bit more about the history of the business.

In an interview, Hetty indicates that during travels in Japan, she came across a small shop selling second-hand kimonos. At the time, she was still at university and working on a project related to sustainability and came up with the idea of reusing kimonos as a source for her project. The business idea was created: beautiful, unique shoes made from reclaimed, high-quality materials. Seeing as patterns are carefully placed to cut out patterns for her bespoke shoes, to avoid any unnecessary waste creating, no pair of shoes will ever look the same.

Now, if we fast forward from 2007 when the business was created to today, we can see that Hetty Rose has been ahead of her time, as she has been using circular economy principles by making use of already existing resources and re-looping these into the economy. She has made a conscious decision of using reclaimed kimonos, which are of high quality, and provides the fabrics with a second life, by transforming them into a completely new product that is of equal value to a consumer. Hetty has specialised in bridal bespoke shoes, which means the fact that none of the shoes that she creates will ever look the same, is not only a unique selling point, but also by making the shoes bespoke, she slows down the pace in which products are produced (see Fig. 9.2).

Hetty is a passionate individual and truly inspiring. Aside from creating bespoke shoes, she also provides shoemaking workshops, which take place

Fig. 9.2 Hetty Rose Bridal Creations

either in small groups or as private sessions. Within her workshops, she provides people with the necessary tools to craft their own shoes, in a fun and easy to follow manner. People who have attended the workshops outline that it was an '*incredible experience, absolutely unforgettable!*'. And whilst these workshops are fun and, of course, rewarding as the participants can keep their shoes, participants (un)consciously gain an appreciation for all the hard work that goes into making a single pair of shoes. Within today's society, in which garments have lost their value, as they are often cheap and cheerful and are often prematurely discarded, gaining an appreciation for the craftsmanship of making, in this case, shoes are extremely valuable, as it can make people reflect on the value and the worth of items.

References

HettyRose (n.d.) *About*, HettyRose (online): https://www.hettyrose.co.uk/creator, 14/10/2023

Timeout (2015) *Hetty Rose Shoe Making Pop-up*, Timeout (online): https://www.timeout.com/london/shopping/hetty-rose-shoe-making-pop-up, 14/10/2023

V&A (2023) *Kimono*, V&A (online): https://www.vam.ac.uk/articles/kimono#:~:text=Meaning%20%27the%20thing%20to%20wear,all%20classes%20and%20both%20sexes., 14/10/2023

10

Q&A with Lucy Hall, Co-founder of Loanhood Fashion Rental

Lucy Hall and Helen Goworek

How does Loanhood work in practice? (Fig. 10.1)

Loanhood is a circular fashion solutions business which is all about driving people towards a more circular economy, and we do that through three avenues. We have our peer-to-peer fashion rental marketplace and that is a two-sided marketplace where people can rent out products that they own at home or if they're a young designer or independent brand, they can rent out their collections and on the flip side, you can borrow from people in your community or from across the United Kingdom. There are two ways that you can receive those clothes. You can either have them delivered to you, or you can pick them up in person and that's something we're keen to develop because it reduces the emissions and reduces the cost of sending things back and forth. Then we have another route for the circular economy, and that is our 'rent now' button, a widget that we provide to brand partners which enables them to add a little bit of code to their website. Underneath the 'add to cart' button, the 'rent now' button which we power is a widget pops up so that brands can 'white label' our circular solution and offer rental to their customers. 'White label' means that they can keep their customer within their whole brand

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Fig. 10.1   Lucy Hall

experience and then they can either send them the product or the customers can come in store and pick it up themselves and it looks like it's our client's technology when it's actually from Loanhood to facilitate rental transactions. Finally, we have an event side of the business, so how we started was through clothes swaps. We started with a contract with Hackney Council, which is still on-going, and we offer this kind of rental and clothes swap concept to different partners, so either that's a council and very community-driven initiative or it's a high-end kind of luxury businesses like Selfridges, which we did across the summer, or we do them internally in an organisation. We're doing one for Net-a-Porter soon. We go in and create the clothes swap concept just for their employees, to bolster their sustainability strategy and also spread the message and give them a kind of employee benefit. Sustainability is at the core of everything that we do, which is why we started the business (Fig. 10.2).

Loanhood co-founder Jade McSorley and I both worked in the fashion industry, and we were complicit in encouraging people to buy more and more and now we want to provide viable alternatives that are more sustainable, driving people to a circular economy that will be able to create a more sustainable fashion future and still allow us to enjoy fashion, because we all want to still experience clothes, but we know that buying new is not great for the planet. I met Jade when she was a model and I worked for a modelling agency. I then decided to open a restaurant in Covent Garden and that was very much a farm-to-fork sustainability-minded business and that connection between

VINTAGE
VINTAGE GODDESS
GOWN
Rent from £22.5 GBP
RRP £150 GBP

NEW ARRIVALS
METALLIC RUBY MINI
DRESS
Rent from £85 GBP
RRP £450 GBP

MSGM
MSGM VEGAN
LEATHER DRESS
Rent from £60 GBP
RRP £300 GBP

VINTAGE
VINTAGE GOWN
Rent from £22.5 GBP
RRP £150 GBP

LET'S CHAT!
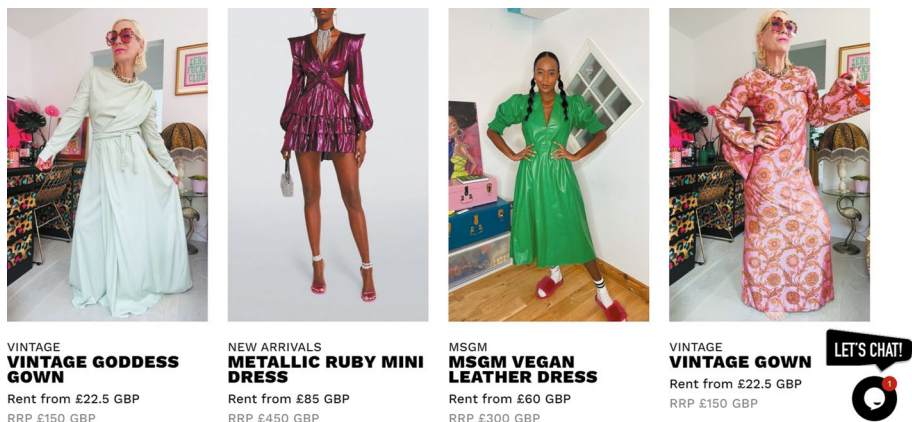
Fig. 10.2   Examples of Rentals from Loanhood's website in 2023

food and eating locally and seasonally is really prevalent, but that connection between clothes and where they come from and what are they made of is something that's usually so far removed from our purchasing habits. I've now been working full-time for Loanhood for four years, Jade works in it part-time, and we outsource the technology side of the business. We don't have premises and we work in co-working space or remotely. We've worked with one agency to build the app and we worked with a different agency to build the widget.

My advice to anyone else setting up a clothing-related app would be to test it in the most basic form you can do, like creating a website, which is really easy, and there are so many website builders these days, so test your idea on a website first and foremost and wait until people are knocking down your door for your product. You can then take that business or an investor or apply for a grant and have something that's really viable and say "look people really want this, but I need it to turn into an app" or "I need to develop the website further with tech support" and then get somebody outside of the business to fund you with investment or grants or if your business is really successful, then you can pay for that money yourself and then you can use an agency who will source developers for you. Another option is to bring in a technical co-founder or somebody that understands what you're doing outside of the company and have them build the business from the ground up with you. We raised £260,000 last year from angel investment, and we did a crowd-funder and we raised £14,000 with that. We also won an Innovate UK grant for £50,000 this year and that's how we built the new widget, then we've just won the eBay Circular fashion fund. We start being mentored on a programme

next year. The Innovate UK bid was a good one because it was for people who have never applied for grants before, and we worked with Innovate Edge, who are similar to mentors who really helped with how to word it and how to make it really clear. They tell you what grants are coming up and which ones might be good for you, like creative catapults, and he knew what they were looking for so it's really clear at the start.

What would you say are the most important sustainability-related issues and innovative brands in the fashion business at the moment?

We just want to reduce consumption of new and increase utilisation of things that are already in our in our hands. That's how we started it, but I guess we work with emerging designers, independent brands, so they are creating new, but they're creating them in a way that is more sustainable, using sustainable materials, small batch collections, making them in the United Kingdom normally, making them themselves. There are therefore no ethical problems around garment workers and that means that these young designers don't have to make huge collections or go to a fast fashion brand and make massive amounts of stuff. They can create small batch collections and then rent them out over again to bring in revenue for them.

I think a lot of the logistics businesses and the last mile deliveries are important. Logistics is a massive issue and the returns side of the business was also a huge issue that I think are moving forward quite quickly. Then there's lots of exciting material innovation coming through but I think it's a decade off it being anywhere near mainstream and the recycling side of things again, I think it's going to take so long. Also the repair side of the circular economy is really developing quickly and people are understanding and getting things tailored and loving their clothes more. 'Sojo' and 'The Seam' who offer repair services are doing really well and 'The Seam' now works with Net-a-Porter to do repairs. There's also a company called ACS, which is a fulfilment centre in Glasgow that manages rental and resale businesses as well for business-to-business, so they're interesting to look at and they're very passionate about sustainability, established for over 20 years. They collect rainwater from their roof and use it in their cleaning processes, all ozone cleaning so highly sustainable, they're amazing. Oxwash is another amazing laundry company that deals with various rental platforms. There are lots of new businesses doing swapping but I think it can be difficult to run clothes swaps online and to monetise it, because it probably works better in person.

Do you feel that the fashion business overall is making progress towards being sustainable?

They're trying to, but I think it's a very archaic industry and some just don't want to know and they often don't understand, like lots of people don't know what a clothes swap is. We need to make sure that we get the awareness out there as much as possible about second-hand, about rental, about clothes swaps, anything that we can do to utilise what's already in existence. I think it's imperative that we educate the next generation because they're the ones that are going to be the change-makers. We know that they've already embraced second-hand, but we know looking at fashion history that the punks were doing that anyhow (in the 1970s) and it's become a trend now to be into second-hand, but will that last? We need to make sure that we're finally giving people viable alternatives to fast fashion brands. We need to promote that the quality of product is much better and that's why rental's great for getting young people into product that's well made with nice materials because often they haven't experienced that. They usually wear mass market clothes that can fall apart, so we can give people the opportunity to wear clothes that can fit them really well.

11

Saudi Arabia's 'Thriving Economy' Pillar and Its Link to Social Sustainability

Fathi Roushdi

11.1   Introduction

Sustainability is a widely discussed phenomenon, which has more recently gained popularity in Saudi Arabia with the introduction of the Vision 2030, which came into place in 2016 (Vision 2030 2016). Sustainability is concerned with environmental, social, and economic issues, whereby sustainability is achieved through the overlap of all three areas (Elkington 1994). One of the most cited definitions of sustainability is that of the Brundtland Commission, which outlines that sustainability focuses on ensuring the current generation's needs are taken care off, whilst also ensuring that future generations can fulfil theirs (WCED 1987). Intriguingly, sustainability emerged as a Western concept and is commonly used by researchers in the Global North and Western organisations, including, but not limited to, the Ellen MacArthur foundation (EMF n.d.) and the World Sustainability Foundation (WSF n.d.). Thus, it may not be surprising that there is only scant research on the Middle East and Asian countries, which is addressed in this chapter.

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Within the context of Saudi Arabia 'sustainability' is a relatively new concept, which has gained popularity since the introduction of the Vision 2030 (Vision 2030 2016), which has centred its attention on environmental sustainability. Whilst environmental sustainability is a relatively new phenomenon, social sustainability has always existed in Saudi Arabia, as it is rooted in its culture by the effect of Islam. Abdel-Mohsen and Paleologos (2021, p. 6) defined social sustainability as a 'measure of the human's welfare', and thus the attention is on humans and their well-being as opposed to the natural environment. Generally speaking, the concept of social sustainability integrates a wide range of topics that need to be addressed in order to improve society, including but not limited to the following issues: health, social equity, and wellbeing (Balaman 2019).

Although within Saudi Arabia people may not necessarily refer to the term 'social sustainability', they act upon these principles to ensure social prolongation, especially, for those, who are less fortunate and with limited financial resources, such as citizens and foreigners with low disposable-income. In linking back to the Vision 2030, there is a sociocultural change in Saudi Arabia by driving the economy away from an oil dependency and looking for alternative, greener sources of income. The Vision 2030 is based on three pillars: a vital society, an ambitious nation, and a thriving economy (Vision 2030 2016). Those pillars are set to transform Saudi Arabia positively, from economic to social life improvements, by providing equal opportunities for men and women in all aspects (ibid).

The first pillar, a 'vibrant society' has advanced because of embracing a healthy way of life, providing a pronounced service for international Hajj and Umrah pilgrims, and embracing Saudi Arabia's archaeological monuments and working to get them included in the UNESCO World Heritage list. As such, a 'vibrant society' entails people to enjoy a rich and fulfilling life due to a strong, prosperous foundation of the economy (ibid). According to the Vision 2030, a *fulfilling life* can be achieved through promoting social, physical, and psychological wellbeing of citizens and residents. These areas can be linked to social sustainability.

The second pillar, an 'ambitious nation', implies that the country is governed effectively by being transparent and accountable which eventually encourages all entities within Saudi Arabia such as individuals, businesses, non-profitable organisations, to take the opportunities to play an important part in shaping the future of Saudi Arabia.

The focus within this chapter is on the third pillar 'a thriving economy'. The primary objective of this strategic pillar resides in the imperative diversification of the Saudi Arabian economy. It endeavours to lessen the nation's

dependence on fossil fuels and petroleum resources, and instead cultivate greater investments in an environmentally sustainable 'green' economy. Concurrently, it aims to curtail the cumulative carbon emissions, thereby aligning with the overarching agenda articulated in the Vision 2030 policy framework, as promulgated in 2016.

Within this pillar ('thriving economy') a milestone links to women's empowerment and their participation in the labour force. To explain, women's empowerment is supported by the National Transformation Program (Vision 2030 2016), which was the first programme introduced in 2016, among other realisation programs which related to increasing the awareness of the importance of women in the labour market and governmental high positions (Vision 2030 2016). For example, Saudi Arabia appointed the first woman as a Saudi ambassador to the United States of America: Princess Reem Bint Bandar (Al Arabiya 2020). Also, Rasha ALEmam's appointment as CEO to a high position for Alif Radio, she is considered as one of the youngest CEOs in Saudi Arabia (World Bank Group 2020).

Adel Aljubeir (MoS for Foreign Affairs, Member of the Council of Ministers, and Envoy for Climate) highlighted that since the COP27 meeting, Saudi Arabia has launched more than 60 initiatives to tackle climate change challenges, thereby making a positive step forward in seeking to reduce their environmental impact (Arab news 2022). It could thus be said that the Vision 2030 emphasises environmental sustainability. In the context of this chapter (the fashion industry), the Vision 2030 also impacts on the fashion industry and more specifically on the supply chain, as these are hoped to be shortened with more local activity to be fostered.

Currently, one of the biggest challenges is fashion waste and countries, including Saudi Arabia are starting to look for best practice cases and lessons learned globally. For example, according to UNECE (2018), more than four-fifths of all textiles end up in landfill annually. With Saudi Arabia opening its market boundaries, this implies that the access to fast fashion items will become easier, yet there could also be fears that consumption is increasing and thereby contributing to the issue. The current on-going pattern of the fashion industry's production and subsequent consumption is playing a significant role in generating substantial carbon emissions, estimated at around 10% of humanity's overall carbon emissions. This surpasses the combined emissions from all maritime shipping and international flights. If this trajectory continues as is, there's a concern that the fashion industry's contribution to the carbon budget could surge to 26% by 2050 (Geneva Environmental Network 2023).

11.2   Background

This chapter focuses on Saudi Arabia for a variety of reasons: Saudi Arabia is the largest country in the Middle East and is the birthplace and the land of the two holy sites, Makkah and Al-Medina (Hamdan 2005). Makkah is the homeland of Prophet Mohammed and where he received the revelation (Salahi 2010). Millions of Muslims visit Makkah every year for performing either Hajj (pilgrimage) or Umrah, and Muslims pay a visit to Al-Medina due to its importance in Islamic history.

Saudi Arabia used to be regarded as a conservative country. However, this has changed in the last 8 years with the introduction of the Vision 2030 in 2016, which has opened Saudi Arabia to other cultures (Vision 2030 2016). A further aspect of change that happened was women empowerment, which allows women not only to follow any line of work they like but also dress differently. For example, women now wear more Western style garments and are very much fashion conscious. From a recent research project conducted by this author, it becomes apparent that fashion trends have also reached Saudi women, who are increasingly engaging with fast fashion consumption. Whilst in the West sustainability is part of an increasingly popular 'fashion trend', this could not directly be observed within the research. Yet indirect observations were made. To explain, one of the most fascinating themes that emerged from the field work is the fact that sustainability is seen as a new term that seemed almost alien to Saudi women, which confirmed theoretical findings by Oates et al. (2022). Yet, when observing the behaviour of Saudi women, it becomes apparent that social sustainability as defined by Abdel-Mohsen and Paleologos (2021) has been practised for a long time in Saudi Arabia. Within this chapter this phenomenon will be explored using fashion consumption as an example.

Why fashion consumption? As alluded to, the fashion and textile industry in Saudi Arabia is progressively increasing its revenue. To explain, the projection of fashion revenue is estimated to reach around US$ 3.09 bn, with concurrent annual growth (CAGR) of 15.24% which projects an increase of market volume of US$ 5.45bn by 2027 (Statista n.d.). Fashion brands recognised the sociocultural change in Saudi Arabia, and consequently started to move officially into Saudi Arabia. For example, Fila opened its first official store in the capital of Saudi Arabia, Riyadh (Euromonitor 2023).

Moreover, the Fashion Commission is one of the 11 commissions that falls under the umbrella of the Ministry of Culture and was founded to improve the fashion industry's performance and regulate the fashion sector within

Saudi Arabia. The fashion sector reinforced by the Vision 2030 has laid the foundation for talented local designers to showcase their ability in fashion creation. Such strategic goals of the fashion commission to support local fashion designers and brands will eventually have a positive contribution towards the fashion supply chain via reducing the carbon footprint as demand on local brands increases.

11.3   Overview: Sustainability and Saudi Arabia

Within Saudi Arabia Islam is the dominant religion and is guiding everyday life (Al-Farsy 2023). Islam requires believers to spend wisely and consume in moderation (Furqani 2017), which implies that the act of Israf (overconsumption) and Tabzir (overspending) need to be carefully monitored. Israf and Tabzir are refuted by Islam as being linked directly to sustainability, or more specifically to unsustainable practices, which are reflected in environmental, economic, and social issues.

Alamad (2017, p. 121) defines Tabzir as "the unnecessary use of economic resources, which means wastage of economic resources at all levels of consumption". On other hand, Israf refers to exceeding the limit beyond an individual's needs (Biplob and Abdullah 2021). Generally, Islam deprecates overconsumption, or overdoing of anything whether it is related to the practice of Islam such as over-praying or over-indulging in activities (e.g. shopping) or practices that include or exclude monetary involvement. The relationship between Tabzir and Israf is very strong, the former strongly leads to the latter, and adapting the behaviour of the latter may lead to the former. For example, if a person buys five fashion products beyond the basic needs, this is regarded as Israf, whereas the wasting of economic resources to buy those items is Tabzir. Islam persuades individuals to spend money wisely and consume commodities in moderation. It has to be said that Islam is not anti-consumerism but encourages consumption in moderation and is thus strictly against overspending and overconsumption (Hanapi et al. 2019).

It is interesting to note that sustainability, which emerged in the Global North is not as well known in the Global South. This being said, whilst the term is not commonly used, Muslims have the knowledge of sustainability ingrained in their culture, which is reinforced by Islam. For example, giving to charity is part of Islamic faith and is a must-do act by every Muslim who has the financial capabilities. Such an act contributes to the social sustainability prolongation.

Further, Islam denounces spending unwisely which aligns with economic sustainability since money that is not wasted can be used for a better cause. Environmental sustainability is affected by overconsumption due to on-going waste of resources. The fashion industry is culpable due to fashion being subject to change. The emergence of fast fashion has exacerbated the fashion industry's negative impact on environmental sustainability. According to Henninger et al. (2017) the fashion industry is considered as the second most polluting after the oil and gas industries. Thus, Islam urges people to spend mindfully and consume in moderation. While sustainable development dimensions are divided into three, namely, economic, social, environmental (Elkington 1994), Islam appears to be tackling such issues revolving around the three dimensions via spending money wisely and consuming in moderation. Although, in the case of fashion, revenue share of fast fashion accounts for 98% in Saudi Arabia, and almost two-thirds of purchases belong to women in comparison to other categories such as men and children. This is an interesting phenomenon that warrants further investigation, seeing as there seems to be a paradox emerging: increased spending on fast fashion and Islamic values.

11.4   Discussion

This chapter is based on a wider research project that focuses on Saudi females and their (sustainable) fashion consumption practices. Within this research an interesting finding emerged, namely the issues surrounding terminology. To explain, the term sustainability appears to be alien to the participants when they were asked about it. This aligns with research by Oates et al. (2022) and confirms their conceptualisations. Oates et al. (2022) outlined that even the direct translation of sustainability (Estidamh) is not commonly used by fashion companies, as such it is not a surprise that participants are unfamiliar with the terminology. Interestingly, even though the term is not well known, the practice of sustainability is ingrained in the participants' culture and practised daily. More specifically, females in the research project actively participate in social sustainability whereby individuals care about one another and support those who are less fortunate. The charitable act is not limited to donating food items to people in need, but it extends to fashion. Here it must be highlighted that there is a distinction between garments, which fulfil a basic human need (e.g. protection, warmth), and fashion, which are trend-led items and often not needed, but wanted. The second-hand clothes that are donated partially help to fulfil the basic need, but more often than not are targeted towards the

latter (trend led items) and given to people as a form of social sustainability to sustain social welfare.

The uniqueness of such a prolongation of practising sustainability in Saudi Arabia is rooted in their unified religion. Based on the requirement of Islam to care about people in need. For example, the following verse shows the importance of social sustainability in Islam: "Those in whose wealth there is a recognised right for the needy and the poor" (Qur'an 70:24-25). There are also places to recycle second-hand or damaged clothes, such as Kiswa, which can donate the second-hand apparels, and upcycle damaged clothes or textiles with the sole purpose to help people in need (Kiswa 2023).

11.5   Conclusion

Research on sustainability in the MENA region is overlooked. Researchers in the Global North coined the term sustainability to revolve around three dimensions, namely environmental, economic, social. While sustainability is mainly researched in the Global North, sustainability as a concept is found in other cultures such as Saudi culture reinforced by Islam. The practice of social sustainability has been practised interminably where individuals in Saudi Arabia help each other directly or through charitable organisations. Moreover, while sustainable practices are actively embraced, there is an absence of formal terminology to describe these actions. It appears that individuals participating in sustainable behaviours may lack awareness of the term 'sustainability' and its precise connotations, despite having engaged in sustainable practices for an extended period. Future research should look at the impact of Tabzir and Israf in the MENA region countries that adhere to Islam on sustainability in relation to fashion consumption.

References

Abdel-Mohsen, O. M., & Paleologos, E. K. (2021). Sustainable pollution assessment practice, in Abdel-Mohsen, O.A., Paleologos, E.K., & Howari, F.M. (eds) *Pollution assessment for sustainable practices in applied science and engineering*, Chapter 1, pp. 3–42.

Al Arabiya. (2020). *Princess Reema sworn in as Saudi Arabia's ambassador to the United States*, Al Arabiya English. Available at: https://english.alarabiya.net/News/gulf/2019/04/16/Princess-Reema-sworn-in-as-Saudi-Arabia-s-ambassador-to-the-United-States

Al-Farsy, F. (2023). *Saudi Arabia: A case study in development* (Vol. 9). Taylor & Francis.

Alamad, S. (2017). *Financial innovation and engineering in Islamic finance*. 1st ed. Springer Cham.

Arab News. (2022). Saudi Arabia highlights environmental action after rise up prestigious global green index. *Arab News*. https://www.arabnews.com/node/2191811/business-economy

Balaman, Ş. Y. (2019). Sustainability issues in biomass-based production chains. *Decision-making for biomass-based production chains*, 77–112.

Biplob, H., & Abdullah, M. F. (2021). The Concept of Wasatiyyah in Consumption: An Analysis from Islamic Financial Jurisprudence. *ICR Journal*, *12*(1), 11–26.

Elkington, J. (1994). Towards the sustainable corporation: Win-Win-Win Business strategies for sustainable development. *California Management Review, 36*(2), 90–100.

EMF (Ellen MacArthur Foundation) (n.d.) What is a circular economy?, EMF (online): https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview, 17/10/2023

Euromonitor. (2023). Apparel and Footwear in Saudi Arabia.

Fashion—Saudi Arabia. (n.d.). Retrieved October 04, 2023, from https://www-statista-com.manchester.idm.oclc.org/outlook/dmo/ecommerce/fashion/saudi-arabia

Furqani, H. (2017). Consumption and morality: Principles and behavioral framework in Islamic economics. *Journal of King Abdulaziz University: Islamic Economics*, *30*.

Geneva environment network. (2023). environmental Sustainability in the Fashion Industry. Available at: https://www.genevaenvironmentnetwork.org/resources/updates/sustainable-fashion/#

Hamdan, A. (2005). Women and education in Saudi Arabia: Challenges and achievements. *International Education Journal, 6*(1), 42–64.

Hanapi, M. S., Mastura, S., Doktoralina, C. M., & Malaysia, S. (2019). Wasatiyyah-consumerism ethics in Al-Qur'an. *International Journal of Financial Research*, *10*(5), 204–207.

Henninger, C. E., Alevizou, P. J., Goworek, H., & Ryding, D. (Eds.). (2017). *Sustainability in fashion: A cradle to upcycle approach*. Springer.

Kiswa. (2023). Don't throw it..others want it. Available at: https://www.kiswaksa.com/home

Oates, C., Sahab, S., Le Normand, A., Alosaimi, S.I., & Henninger, C.E. (2022) How is 'sustainability' translated? Language and fashion context, in Armstrong, K. & Barnes, L. (eds) Transformative times for Fashion Marketing + Consumption: New horizons, Palgrave: London

Salahi, A. (2010). *Muhammad: Man and Prophet*. Kube Publishing Ltd.

The United Nations. (2023). Sustainability. available at: https://www.un.org/en/academic-impact/sustainability#:~:text=In%201987%2C%20the%20United%20Nations,to%20meet%20their%20own%20needs."

UNECE. (2018). Fashion and the SDGs: what role for the UN? Available at: https://unece.org/fileadmin/DAM/RCM_Website/RFSD_2018_Side_event_sustainable_fashion.pdf

Vision 2030. (2016). Kingdom of Saudi Arabia, Riyadh. Available at: https://www.vision2030.gov.sa/

World Bank Group. (2020). Saudi women rising up in business in line with Vision 2030. *World Bank.* https://www.worldbank.org/en/news/feature/2020/03/11/saudi-women-rising-up-in-business-in-line-with-vision-2030

World Commission on Environment and Development (WCED). (1987). *Our Common Future*. Oxford University Press: New York, NY, USA.

WSF (World Sustainability Foundation) (n.d.) The World Sustainability Foundation, WSF (online): https://worldsustainabilityfoundation.org, 17/10/2023

12

Heritage Identity Management of the Kente Textile Production: Sustainability Through Preservation

Sharon Nunoo

12.1 Introduction

The purpose of this chapter is to explore how the heritage identities embedded within the production of the Kente cloth can be further managed sustainably within Bonwire and Ghana through preservation. In particular, this chapter considers exploring two frameworks to put into perspective what needs to be considered in relation to preservation: Corporate Heritage Identity Stewardship (CHIS) and Corporate Heritage Identity Management/ Implementation (CHIM) frameworks. CHIS considers the managerial mind-set of managing CHIs within an organisation; this considers a particular way in which management needs to think and act in relation to three awareness dimensions; custodianship, heritage, and positionality (Burghausen and Balmer 2015). CHIM, on the other hand, refers to the ability to understand one's actions in relation to their managerial position [managerial self-understanding] (Burghausen and Balmer 2014). One theoretical framework results in another, and this will be further explored in this chapter.

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12.2   Background

Sustainability has been in the talks now more than ever in the media (Wicker 2023), as well as in academic publications (Gionannoni and Fabietti 2013; Chen 2023; Henninger and Brydges 2023; Ray and Nayak 2023) due to the ever-growing awareness to protect the planet, more especially now with Gen Z consumers becoming more aware of the impact fashion is having on a global scale (Thiele 2016). Although resources are needed for this generation to thrive, there needs to be a certain level of understanding to not misuse resources to harm not only this present generation but also the future generations. Resources, in this case, refers to the physical material that humans need and value on a daily basis to meet their needs (National Geographic 2023). The British Assessment Bureau (2022) also defines [sustainable] resources as natural resources that are renewable and can also be replenished at the same rate or faster than they are being consumed. Whenever sustainability is discussed, what follows is sustainable development (Elkington 1997, 1998; Elkington et al. 2007). This happens so frequently that sustainability has not been clearly defined (Thiele 2016). In this respect, sustainability is being approached from an angle of preservation, without eliminating research that considers achieving sustainable development goals. Elkington (1997) introduced the 'Triple Bottom Line' (TBL) which was the prime framework used to research into achieving sustainable development in order to develop a better understanding around sustainability. Following that, more research was conducted to consider further developing this TBL framework by introducing culture into the sustainability framework, considering culture either as an additional element, culture as the driving factor through the way of life or culture embedded within sustainability (Soini and Dessein 2016). More recently, Nunoo (2022), through the corporate marketing lens, introduced the idea of heritage as the driving factor to achieve sustainable development, which considers the actions brought about through heritage resulting in sustainable development within a small community located in Ghana, Bonwire. In all of this, there is still a very unclear definition of sustainability. Hence, sustainability is still being explored further to give a clear and practical meaning to it. The TBL, as a sustainability framework, was designed to ensure that businesses should measure their social and environmental impact in addition to their financial performance (Miller 2020). Environmental sustainability is always talked about extensively considering its impact on humans by researching into carbon footprints, sourcing raw materials and now more recently, the supply chain as this is the biggest polluter of carbon footprints. Social

sustainability focuses on people and fair wages. Recent articles have scrutinised fashion brands like Shein for maltreatment of their employees and keeping them working under very poor circumstances (Jones 2021; Jackson 2022; Rajvanshi 2023, Oi 2023).

Economic sustainability is still being further developed with no clear definition. This chapter will first dissect the term 'sustainability' and this is what will be considered in this chapter.

When breaking up the word sustainability, we get two important elements that need to be considered in the sustainability literature: 'sustain' and 'ability'. According to the Oxford English dictionary, to sustain is:

> to keep in *existence*, maintain; specifically to cause to continue in a certain state for an extended period or *without interruption*. To keep or maintain at a proper level, standard or rate. To *preserve* the status of. (Oxford University Press 2023)

There are many elements within this definition to draw from. Now, the focus is on *preservation*, so it might be worth defining this word as well. *Preservation* is:

> the action of preserving from damage, decay or destruction; the fact of being *preserved*. To *preserve* is to protect or save from; to keep alive, *to keep from perishing*; to keep in *its original or existing state*; to make lasting; to maintain or *keep alive*. (Oxford University Press 2023)

There are many similarities between these two definitions. Consider the first aspect of the definition: to *keep in existence*. This considers longevity and sustenance. Whilst sustainable development is defined as "*development that meets the needs of the present, without compromising the ability of the future generations to meet their own needs*" (SDC 2011; UN 2023; UNESCO 2023), it does not highlight the aspect of preservation which is also important in sustainability. It only considers limiting the use of resources so that future generations are not deprived when it comes to meeting their needs. This limits the definition of sustainability, and also avoids defining it completely. Thus, in this chapter, sustainability will be defined as the ability to *preserve*, maintain, and keep in existence in a certain state without interruption. As this chapter is exploring how the heritage identity of the production of the Kente textiles can be managed, it is relevant to consider heritage through sustainability as discussed by Nunoo (2022). This chapter is constructed through a corporate marking lens and thus touches upon two key theoretical

frameworks, which according to Balmer and Burghausen (2015) and Burghausen and Balmer (2015), require management to have a specific mind-set to successfully manage the heritage identity of a brand.

12.3   Corporate Heritage Identity

In order to delve into the understanding of management and stewardship of corporate heritage identity, it is essential to define corporate heritage identity (CHI) and under which circumstances this theoretical framework was developed. CHI, as defined by Balmer (2011a, b), is the organisational trait that has remained meaningful over a period of time: past, present, and prospective future. This considers who the organisation say they are in relation to their heritage which is what the organisation would be founded on. This theoretical framework was designed against the British monarchy which was considered as a corporate heritage brand (Urde et al. 2007). What makes this theoretical framework interesting is that it was based off a heritage brand that does not offer products to its consumers, but only offers its history to them. One would need to communicate with consumers more to understand their needs to meet them, with hopes that they will see the organisation as relevant in their time. The British monarchy in this case hopes to remain relevant by communicating their history and traditions to consumers and stakeholders (Balmer 2011a, b). Considering this, the British monarchy is a composite of identity types, with the Crown being its main identity. The identities take on the form of 4 out of 8 R's in the framework [Royal, Regal, Religious, Ritual] which are the main attributes of the Crown (Balmer 2011b) (Table 12.1). These dimensions need to be authentic to the organisation to build trust between the stakeholder and the organisation.

   This chapter focuses on Bonwire, a textile weaving community in Ghana. This context will be used to gain a clearer understanding of CHI. Bonwire was founded on the tradition of producing textiles and has qualities like that of an organisation. These textiles represent the identity of Ghanaians across the globe: the Kente cloth (Boateng 2011). This textile is handwoven intrinsically and its vibrant colours do more than just appear attractive; the patterns and colours have a voice and communicate one's situation within the community (Kuwornu-Adjaottor et al. 2016; Adom et al. 2016). This tradition of weaving has lasted for more than three centuries, that is, over 300 years ago (Boateng and Narayan 2017). As such, the heritage identity of this community is in the

Table 12.1 CHI theoretical Framework- Authenticity Dimension (Adapted from Balmer 2011b)

Core	Heritage identity dimensions	Explanation
Authenticity: this is concerned mainly with the organisation. It must be authentic and original. It relates to the endurance of the corporate heritage features of the organisation. The organisation is solely responsible for reflecting these dimensions	Royal	represents the identity of the organisation
	Regal	represents the behaviours, cultures of the organisation and that these have to be dignified
	Ritual	the idea of values and beliefs
	Religious	"the spiritual, sacred and ethereal identity attributes" (p. 1396)

textile production of this heritage Kente cloth. The attributes of the production which make up part of the identities are firstly the prestigious status that associated with the Kente cloth (Boateng 2011; Boateng and Narayan 2017); the long-standing tradition of weaving which has been handed down for generations (Boateng and Narayan 2017); the Kente cloth is handwoven with specific colours and patterns (Badoe and Opoku-Asare 2014; Kwakye-Opong 2014; Kuwornu-Adjaottor et al. 2016; Boateng and Narayan 2017); the language that is embedded within the Kente to *preserve* the culture and values of the people (Boateng 2018; Kusi 2018; Smulders Cohen 2019). These identity attributes are aligned with the production of the Kente cloth, and it is what makes Bonwire authentic according to the heritage identity framework. The heritage identity however does not just need to be mindful only to its meaningful past, but also responsive to change which makes them "relatively invariant" (Burghausen and Balmer 2014; p. 2313). This means that they appear to remain the same, yet they change. As such, these elements need to be meaningful to the stakeholders to remain relevant and meaningful over years. Considering the long-standing history of the production of the Kente cloth, there is also the need to manage the heritage identity so that it remains relevant even for future generations.

12.4   Corporate Heritage Identity Management and Stewardship Through Preservation

12.4.1   Corporate Heritage Identity Management/ Implementation

After understanding CHI, what they are and their importance, it is evident that these need to be *preserved*, as is the case with the British monarchy. The Kente production holds meaning not just within Ghana, but globally as it serves as the identity of Ghanaians and maintains a certain connection with their country (Schramm 2004; Fening 2006). The unanswered question is how has this community managed to *preserve* such rich heritage for over 300 years? This would involve management or stewardship of some kind. As the production of the Kente cloth in Bonwire is the heritage identity, this section will delve deeper into how it is managed and who manages it. Corporate heritage identity management (CHIM) was introduced by Burghausen & Balmer (2014) following the construct of CHI with the hopes of finding a way to manage these heritage identities so that they remain relevant and meaningful for the future generations. CHIM, as already introduced in the introduction, considers the ability to understand one's actions in relation to their managerial position [managerial self-understanding] (Burghausen and Balmer 2014). Nunoo et al. (2021) noted that the weavers within Bonwire work individually, but together for the development of the community, and the objects they work with gives them their identity as weavers. This reflects that they are individual managers. However, it is essential to understand how the CHIM framework applies to them, if it does, and if there may be other elements to consider in the management framework.

The CHIM framework considers four main management activities identified by Burghausen & Balmer (2014) which expressed managerial self-understanding; (1) Validate, (2) Articulate, (3) Relate, and (4) Adopt. These four activities underpin the implementation activities in order to be able to achieve management of heritage identities. Validate focuses on the questions of whether the managers recognise and acknowledge the importance and saliency of heritage for the organisation and that heritage is manifested within the organisation. It was noted that there was a heritage awareness amongst the managers, and also the saliency of longevity which focuses on continuity and the survival of the business long term (Burghausen and Balmer 2014). Articulate considers how well managers were able to specify and describe substantive heritage traits within the organisation that are central to the

company's current corporate identity. What is important to note is within an organisation with multiple managers, there should be a shared understanding of this. Relate considers managers being able to align the heritage traits of the organisation to the organisation's present identity and core values. Adopt is concerned with how management embraces and accepts the revealed corporate heritage identity as responsible custodians of the heritage and for the strategic appropriation of heritage for corporate marketing purposes (Burghausen and Balmer 2014). These four dimensions, however, underpin the implementation of successfully managing these heritage identities (Fig. 12.1).

Corporate Heritage identity Implementation (CHII) refers to the patterns and strategies that the organisation uses to link the past to the present and potential future in a meaningful way (Burghausen and Balmer 2014). This can be reflected through the ways by which management presents the organisation and also through the corporate marketing activities. The corporate heritage dimension of the corporate identity is implemented based on four activities: (1) Narrating, (2) Visualising, (3) Performing, and (4) Embodying (Burghausen and Balmer 2014). These implementation activities follow a corporate heritage identity management implementation (CHIMI) pattern that links the past, present, and future in a meaningful and relevant way (Burghausen and Balmer 2014). Narrating in terms of implementation strategies refers to being able to realise the CHI dimension through narrative forms that successfully link the past, present, and future and make up the overall corporate heritage story (Burghausen and Balmer 2014). Visualising refers to being able to successfully communicate the CHI dimension using visual design elements that link the past, present, and future. Performing is concerned with realising the CHI through tradition, rituals, and customs. These
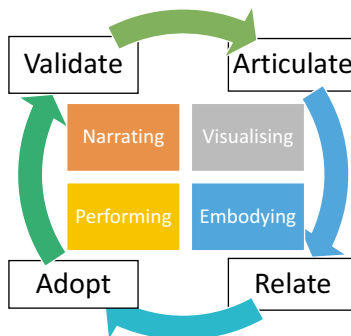
Fig. 12.1 Corporate Heritage Identity Management/Implementation Framework. (Adapted from Burghausen and Balmer 2014)

are cultural practices that are strategically used for corporate marketing purposes (Burghausen and Balmer 2014). Lastly, embodying refers to being able to manifest the CHI dimensions in objects and people (Burghausen and Balmer 2014).

This puts into perspective all that needs to be considered when exploring Bonwire and how their CHI and culture can be preserved. The role of stewardship then follows these theoretical frameworks. Management and implementation consider what needs to be done and how to go about it to successfully manage CHIs, but a steward is the person that will, in effect, implement the management of CHI.

12.4.2   Corporate Heritage Identity Stewardship

Corporate heritage identity stewardship (CHIS) was introduced by Urde et al. (2007, p. 14), which is predicated on a particular "management mindset of nurturing, maintaining, and protecting a brands heritage". Stewardship combines the central features of comprehension and interpretation with the practical dimension of doing and acting (Balmer 2008) and presents the importance of management in relation to the endorsement of corporate heritage brands and identities (Burghausen and Balmer 2014). Heritage stewardship was introduced as a proposal to manage and maintain corporate heritage brands and corporate heritage identities (Urde et al. 2007; Burghausen and Balmer 2015). This theoretical framework considers the role of managers, stewards, who implement the CHIM framework in an attempt to *preserve* CHI. The CHIS theory is concerned with management having the same understanding of the heritage identities within an organisation, and managing and maintaining these heritage identities and making them relevant in the future (Burghausen and Balmer 2015).

In CHIS different elements are designed by Burghausen & Balmer (2015) to function at a corporate level. Within a community, CHIS may differ, although some research on place brands liken communities to corporate heritage brands (Aitken and Campelo 2011). This may be the case because the mindset of the inhabitants within Bonwire may be different with regard to *preserving* the textile production process to benefit the community. The weavers, in this case, do not just have to know about the culture and traditions, but must also have respect for the past and be able to relate to it as stewards of the brand (Santos et al. 2016). With regard to Bonwire, the inhabitants respect the production process of the textiles as these textiles are very important and hold all cultural beliefs (Boateng 2011; Boateng and Narayan 2017; Boateng

2018). The specific managerial mindset required by stewards (Santos et al. 2016) allows managers to learn and understand the organisation in such a way to make decisions that would not affect the organisation generally (Burghausen and Balmer 2015). This shared 'mindset' helps the managerial teams within organisations build success in managing corporate heritage brands (Santos et al. 2016). In the case of Bonwire, it is important to understand how this mindset is brewed and put into effect, as the community has lasted for over 300 years engaging in this weaving trade. The question here is this: *How have the weavers successfully implemented CHIM through their roles over the years?*

CHIS has been characterised by three awareness dimensions that should be expressed by managers, i.e. Positionality, Heritage, and Custodianship awareness (Burghausen and Balmer 2015). Table 12.2 shows how these are linked and how they work together as "senses" (Burghausen and Balmer 2015) to show their character of being at once a managerial sentiment, an understanding, and a tendency to act towards and on behalf of the organization. Positionality focuses on the organisation's socio-historical position within its societal environment in relation to its temporal aspects (relations to past, present, and future), its spatial aspect (relation to a place and location), and its socio-cultural aspect (the identities of individual and collective stakeholders) (Burghausen and Balmer 2015). As seen in Table 12.2, this dimension is characterised by three interrelated CHIS dispositions: Sense of Continuance, Sense of Belongingness, and Sense of Self. The Heritage awareness dimension focuses on the understanding of the organisation's particular status as an organisation within an institutional corporate heritage that represents a shared inheritance, which holds value and needs to be protected, nurtured, and passed on to the next generation (Burghausen and Balmer 2015). This dimension is characterised by the CHIS disposition Sense of Heritage. Lastly, the Custodianship awareness dimension discusses the awareness of a shared custodial obligation and duty to speak and act on behalf of the organisation and others in an authorial manner. This dimension is also characterised by two interrelated CHIS dispositions: Sense of Responsibility and Sense of Potency (Table 12.2). This mindset comes with the clear understanding of the organisation's status in terms of the heritage embedded within it (Heritage Awareness) and also its socio-historical position (Positionality Awareness) (Burghausen and Balmer 2015).

From Table 12.2, it is evident that the dimension awareness as suggested by Burghausen & Balmer (2015) work together to create the mindset required of management. It also draws very close links with the CHIMI theoretical framework in Fig. 12.1. Within the management activities, validate highlights the heritage awareness which also is strongly linked to the CHIS theoretical

Table 12.2 CHIS framework and definitions of its elements (Adapted from Burghausen and Balmer 2015)

CHIS Awareness dimension	CHIS Disposition	Description
Positionality	Sense of Continuance	Be aware of the company's persistence over time
		Have concern for the company's future
		Dedication towards the perseverance of the company
	Sense of Belongingness	Attachment towards place, social groups, and institutions
		Reflection of the company's identity
		Emotional attachment to the company
	Sense of Self	Independence and individuality
		Confidence in implementing corporate strategies to benefit the company
Heritage	Sense of Heritage	Understanding the company's status as an organisation
		Understanding the institutional heritage of the company
		Acknowledge, value, and adopt the institutional corporate heritage, as well as the company's heritage status
Custodianship	Sense of Responsibility	Awareness of shared ownership obligation
		Duty to speak and act on behalf of the company
		Obligation towards institutional heritage
		Responsible for managing the company's heritage and the institutional corporate heritage
	Sense of Potency	Having authority to speak and act on behalf of the company
		Shows clear understanding of corporate purpose and corporate authority
		Acts on institutional concerns which is facilitated by the company's heritage status

framework. There needs to be an understanding of the heritage of the organisation in order to manage it effectively. Continuity is also a dimension that is mentioned both in the CHIM and CHIS framework which shows the importance of making heritage meaningful over a period of time. This involves being able to link the past, present, and future of the organisation to create a meaningful and strong brand story. Generally, heritage plays an important role in being able to manage the heritage identity of an organisation, as it underpins the organisation and all its activities, as also evidenced by Nunoo (2022). Now, a deeper look into Bonwire and the textile production and how it can be managed through preservation will be considered.

12.4.3 Management Through *Preservation*

As discussed earlier, although sustainability is a term widely used across various disciplines, it has not clearly been defined. Just to reiterate, the proposed definition of sustainability for this chapter is the ability to *preserve*, maintain, and keep in existence in a certain state without interruption. This will be factored in when reviewing Bonwire as a community and an organisation. The terminology that would be used to describe a place such as Bonwire will be a hybrid organisation.

As Bonwire is a community, understanding communities is key in helping to enlighten what life may be like within Bonwire. Communities give its inhabitants a sense of belonging as they slowly become loyal to their culture (Bauböck 2001). One must first define what a community is to understand the relationship a community might have with an organisation in the context of this study. Once the definition is known, it will be clear as to why within the context of this study the community is being identified as an organisation. According to Waterton & Smith (2010), in the past, the term community was used to distinguish people from different social classes or ethnicities. A community is defined as a group of people living in the same place or having a particular characteristic in common. In communities, the status quo is maintained (Waterton and Smith 2010), as is the case in Bonwire in relation to the weaving trade. Communities are formed by people relating and connecting to each other on a daily basis (Castren 1999). This suggested that within a community, weak ties are what keep the bond between the inhabitants strong (Castren 1999; Cominelli and Greffe 2012).

Bonwire is being referred to as a hybrid organisation because of the multi-faceted nature of it. The first is in relation to the textile production, which has held the community together for over 300 years (Boateng and Narayan 2017). This considers the fact that there is a product being offered the consumers within Ghana, serving them with a textile that represents their culture (Fening 2006; Boateng 2011; Boateng and Narayan 2017). Besides this, Bonwire is also a community of historic value and heritage, as Kente is considered a prestigious textile which even defines social classes (Amissah and Afram 2018; Nunoo et al. 2021; Nunoo 2022). At the same time, every male within Bonwire is involved in the weaving trade and work together although they work individually (Nunoo et al. 2021). This gives it the multi-faceted nature that makes it hybrid. The textile trade is founded heavily on heritage and culture, and this has governed the citizens of Bonwire even till date (Nunoo 2022). The weaving trade is passed down along families, and the men keep its

legacy alive by taking on their roles as weavers and contributing to the improvement of the community as a whole (Nunoo et al. 2021).

In terms of management of the textile production within Bonwire, Nunoo et al. (2021) identified that the weavers work individually yet collectively. This simply means that the weavers each have their own handlooms with which they work to manufacture the textiles, and the sales generated are used to take care of their families. At the same time, the weavers also help each other to make sales on their products and come together as an association to give back to the community (Nunoo 2022); this association is the Kente Weavers Association (KWA). In terms of the role of stewards, it is evident that within the community, all the men involved in the weaving trade are stewards of the heritage, due to the nature of knowledge transfer for generations of the process of weaving (Boateng and Narayan 2017). To date, there is no documented evidence of the process of weaving Kente—everything is memorised and executed straight on the handloom for fear of cultural heritage being stolen or lost (Nunoo et al. 2021). Referring back to the CHIMI theoretical framework, the four management activities that underpin the implementation activities are validate, articulate, relate, and adopt. In relation to Bonwire, this is how they are carried out effectively (Fig. 12.2).

As seen in Fig. 12.2, it is evident that these activities exist within Bonwire through the weavers who act as stewards. Their methods, however, are methods that organisations can benefit from. Firstly, in relation to Validation, considering that Bonwire was founded on weaving, the weavers only just know this trade. They do not have eyes for anything else, but to carry on the legacy of their forefathers (Boateng and Narayan 2017; Nunoo et al. 2021; Nunoo 2022). They are aware that the cultural heritage of Bonwire has been embedded into the textiles and this is what cannot be taken away from them (Nunoo et al. 2021). The cultural activities involved in achieving the beautiful textiles are the activities that validate their understanding of the importance of the cultural heritage on Bonwire. In relation to Articulation, it is evident that the men within Bonwire do this by taking pride in their roles as weavers (Nunoo et al. 2021). It is an important mantel for them to carry in passing on the traditions that were given to them to the next generation. This is evidenced through the young men who sit and engage in weaving; this is what is central to Bonwire's corporate identity. For the Relate management activity, the role of the weavers has been carefully merged with the preservation of the cultural heritage. As weavers and stewards, the textile production is being preserved through their jobs which is their identity within Bonwire. Bonwire, today, is identified as the 'traditional seat' of Kente production in Ghana (Boateng and Narayan 2017; Nunoo et al. 2021; Nunoo 2022). The community

- Validate

The weavers acknowledge and are aware of the heritage identity within the community as this governs their weaving activities.

- Articulate

Per the multiple articles published about Bonwire and the textile weaving production, it is evident that the weavers understand the centrality the Kente holds within Bonwire.

- Adopt

The weavers have formed an association where they support each other in carrying on the age-old traditions of their forefathers, constantly making it relevant to new generations. The new generations adapted by introducing new products within the textiles.

- Relate

The weavers carefully embed the traditions and cultures within the textiles they product and align it with the longstanding heritage of Bonwire. The textiles reminds them of who they are.

Fig. 12.2 CHIM theoretical framework of Bonwire. (Adapted from Burghausen and Balmer 2014)

environment also holds the heritage strongly, hence giving Bonwire such an identity as the textile weaving community. Lastly, through Adoption, it is evident that the weavers have taken it upon themselves to embrace the cultural heritage that was taught to them from a young age (Boateng and Narayan 2017) and are effectively engaging in weaving to preserve their community. Through the KWA, they give back to the community to help develop it. These are the management activities that reflect the theoretical framework within Bonwire through preservation. Implementation, however, may reveal what is done specifically to achieve management.

Implementation activities, as stated above in previous sections, consider narrating, visualising, performing, and embodying. Through Narration, the folklore and stories told about how Kente weaving began have built an impression on the textiles across the globe (Mawere and Mubaya 2016). Thus, Kente is known as an intricately carefully handwoven masterpiece that serves as the identity of Ghanaians (Smith 1975; Boateng 2011; Boateng and Narayan 2017; Nunoo et al. 2021; Nunoo 2022; Abu 2023) and in some locations as the identity of Africans (Mr Pocu 2023; Abu 2023). Through Visualisation,

the Kente cloth serves as a reflection of the heritage of the people of Bonwire (Mawere and Mubaya 2016; Nunoo 2022). The product within Bonwire that is embedded with culture and heritage is the Kente cloth. This Kente cloth is directly communicated to the mass public by the weavers and sellers, educating Ghanaians on the heritage and values this textile cloth holds (Boateng and Narayan 2017). This textile cloth has meanings and philosophies behind the patterns and designs (Badoe and Opoku-Asare 2014; Kwakye-Opong 2014; Kuwornu-Adjaottor et al. 2016; Boateng and Narayan 2017). Each design incorporated into the textile must correlate with the beliefs and practices of the inhabitants (Smith 1975; Ross 1998; Boateng 2011; Boateng and Narayan 2017). One thing that has been noticed in relation to Bonwire and the Kente cloth is that the philosophies behind the textiles explain the way of life of the inhabitants (Smith 1975; Kuwornu-Adjaottor et al. 2016; Adom et al. 2016). This is an act of *preservation*. Performing is evidenced through the continuing practice of weaving within Bonwire that has been ongoing for over 300 years. The culture and tradition of weaving is passed and handed down to the men within each family, which in effect also helps them secure a job to look after their families (Nunoo et al. 2021). The weaving trade put Bonwire on the map and has attracted not just tourists (Kyei-Baffuor 1997) but also academics who want to know more about the trade (Smith 1975; Boateng 2011; Badoe and Opoku-Asare 2014; Adom et al. 2016). Heritage-wise, this places the community of Bonwire as a tourist attraction (Kyei-Baffuor 1997). Finally, the heritage identity is embodied within the handlooms that are passed down over generations (Boateng 2011). It is also embodied by the weavers through their role and identity as weavers through their use of the handlooms (Nunoo et al. 2021). This is how the heritage identity within Bonwire is successfully being managed per the CHIMI theoretical framework.

12.5   Conclusion

This chapter set out to explore the management of corporate heritage identities within Bonwire, a textile producing community. Through the research provided, it is evidenced that there is management of the heritage identities within Bonwire, however there may be slight differences. Firstly, the community is multi-faceted and is not a standard 'typical' organisation type; it is hybrid in nature. Besides it being a tourist attraction, it also has a product offering for the people of Ghana. The management of the community is what makes it appealing to tourists making the management serve a dual purpose: (1) to *preserve* age-old traditions through weaving and (2) to *preserve* the

heritage identity story of the community. As evidenced in the previous section, the acts of management within Bonwire have all been through an act of *preservation.* This can be considered by organisation to approach management activities through preservation, as trying to extend the life of something may not be the same as actually doing what is needed to keep it alive. Whilst implementation activities aid with corporate marketing, the preservation aspect needs to be included. With the case of Bonwire, preservation is displayed through different means: (1) only men are involved in the weaving process within the community, (2) everyone is a steward of the community and the textile production, there is no hierarchy, (3) all the practices are informed by age-old traditions and globalisation has not had an impact on it just to meet demands, and (4) the meanings embedded within the textile keep the members of the community closely knit together. Within certain organisations, the race to get to the top makes people 'step over each other'. Stewardship should not be a role only for management, but for every employee, like in the case of Bonwire. Each weaver is responsible for the *preservation* of the weaving trade and is also a custodian of the community. This should also be reflected within organisations, not focusing on management alone. Although the practices within Bonwire are sustainable practices, preservation is communicated much more through their actions and behaviour of togetherness. This is something larger organisations can learn from communities.

References

Abu, J. U. (2023) The History and Significance of the Kente Cloth: a symbol of African identity. *Nicholas Idoko Technologies*. Online: [Accessed 21/04/23] https://nicholasidoko.com/blog/2023/03/18/the-history-and-significance-of-kente-cloth-a-symbol-of-african-identity/

Adom, D., Asante, Dr E. A., Kquofi, Dr. S. (2016) 'Adinkra: An epitome of Asante philosophy and history', *Research on Humanities and Social Sciences*, Vol.6 No. 14, pp 42–53.

Aitken, R., & Campelo, A. (2011). 'The four R's of place branding', *Journal of Marketing Management*, Vol. 27, Issue 9/10, Pages 913–933.

Amissah, E. K., Afram, A. P. (2018) A comparative study of Bonwire Kente and Daboya Benchibi, *Trends in Textile and Fashion Design*, 1(5): 96–108

Badoe, W., & Opoku-Asare, N. (2014). Structural patterns in Asante *Kente:* An Indigenous instructional resource for design education in textiles, *Journal of Education and Practice*, 5(25): 52–64

Balmer, J.MT. (2008). "Identity-based views of the corporation: insights from corporate identity, organisational identity, social identity, visual identity and corporate image". *European Journal of Marketing, 42*(9–10), 879–906.

Balmer, J.M.T (2011a). Corporate heritage brands and the precepts of corporate heritage brand management. Insights from the British Monarchy on the eve of the Royal Wedding of Prince William (April. 2011) and Queen Elizabeth II's Diamond Jubilee (1952–2012). *Journal of Brand Management, 18*(8): 517–544.

Balmer, J.M.T (2011b). 'Corporate heritage identities, corporate heritage brands and the multiple heritage identities of the British Monarchy'. *European Journal of Marketing, 45*(9/10): 1380–1398.

Balmer, J.M.T, & Burghausen, M. (2015). 'Explicating corporate heritage, corporate heritage brands and organisational heritage'. *Journal of Brand Management, 22*, 364–384. https://doi.org/10.1057/bm.2015.26

Bauböck R., (2001) 'Cherishing Diversity and Promoting Political Community', *Ethnicities*, Sage Publication Inc.

Boateng, B. (2011) *The copyright thing doesn't work here*. University of Minnesota Press: Minneapolis.

Boateng, H. & Narayan, B. (2017) Social Capital and knowledge transmission in the traditional Kente textile industry of Ghana, *Information Research*, 22(4): 1–19.

Boateng, H. (2018) Knowledge Creation and Knowledge Flow within Ghana's Kente Industry: A Social Capital perspective, *PhD Thesis*, University of Technology, Sydney.

British Assessment Bureau (2022) What is sustainable resource management and how do you achieve it? *British Assessment Bureau. Online*: [Accessed 31/07/23] 8 https://www.british-assessment.co.uk/what-is-sustainable-resource-management-and-how-do-you-achieve-it/#:~:text=Sustainable%20resources%20examples,Managed%20responsibly

Burghausen, M & Balmer, J.M.T (2014) Corporate Heritage Identity management and the multi-modal Implementation of a corporate heritage identity, *Journal of Business Research*, 67: 2311–2323

Burghausen, M & Balmer, J.M.T (2015) Corporate Heritage Identity Stewardship: a corporate marketing perspective, *European Journal of Marketing*. 49(1/2): 22–61

Castren, A-M. (1999) Networks in the Global Village. Life in Contemporary Communities, *Acta Sociologica, Sage Publications Ltd*, 42(4): 393–395

Chen, Y. (2023) How blockchain adaptation affects supply chain sustainability in zthe fashion industry: a systematic review and case studies, *International Transactions in Operational Research.*

Cominelli, F. and Greffe, X. (2012) Intangible cultural heritage: Safeguarding for creativity, *City, Culture and Society*, 3(4): 245–250

Elkington, J, Tickell, S., & Lee, M. (2007) *SustainAbility. 20 Years of Global Leadership*. London: SustainAbility. (Online): [Accessed: 10/03/23] www.sustainability.com,

Elkington, J. (1997) *Cannibals with Forks: The triple bottom line of 21st century business*. Captsone: Oxford

Elkington, J. (1998) Partnerships from cannibals with forks: The triple bottom line of 21st Century business, *Environmental Quality Management*, 8(1).

Fening, K.O. (2006) *History of Kente cloth and its value addition through design integration with African silk for export market in Ghana.* Paper presented at Trainers

Course and 4th International Workshop on the Conservation and Utilisation of Commercial Insects, Duduvile, Nairobi, 1: 62–66

Gionannoni, E., & Fabietti, G. (2013) What is sustainability? A review of the concept and its applications. In Busco C., Frigo, M., Riccaboni, A. & Quattrone, P. (eds) *Integrated Reporting*. Cham: Springer.

Henninger, C. E. & Brydges. T. (2023) The 'Whatever' phenomenon: investigating indifference to sustainability in the fashion industry. In Ritch, E.L., Canning, C. & McColl, J. (ed.) *Pioneering new perspectives in the fashion industry: Disruption, Diversity and Sustainable Innovation*. Bingley: Emerald Publishing Limited.

Jackson, S (2022) China: Shein factory employees work 18 hours a day with no weekends earning just two cents per item, report finds. *Business & Human Rights Centre Online*: [Accessed 31/07/23] https://www.business-humanrights.org/en/latest-news/china-shein-factory-employees-work-18-hour-shifts-with-no-weekends-earning-just-two-cents-per-item-report-finds/#

Jones, L (2021) Shein suppliers' workers doing 75-hour week, finds probe. *BBC Online*: [accessed 31/07/23] https://www.bbc.co.uk/news/business-59245708

Kusi, A.M. (2018). Valuing intangible cultural heritage: a contingent valuation study of preserving Kente weaving in Ghana, *Masters Thesis*, School of Economics and Business, Norweigen University of Life Science

Kuwornu-Adjaottor, J.E.T., Appiah, G, Nartey, M. (2016) 'The philosophy behind some Adinkra symbols and their communicative values in Akan', *Philosophical Papers and Reviews, Academic Journals*, Vol. 7, No. 3, pp 22-33. Available at: https://academicjournals.org/journal/PPR/article-full-text-pdf/A5A4C6E58407

Kwakye-Opong, R. (2014) Beyond Ethnic Traditions: Philosophies and Socio-cultural relevance of the Ashanti and Ewe Kente Cloths, *Research on Humanities and Social Sciences*, 4(26): 150–165

Kyei-Baffuor, B. (1997) Kente Centre, Bonwire. *Master's Thesis*, Kwame Nkrumah University of Science and Technology, Ghana.

Mawere, M., Mubaya, T.R. (2016) *Colonial Heritage, memory and sustainability in Africa.* Cameroon: Langaa Research and Publishing Common Initiative Group

Miller, K (2020) The Triple Bottom Line: what it is & Why it's important. *Harvard business school Online*: [Accessed 13/03/23] https://online.hbs.edu/blog/post/what-is-the-triple-bottom-line

Mr Pocu. (2023). How Ghana Kente became a symbol of African Pride and identity. *Mr Pocu*. Online: [Accessed: 21/04/23] https://mrpocu.com/how-ghana-kente-became-a-symbol-of-african-pride-and-identity/

National Geographic (2023) Resource Types. National Geographic Education . Online: [Accessed 31/07/2023] https://education.nationalgeographic.org/resource/resource-types/

Nunoo, S (2022) Sustainable supply chain process of the luxury Kente Textile: Introducing heritage into the Sustainability framework, in Henninger, C.E. and Athwal, N.K. (eds) *Sustainable Luxury: An International Perspective.* Palgrave: Switzerland.

Nunoo, S., Parker-Strak, R., Blazquez, M., & Henninger, C.E. (2021) My loom and me – the role of the handloom in a weaver's identity creation, in Gardetti, M.A. and Muthu, S.S. (eds) *Sustainability, culture and handloom*. Springer: Heidelberg

Oi, M (2023) Shein: China fashion giant faces US cals for probe over Uyghur claims. *BBC Online*: Accessed 31/07/23] https://www.bbc.co.uk/news/business-65452976

Oxford University Press (2023) *Oxford English Dictionary*. Online: [Accessed on 20/04/23] Quick search results : Oxford English Dictionary (oed.com)

Rajvanshi, A. (2023) Shein is the world's most popular fashion brand- at a huge cost to us all. *Time Online*: [Accessed 31/07/23] https://time.com/6247732/shein-climate-change-labor-fashion/

Ray, S. & Nayak, L. (2023) Marketing Sustainable fashion: trends and future directions, *Sustainability*, 15(7).

Ross, D.H. (1998) *Wrapped in Pride: Ghanaian Kente and African American Identity*. UCLA Fowler Museum of Cultural History: Los Angeles.

Santos, F., Burghausen, M. and Balmer J.M.T (2016) "Heritage Branding orientation: The case of Ach. Brito and the dynamics between corporate and product heritage brands. *Journal of Brand Management, 23*, 67–88. https://doi.org/10.1057/bm.2015.48.

Schramm, K. (2004) Senses of Authenticity: Chieftaincy and the Politics of Heritage in Ghana, *Etonofoor*, 17(1/2): 156–177

Smith, S. C. (1975) Kente Cloth Motifs, *African Arts*, 9(1): 36–39.

Smulders Cohen, J. (2019) 'The Kente Weavers of Ghana', *Textile: The Journal of Cloth and Culture*. Taylor and Francis Ltd., 17(2), pp. 149–157. doi: https://doi.org/10.1080/14759756.2018.1473999.

Soini, K. & Dessein, J. (2016) Culture-Sustainability Relation: Towards a conceptual Framework, *Sustainability*, 8(167): 1–12

Sustainable Development Commission (2011) What is sustainable development? *Sustainable Development Commision Online*: [Accessed: 24/04/23] What is sustainable development· Sustainable Development Commission (sd-commission.org.uk)

Thiele, L. P. (2016) *Sustainability*. Polity Press: Cambridge, UK.

UNESCO. (2023) Sustainable Development. *UNESCO* Online: [Accessed: 21/04/23] Sustainable Development | UNESCO-

United Nations (2023) The Sustainable Development Agenda. *United Nations* Online: [Accessed: 21/04/23] The Sustainable Development Agenda—United Nations Sustainable Development

Urde, M., Greyser, S., & Balmer, J.M.T. (2007) Corporate Brands with a heritage, *Journal of Brand Management*, 15(1): 4–19

Waterton, E. and Smith, L. (2010) The recognition and misrecognition of community heritage, *International Journal of Heritage Studies*, 16(1–2): 4–15

Wicker, A. (2023) Your Clothes could be toxic. Fashion needs to address this. Vogue UK Online: [Accessed 31/07/23] https://www-vogue-co-uk.cdn.ampproject.org/c/s/www.vogue.co.uk/article/chemicals-clothes/amp

13

Heritage, Artisanship, and Sustainability: Something Versus Nothing: Sourcing Fashionable Authenticity in Scotland

Elaine L. Ritch and Noreen Q. Siddiqui

13.1 Introduction

This chapter examines fashion through the lens of George Ritzers's (2003) theory of globalisation and how this has impacted on markets and consumption, shaping the availability of commodities available on global platforms. This illustrates the current fashion industry as diluting place, space, and culture, through the standardisation of commodities, which Ritzer coined as 'McDonaldisation'. Ritzer simplifies this into two approaches: *Something* versus *Nothing*. Something has a uniqueness; it cannot be reduced and to experience or access something is dependent on place and space. Nothing, however, is void of distinctive features and can be accessed anywhere. This can be seen in fashion: something emerges from the design trajectory, there is a story made meaningful with symbolism, craftsmanship, and innovation. Nothing represents fast-fashion, the same styles available on global platforms that have no distinctive features relating to where and who made the garments, and are fashionable only fleetingly, easily replaced and forgotten. The chapter begins

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by examining the contrasting positions of fashion industry models, before explaining the Ritzer's theory of globalisation. The last section examines something versus nothing through a Scottish lens.

13.2 Global Fashion: Creativity and Commercial Activities

Akin to other industries, fashion has been subjected to innovation, particularly globalisation and technology. The fashion industry could be characterised as two, distinctly diverse, modes of business: as a creative endeavour and as a commercial activity. While, of course, this could be considered as overtly simplified, to clarify, creative fashion is designed as a style concept and includes consideration of the aesthetic, the materials used, the pattern cutting, construction, and additional embellishment: all of which contribute to the symbolism communicated as a statement to convey meaning, as captured in other creative outputs: music, art, literature, design (Ritch 2023). Original designs are developed, taking inspiration from a variety of sources and evolves, from an image on paper to experimental pattern-cutting (Horwell 2022). When considering fashion haute couture houses (see Bala 2020), the process is in collaboration with craftmanship and ateliers with skilled expertise in sewing and embellishment techniques. Value is created from the design inspiration, innovative materials and construction, quality of material and construction, and branding, all of which capture the zeitgeist and symbolise fashion. Take, for example, the fashion designer Issey Miyake. Miyake created an innovation method of pleating that provides his designs with a distinctive silhouette and textile mobility. An image of his work is presented below (Fig. 13.1).

In contrast, commercially driven fashion models, such as fast-fashion, are produced to stimulate consumption. Low pricing and speed to market are the priorities, cutting corners to keep production costs low and tempt frequent impulsive consumption. In moving production to developing countries where labour is less expensive, allegations of exploiting garment workers have emerged along with exploiting natural resources (Ritch 2023). The garments themselves are constructed from poor-quality materials, and pattern cutting is simplified to reduce pricing, therefore, the garments have limited longevity. Cost cutting is evident in all aspects, beginning with the design process where there have been many allegations of stealing the intellectual property of designers without compensating or acknowledging their creativity (Ritch 2023). Overconsumption contributes significantly to the climate crisis

Fig. 13.1 Issey Miyake bespoke method of technology-driven clothing designs: flying saucer dress. (Source: Πελοποννησιακό Λαογραφικό Ίδρυμα). https://commons.wikimedia.org/wiki/File:Flying_Saucer_dress_by_Issey_Miyake,_Japan,_1994.jpg

(United Nations 2020), but often overlooked is the ethical implications of diluting culture and creativity to increase divisions of inequality that are consistent with colonialism and capitalism.

13.3 The Theory of Globalisation

While fashion has been influenced by global culture for centuries, and benefited from the international trading of materials and textiles, this has intensified over the last few decades. Outsourcing fashion production to the global south has enabled the reduction of production costs; however, this has also incurred allegations of exploiting garment workers involved in production and neglecting environmental stewardship (Ritch 2023). Additionally, globalised markets have been accused of diluting cultural contexts. Much like the term 'McDonaldisation' infers, the infusion of the McDonalds fast-food brand on global food habits replaces local delicacies and refines tastes. The experience is similar throughout the world, the service, the interior of the

restaurant, and the basis of the menu is replicated in all countries. Similarly, Western fashion styles are replacing cultural expectations of dress, which in turn displaces local makers and producers. This is evident in African markets, where unwanted UK fashion is sent after being donated to charity shops and sold in second hand markets, creating a demand for Western clothing (Ritch 2023). Consequently, globalisation standardises goods rather than celebrating the uniqueness of culture.

Ritzer (2003) simplifies culture and standardisation into two approaches: *Something* versus *Nothing*. Something has a uniqueness; it is culturally dependent and emerges from heritage and craftsmanship, which cannot be replicated or standardised, and is an experience of something that is dependent on place and space. Nothing, however, is void of distinctive features and can be accessed anywhere. The place of production or the experience does not reveal where in the world it is located. There are many benefits to standardisation, such as lowering production costs through efficiency, and expanding market opportunity to increase market share. Nothing is easier to control and mitigates risk aversion for consumers during decision making. When ordering McDonalds food, consumers generally know what to expect in terms of service and taste. This can be seen in fashion: something emerges from the design trajectory, there is a story made meaningful with symbolism, craftsmanship, and innovation. Looking back to our example of Miyake: value is constructed through a distinctive style, crafted through design, innovation and atelier skills, located in place and space: Japan, and built on heritage. Nothing represents fast-fashion, the same styles available on global platforms that have no distinctive features relating to where and who made the garments, and are fashionable only fleetingly, easily replaced and forgotten. The quadrant below displays Ritzer's theory of globalisation and examples follow below.

In developing this theoretical framework for understanding value creation through the lens of globalisation, Ritzer (2003) argues that neither the grobalisation of nothing nor the grocalisation of something cause the other to exist. These are contrasting concepts that cannot compete on the same terms. Each have unique tenants of value and can be appreciated independently: consumers may deviate their consumption between the two. For example, while enjoying McDonalds food, the same consumer may also enjoy authentic local street food. It does not need to be one or the other consistently. However, although the local continues to exist, little of the local is untouched by globalisation (Ritzer 2003) as brands enter into international markets and increase levels of competition and influence consumer expectations. Ritzer acknowledges this by stating that "*Groblaisation creates a favourable ground for the development and spread of nothing*", and gives examples that as outsourcing

production reduces costs, standardised and reproduced goods are attractive ways in which to increase profits. For example, city centres tourist shops around the world sell famous miniature landmark mementoes, such as mini Eifel towers in Paris or mini Brandenburg Gate's in Berlin. While bespoke to the city, many will be made in China and produced in high volume; therefore, they are not unique and do not capture the heritage of the locality. However, Ritzer cavoites this with "*Grocalisation creates a favourable ground for the development and spread of something*", where it is acknowledged that consumers will continue to be charmed by locally produced good and experiences. In Paris, this may include a painting by a street artist selling their work by the River Seine, and in Berlin this may include goods sold in the numerous bespoke craft stores within the city (Fig. 13.2).

To better understand the quadrant, Ritzer (2003) presents examples in a framework of: place; person; thing (something/nothing); service. This will now be contextualised with a Scottish lens, where something is supported by Scottish fashion brand Pricky Thistle and nothing is exemplified by tourist shops that dominate the Royal Mile in Edinburgh. The Royal Mile is of historic significance, the street and buildings are centuries old, and this well
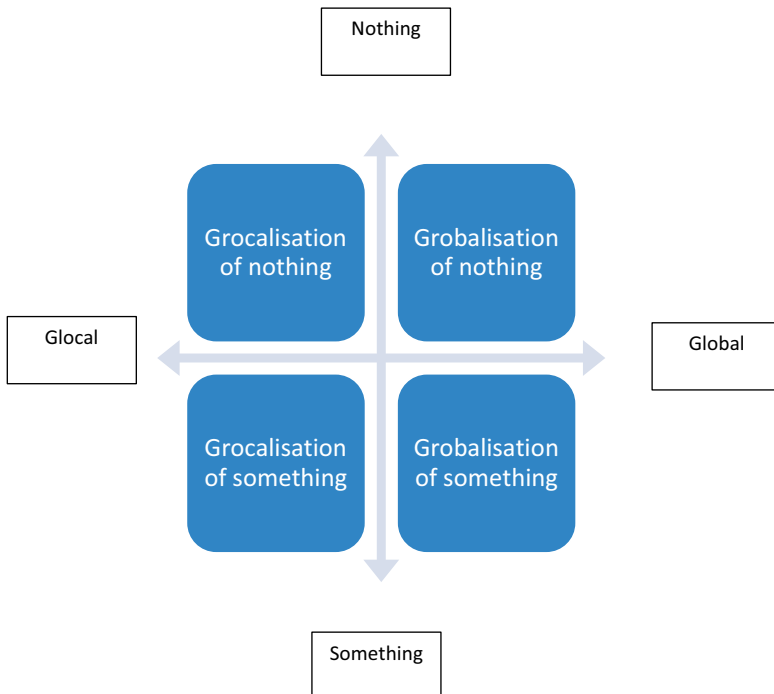
Fig. 13.2 Ritzer's quadrant of globalisation

Fig. 13.3 Scottish tourist shop. (Source "cheap at half the price" by arripay is licensed under CC BY-SA 2.0. To view a copy of this license, visit https://creativecommons.org/licenses/by-sa/2.0/?ref=openverse)

established and famous street attracts tourists from around the world. The Royal Mile got its name as the street that connects Edinburgh Castle to the Palace of Holywood—although as a disclaimer, it is not actually a mile long! However, it does represent 'something', but much of what can be experienced and purchased is representative of 'nothing', as exemplified below (Fig. 13.3):

13.4 Scottish Context: The Application of Something Versus Nothing

Prickly Thistle are an ethical fashion brand based in the highlands of Scotland. The brand is based on four pillars of purpose: keeping things real; inclusive creativity; activism and action; and sustainable integrity. The brand embodies culture and creativity by imbuing the values of artisan craftmanship which acknowledges the heritage of the Scottish tartan. They do not dilute the heritage of the tartan, rather celebrate through creativity something unique whist showcasing the artisan skills to create the products. In contrast, tourist ware replicating 'Fashion of Scotland' is commercially mass production on what is considered to be the tartan heritage. This is focused on consumers whose purpose is a reminder of Scottishness; however, the culture of tartan is diluted to present the stereotype representation of tartan (Fig. 13.4).

We are the solution!

What you see is literally what you get, no pretending. From every image we share being someone in our team to all our `Giving A Sh#t About` transparency pages in our footer.

X We make bad-ass build your own clothes with **100% wool** fibre fabric that we weave at our mill in Scotland.

X We are Scotlands' `FIRST` and `ONLY B Corp` Certified textiles mill and clothing manufacturer.

X We have **four pillars of purpose** that guide us, but also make us accountable to everyone.

Our Four Pillars of Purpose
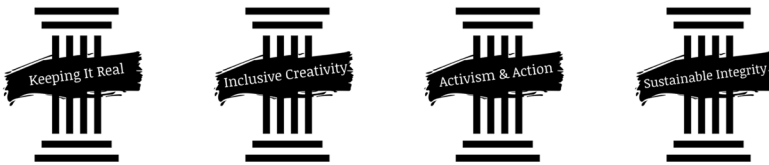
Fig. 13.4   Prickly Thistle: outline of purpose that creates something

13.1.1 In Terms of Place

Pricky Thistle do not only sell bespoke textiles, with unique tartan designs produced in limited quantity to ensure uniqueness, they also offer tours of the mill to tell the story of tartan and demonstrate the artisan craftsmanship. This contributes to a unique experience than cannot be replicated. In contrast, the 'tourist tat' sold on the Royal Mile may have been purchased from a historical street, but the goods sold are not unique to the store, and are mass produced overseas. These goods capture an essence of Scotland but are not of Scottish origin. That said, Prickly Thistle and other Scottish creatives also have premises on the Royal Mile (Fig. 13.5).

13.1.2 In Terms of People and Service

Pricky Thistle invest in their employees, pay a living wage, and are B Corp certified. The models used in their marketing are the same employees who work in the mill and employees are invested in the success of the brand. All of this information can be found on Pricky Thistle's website, offering transparency into the brand operations. No information on the employees was found on the websites of the Scottish tourist shops (Fig. 13.6).

Fig. 13.5 Mill worker operating the loom and wearing a Prickly Thistle top

Fig. 13.6 Prickly Thistle employees modelling the designs in a marketing campaign

13.1.3 In Terms of Thing (Commodities or Experience)

Pricky Thistle run limited batches of cloth, which they refer to as the *"Shop The 4 X A Year Collection"* consisting of *"4 Colours, 4 Clothing Types, 4 Times a Year"*. This means that there is exclusivity in production and consumption and buyers can be assured that their garments are somewhat unique, and this creates novelty value. Coupled with the experience of seeing the cloth made in the mill, from threads on looms, all contributes to the experience. In contract, tartan tat is mass produced and can be purchased in tourist shops all over Scotland (Fig. 13.7).

Shop The 4 X A Year Collection

4 Colours, 4 Clothing Types, 4 Times a Year

Plan your purchases, say "see-ya "to impulse spends and adopt the Cost Per Wear approach. We guarantee you will save money in the long run, and feel amazing at the same time!

Step 1 - 4 times a year we unlock our 14 day pre-order door

Step 2 - We make your clothing to order, to your size, no waste

Step 3 - We ship your made to measure clothing direct from our mill to you

Step 4 - We repair the fabric of the planet together, while you look and feel incredibly bad-ass!

4 X A Year Club

4 X A Year Collection

4 X A Year Collection Films

Fig. 13.7 The Prickly Thistle approach to reducing mass production with unique garments

13.5 Concluding Comments

In recognising that something versus nothing will continue to exist simultaneously, it much also be acknowledged that something is more sustainable in origin and has a sustainable future, in that it can last beyond one owner and contribute to the sharing and circular economy. Marketing something focuses on creating unique value tenants of design, material, construction, artisan skills, and aesthetic that celebrates creativity and innovation rather than cutting corners. Marketing will be created to evoke emotions, as exemplified by Prickly Thistle: "*There was a womxn who gave a sh#t, she now lives happily ever after…. That womxn is YOU!*". Consumption is encouraged by a sense of involvement located in place, reflecting heritage and survival and limited production creates value through rarity. Whereas nothing is mass produced with a limited lifespan and heavily marketed to stimulate consumption. However, while these are opposing paradigms and not in competition, future consumers may become more discerning about the provenance of their consumption and lean more into the stories woven around something (Fig. 13.8).

100%

You will feel confident and conscious in our clothes.....

Whatever we wear says everything about us. Who wants to say they support modern slavery, environmental destruction and corporate exploitation? We are with you on this, it's a big natural no from us too!

"There was a womxn who gave a sh#t, she now lives happily ever after...."

That womxn is YOU!

Fig. 13.8 Capturing the essence of Prickly Thistle

References

Bala, D. (2020). Everything You Need To Know About The Inner Workings Of Haute Couture. https://www.vogue.co.uk/fashion/article/behind-the-scenes-at-haute-couture [Accessed 14 August 2022]

Horwell, V. (2022). Issey Miyake obituary. The Guardian. https://www.theguardian.com/fashion/2022/aug/11/issey-miyake-obituary [Accessed 14 August 2022]

Ritch, E.L. (2023). Sustainable fashion marketing and value creation: moving beyond the cannibalisation of fashion. In (Eds) Ritch, Elaine L., McColl, J & Canning, C., *Pioneering New Perspectives in the Fashion Industry*: *Disruption, Diversity and Sustainable Innovation.* Emerald Publishing.

Ritzer, G. (2003). "Rethinking Globalization: Glocalization/Grobalization and Something/Nothing". *Sociological Theory*, Vol. 21 No. 3 (Sep., 2003) pp. 193–209.

United Nations. (2020). ReFashion Week NYC Promotes Sustainability by Celebrating Secondhand and Sustainable Fashion. Retrieved from: https://www.un.org/en/academic-impact/refashion-week-nyc-promotes-sustainability-celebrating-secondhand-and-sustainable

14

Breaking Barriers with Disability Inclusion: Brand Activism as a Catalyst for Social Sustainability in Fashion

Zoe Lee, Sharifah Faridah Syed Alwi, and Rossella Gambetti

14.1 Introduction

The world of fashion is a powerful force in shaping cultural norms, driving trends, and moulding consumer behaviours. In recent times, the concept of brand activism within the fashion sector has gained prominence, offering a platform to champion inclusivity and diversity issues (Park et al. 2022; Moorman 2020). One key aspect of this movement is the pursuit of social sustainability that fosters a culture that is inclusive, equitable, and respects the dignity of all individuals (McCormick and Ram 2022). The UN (2023) indicates that such social sustainability efforts aim to address issues related to social equality and justice irrespective of their background, abilities, or identities. One of the key manifestations of social sustainability efforts of activist fashion brands today is represented by portraying disability in advertising

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(Foster and Pettinicchio 2022; Shelton and Waddell 2021; Södergren et al. 2022). There are several examples of fashion brands involved in promoting social sustainability via featuring disabled models. For example, Victoria Secret signed up Sofía Jirau as the first model with Down's syndrome as part of their commitment to promote ableism (Stevens 2022). Additionally, British Vogue launched a historic first for the magazines, a new edition highlighting disability justice, accessibility, equity, intersectionality, and pride (Bugel 2023). The May 2023 edition is available in a Braille and audio version, making the magazine more accessible to many.

Brand activism is an emerging concept that operates at the intersection of culture, purpose, and society. It recognises that brands play a pivotal role as influential cultural entities with a responsibility to address and contribute to resolving pressing societal and political issues (Gambetti and Biraghi 2023; Lee et al. 2023; Moorman 2020; Mukherjee and Althuizen 2020). Sarkar (2018) defined brand activism as the act of publicly taking a stand on divisive social or political issues by a brand. In fashion, a central focus of this brand activism is to increase the representation of marginalised groups and to provide equal opportunities for all. The aim is to normalize the diversity of these groups in the socio-cultural milieu where they are embedded without diminishing their unique characteristics, but rather valorising them. Among these groups, individuals with disabilities have often found themselves excluded from the mainstream media and communications. Recent research conducted by Lloyds Bank discovered that a mere 0.06% of advertisements in the United Kingdom showcased individuals with disabilities, even though this group accounts for 20% of the country's population (Alexiou 2021). Consequently, there exists a significant opportunity for fashion brands to actively participate in and champion diversity and inclusion within their brand campaigns.

However, achieving authentic disability inclusion is challenging. Fashion brands find themselves in the delicate position of advocating for diversity and inclusivity without isolating other segments of their audience. Furthermore, the fashion industry continues to uphold traditional beauty standards that prioritise thin, white, and flawless-looking models (Joo and Wu 2021). While there has been a growing body of research addressing various aspects of diversity, such as women's empowerment (Michaelidou et al. 2022; Shoenberger et al. 2020) and LGBTQAI+ representation (Li 2022), there remains a notable gap in research focusing on genuine disability inclusion. An exception to this gap is the work of Qayyum et al. (2023), which illustrated how including people with disabilities can positively impact consumers' well-being. Foster and Pettinicchio (2022) contend that the utilisation of disabled individuals in advertising is extremely infrequent and often concealed, despite the

significant economic potential they offer. When they do appear in advertisements, they are frequently perceived with sympathy or paired with the problematic notion of 'inspiration porn', as highlighted by Grue (2016), which starkly contrasts with the aspirational image typically associated with the fashion industry.

Therefore, this chapter will critically illustrate through a number of short case studies, effective strategies for fashion marketers that have successfully embraced genuine disability inclusion. It will investigate the synergy between brand activism and authentic disability inclusion within the fashion sector, highlighting its potential to promote social sustainability by breaking down the barriers that have marginalised individuals with disabilities in the fashion landscape and normalizing an inclusivity culture.

14.2 The Role of Brand Activism in Fashion

14.2.1 The Impact of Brand Activism on Inclusivity and Diversity

At first glance, fashion and activism might seem like two unrelated spheres, but they have been intertwined throughout history. Activism in the fashion industry can be traced back to movements such as the Women's Liberation movement in the 1960s and 1970s (Hillman 2013). This movement paved the way for challenging stereotypes, especially women's rights and gender equality in fashion and beyond. Specifically, it empowered women to shape their own identities through clothing, sparking a transformative shift towards greater autonomy and self-expression. Today, such a movement is enhanced with the involvement of various fashion brands, fostering a climate of inclusivity and diversity that continues to evolve fashion into a platform for social change.

In addition to publicly taking stand on divisive social or political issues, brands are not just social actors but also 'moral subjects' as articulated by Sibai et al. (2021). This moral subjectivity grants brands cultural authority, enabling them to initiate a variety of transformations across social, moral, legal, business, economic, political, and environmental spheres, both through communication and concrete actions. The overarching objective of these endeavours is the enhancement of society, as emphasised by Vredenburg et al. (2020).

As a result, fashion brands have been compelled to include models of different racial and ethnic backgrounds, body sizes, and gender identities in their

advertising and runway shows. This not only serves the cause of social justice but also reflects the shifting attitudes of consumers who value brands that align with their values (McKinsey 2022). However, despite increasing evidence of brand activism, consumers are increasingly polarised in their political views. This presents a challenge to fashion brands because taking a stance on divisive issues risks alienating customers. For example, in Nike's support of Black Lives Matter, while some applauded the brand's decision to support a political activist (racial issue), others shared videos of themselves burning their Nike apparel. Hence, the results are mixed.

14.2.2   Brief Examples of Activist Movements: Femvertising and Body Positivity

Studies investigating advertising representation within the fashion industry have primarily focused on key social aspects such as gender, age, body size, race, ethnicity, social class, social status, religion, and cultural identity (Arsel et al. 2022; Timke 2019). For instance, significant attention has been given to 'femvertising,' a movement aimed at challenging the traditional female advertising stereotype, notably featuring thin models primarily of White Caucasian ethnicity, as explored by Sobande (2019) and Watson et al. (2015). Several fashion brands have seized these opportunities to signal their commitment to women's empowerment. For example, in Chanel's Spring 2015 collection, the late Karl Lagerfeld envisioned a political protest with signs that read 'Ladies First' and 'History is Her Story'. In a recent autumn/winter 2019 show, Dior presented three additional designs based on 'Sisterhood is global,' 'Sisterhood is powerful,' and 'Sisterhood is forever'. In terms of other facets of diversity, McFarlane and Samsioe (2020) found evidence countering negative stereotypes related to age.

While these studies have generated essential insights regarding inclusivity, it is worth noting that the representation of disability remains relatively uncommon in the fashion industry, as highlighted by Foster & Pettinicchio (2022). In an industry that often fixates on conventional standards of attractiveness and tends to marginalise those who don't conform (Scaraboto and Fischer 2012), portrayals of individuals with disabilities in advertising are frequently excessively idealised and formulated with a simplistic aim of eliciting favourable responses from consumers. This raises the question of what distinguishes the representation of people with disabilities from the existing facets of diversity in the realm of fashion.

14.3 The Challenges of Authentic Disability Inclusion in Fashion

14.3.1 Existing Barriers and Stereotypes

While brand activism has brought about positive changes in the fashion industry, it has often overlooked one marginalized group: people with disabilities. Disability, as defined by the Americans with Disabilities Act (ADA 1990), refers to a physical, hearing, visual, or mental impairment that significantly restricts their ability to engage in typical daily activities. Individuals with disabilities face a host of barriers and stereotypes within the fashion world (Barry 2019; de Perthuis and Findlay 2019). Traditional beauty ideals in fashion, which prioritize able-bodied models, contribute to the exclusion of people with disabilities. These entrenched biases make it difficult for disabled individuals to find representation in the fashion industry.

A central debate in the discourse on the representation of disabled models in the United Kingdom and the United States revolves around whether advertisers are shifting away from charity-driven narratives that evoke pity, aiming instead to foster acceptance and empowerment of disabled individuals (Haller and Ralph 2001; Houston 2022). Historically, disabled people have been largely overlooked as a potential consumer group, typically only appearing in charity campaigns designed to elicit sympathy. This has contributed to the relative invisibility of disability in the public eye (Houston 2022). Part of this obscurity can be attributed to the fear of portraying disability in an inaccurate or exploitative manner (Timke 2019). In the fashion industry, models with disabilities have often been excluded from mainstream advertisements due to their bodies not conforming to the prevailing ideals of beauty and aesthetics (Thomas 2001).

14.3.2 Consequences of Tokenism and Inauthentic Inclusion

In some instances, fashion brands have attempted to address the lack of disability representation through tokenism. Tokenism is when individuals with disabilities are included merely for the sake of appearing inclusive, rather than a genuine commitment to diversity. For example, in Victoria's Secret brand campaign, their use of multi-racial models has never provoked a backlash from the public in the same way as its new initiative to use a model with Down Syndrome in its commitment to celebrate all women (Palumbo 2022).

Feng et al. (2019) further state that consumers perceive such marketing efforts aimed at promoting self-empowerment in disability inclusion as manipulative.

Hence, this approach can be counterproductive, as it perpetuates harmful stereotypes and fails to create meaningful change to achieve desirable social sustainability in the industry. Authentic inclusion, on the other hand, requires a deep-seated commitment to making the industry more accessible and welcoming to disabled individuals.

14.3.3 Economic and Social Benefits of Authentic Disability Inclusion

Authentic disability inclusion can offer economic and social benefits to the fashion industry. By embracing inclusion, fashion brands can unlock an underserved market of consumers with disabilities and their supporters. Södergren and Vallström (2022) highlight a broader cultural trend in which advertisers are weaving people with disabilities, including influencers, into their brand narratives. This shift acknowledges the economic potential of the spending power within disabled households, often referred to as the 'Purple Pound'. The term 'Purple Pound' refers to the collective purchasing power of disabled consumers, with families of disabled individuals in the United Kingdom estimated to spend a substantial £274 billion annually. On a global scale, this figure surpasses £16 trillion (de Castro 2023). Consequently, this offers companies fresh prospects to connect with previously untapped markets.

Existing studies (e.g. Burgess et al. 2022; Eisend et al. 2022) suggest that consumers are likely to favour disability inclusion because it signals a brand's altruistic intentions and can evoke positive emotions, including a feeling of connectedness, self-esteem, and internal self-satisfaction. Qayyum et al. (2023) argue that inclusive advertising featuring disability on Instagram in non-luxury contexts can promote hedonic and eudaimonic well-being, as these ads resonate with consumers at a deeper level, tapping into their sense of purpose and value. Other studies reveal that consumers consider models with disabilities as inspirational, attributing them qualities such as superheroes (Foster and Pettinicchio 2022).

The increasing representation of models with disabilities can enhance fashion brands' image by emphasising inclusivity and social responsibility. Additionally, the heightened visibility of successful sports events like the Paralympics has showcased the accomplishments of athletes with disabilities (de Perthuis and Findlay 2019). Furthermore, Teen Vogue's 2018 cover featured three models with disabilities, and other prominent fashion brands like

Nike, Tommy Hilfiger, and Aerie have incorporated models with disabilities in their advertising and promotional efforts. This shift has garnered positive responses from consumers, who have expressed identification with these inclusive representations (e.g. 'a model who looks like me'; Rasool 2018). Furthermore, fashion brands have begun to portray people with disabilities as inspirational figures who have overcome their disabilities to achieve their dreams, a phenomenon sometimes termed 'inspiration porn'. An example is Nike's 2018 'Dream Crazy' ad, which features individuals with disabilities among others, overcoming daunting odds to pursue their passions. In a world where consumers are increasingly conscious of ethical and inclusive practices, disability inclusions are not only the right thing to do but also a smart business move.

14.4 Case Studies: Brands Leading the Way

14.4.1 Case Insights I: The Rise of Disabled Influencer in Fashion: A Case of Gucci

We are currently witnessing an increase in the representation of models with physical disabilities across various industries, such as fashion, jewellery/cosmetics, automobiles, and pharmaceuticals (Low 2020; Nielson 2021). In recent times, major corporations and renowned designer brands like Prada and Burberry have formed a joint consortium known as 'The Valuable 500 community'. This global effort aims to promote inclusivity and disability awareness, particularly within the realm of fashion brands (The Valuable 500 2023). An increase in inclusive advertising (or ads) can refer to 'an increase in representation in advertising across the category spectrum, and when brands from a broader range of industries are more inclusive of disabilities in their creative, they help balance the narrative and normalise living with a disability' (Nielson 2021).

Ellie Goldstein, an Instagram celebrity, serves as a compelling example of the changing landscape in the fashion and cosmetics industries. Despite being born with Down syndrome, Ellie states that she always wanted to become famous and would not consider her disability would hamper her from becoming one. Ellie's unwavering determination to promote positivity and send a powerful message about the importance of inclusivity led to her being selected as a model for Gucci at the age of 18 (Mazzone 2020). Her influence extends beyond Gucci, as she has appeared in numerous other advertising campaigns

and graced the covers of prestigious magazines, including Vogue (Mazzone 2020).

Nonetheless, the portray of models with physical disabilities in advertising is still a relatively new phenomenon. It may be premature to assess how consumers will respond to such brands, including their purchase intentions, and the overall effectiveness of inclusive campaigns. Haller and Ralph (2001) and Low (2020) explain that disabled representation in marketing and advertising has room for growth. Brands should avoid limiting their perception of this consumer group solely based on their disposable income. Modern consumers are increasingly inclined to support brands that embrace socially responsible initiatives and campaigns for the greater good. Crawl (2019) elaborates on the use of disabled models, noting that it aims to encourage a shift in perception and evaluation among consumers who have a vested interest in societal improvement, particularly concerning the quality of life for disabled individuals. Such inclusive marketing campaigns help advance the well-being of disabled models themselves, as well as their living and working conditions, and the overall entertainment experiences of the people they care about.

Furthermore, Cosgrave and O'Dwyer (2020) contend that society is undergoing transformative changes. However, de Perthuis and Findlay (2019) highlight the persisting discomfort and stigma surrounding people with disabilities that still exists in society at large. Nevertheless, it remains crucial for companies to exhibit authenticity, as this can contribute to enduring support from various stakeholder groups, including NGOs, government entities, customers, and employees. Additionally, Seo and Buchanan-Oliver (2015) discuss the current trends in the luxury fashion industry, characterized as the 'democratisation of luxury'. This trend aims to make luxury goods less distinct, exclusive, and self-differentiated, making them more accessible to a broader audience.

Case Questions

(1) Does the inclusion of disabled individuals enhance the 'authenticity' and 'exclusivity' of luxury brands?
(2) Is this a passing trend, or is it a permanent shift in the industry?
(3) Is society prepared to embrace these changes?
(4) To what extent does the authenticity and ethicality of companies featuring disabled individuals in their advertising campaigns impact their effectiveness?

14.4.2   Case Insight II: Equality, Diversity, and Inclusive (EDI): Nike

The industrial revolution around the 1880s led to a significant migration of less affluent individuals to urban areas. During this period, disabled individuals often struggled to secure better employment opportunities, prompting Christian charities to seek donations from the public. To evoke empathy and support, these charities began using images of disabled individuals in their advertising campaigns, marking the initial introduction of such imagery in advertising, closely associated with Victorian philanthropists (Haller and Ralph 2001). It wasn't until the late 1980s that disabled models started to gain recognition in commercial fashion imagery with a focus on inclusivity. This new wave of inclusive photographs included models from diverse racial and ethnic backgrounds, various cultures, plus-size individuals, people with disabilities, non-binary models, and the elderly, reflecting the evolving societal acceptance (de Perthuis and Findlay 2019). Recognising these images, TV shows later incorporated disabled people in broadcasting. For example, beginning in 2008, there was a notable increase in the visibility of disabled individuals on UK television, as demonstrated by reality TV shows like 'Britain's Missing Top Model', which featured disabled participants (Wilde 2018).

In the realm of advertising, Nike stands out as a noteworthy example of a brand that has embraced inclusivity. Nike has a long track record of taking a stand on various social-political issues from race and racism (Graham 2020) to addressing religious identity, as exemplified by their production of sportswear for women who wear hijabs allowing them to participate in sports such as running, swimming, and boxing (Stanglin 2023). Nike has also shown support for individuals like personal trainer Jack Eyers, who wears a prosthetic leg after having his leg amputated at 16 years old due to a medical condition, further exemplifying their dedication to inclusivity and social responsibility.

In a statement about the ad, Nike states that 'Nike has a long history of standing against bigotry, hatred and inequality in all forms', and 'We hope that by sharing this film we can serve as a catalyst to inspire action against a deep issue in our society and encourage people to help shape a better future' (Graham 2020). Their aim, in this case, is to 'educate' rather than 'promote', seeking to influence how society perceives matters related to Equality, Diversity, and Inclusion (EDI). The ultimate goal is to facilitate the success of disabled models while fostering greater inclusivity and acceptance toward them.

This approach aligns with the values of younger generations, such as Millennials as reported by the US General Social Survey, who are more

inclined to celebrate and value diversity and inclusion, including the representation of disabled individuals in the media (Low 2020). An illustrative example is Jack Eyers, a model who wears a prosthetic leg due to a medical condition that led to his leg amputation at the age of 16. In 2015, he made history by becoming the first male disabled model to walk the runway at New York Fashion Week. He has also graced the catwalk at London Fashion Week and was crowned Mr. England in 2017, a remarkable achievement that made him the first amputee to earn that title (The Photo Studio 2023).

The prosthetic leg in Jack Eyers' case serves as a symbolic visual image, representing attributes like 'coolness' and 'determination', aligning with Nike's iconic brand slogan, 'Just Do It'. This visual representation has the potential to reshape how society perceives individuals with disabilities, challenging existing perceptions and reducing stigmas. In doing so, it can evoke positive feelings and perceptions that, in turn, can contribute to achieving businesses' objectives. However, it's worth noting that, as of now, the effects on brands and their responses to such initiatives are still relatively new and not yet fully understood, as highlighted by researchers and organizations like The Valuable 500 (2023).

Case Questions

(1) Has Nike's strategy been effective?
(2) How do stakeholders perceive Nike's corporate brand image?
(3) Is consumers' loyalty to Nike primarily influenced by the brand's stances or its products?
(4) Is acceptance of Equality, Diversity, and Inclusion (EDI) a factor that varies across different generations? Discuss.

14.5   Discussion

This chapter sets out to understand how brand activism can act as a catalyst for achieving social sustainability in fashion. Consumers demand and want to support diverse and inclusive fashion brands, as this connects with their well-being and a sense of empowerment (Licsandru and Cui 2018). However, at the brand level, it is much more complex because not all groups are equally represented in a meaningful way (Foster and Pettinicchio 2022). Here, the chapter delves into three key strategies that fashion brands can employ to promote social sustainability via inclusivity in fashion: Education and

training, collaborating with disability organizations, and action-driven efforts that embrace the concept of fashion design for all.

First, promoting diversity and inclusion through brand campaigns is sensitive, requiring marketers to support minority groups without alienating others (Oakenfull et al. 2008) and avoiding to elicit consumer reactions of sympathy and pity (Houston 2022). The mere representation of a diverse model is not sufficient; it is how diversity is portrayed and in which context it is embedded that matter. In this case, fashion brands need to consider investing in educating and training their teams on cultural competence and sensitivity. This is important to be able to fine-tune with people who may have different mind-sets and emotional worlds and who may be offended or hurt when being seen and publicly represented through the eyes of people who ignore the cultural and emotional complexity of their specific condition. For example, employees should be educated about the significance of cultural symbols and practices so they do not unintentionally appropriate or misrepresent them. Training can also help team members become more aware of unconscious biases and provide them with the tools to create content that reflects diverse backgrounds and perspectives of their audience. Hence, understanding the lived experiences, challenges, and aspirations of individuals with disabilities is vital in ensuring that the representations in fashion are authentic, respectful, and empowering.

Second, fashion brands have the opportunity to amplify their inclusivity messages by collaborating with nonprofit disability organizations. Prior research has pointed out the prevalent lack of authenticity and commitment to diversity and inclusion within the industry (Mirzaei et al. 2022). Thus, engaging in a partnership with nonprofit organizations and adopting a more assertive and brave messaging can significantly enhance the effectiveness of their campaigns (Lee et al. 2023). Additionally, these cross-sector partnerships offer a range of advantages. They not only expand the reach of the campaign to a wider audience but also raise much-needed awareness about the quality of life for disabled individuals. Establishing a long-term collaboration that aligns with the brand's core values can foster stronger trust and even lead to a shift in perspective among those who may have been indifferent to diversity and inclusivity issues (Wilkie et al. 2023).

In addition to revolutionising communication within the fashion industry, brands are pioneering a remarkable shift by introducing adaptive clothing lines, aiming to democratise fashion and make it more accessible to all. The significance of inclusive design has become increasingly evident, especially given the growing global population of individuals with disabilities. The adaptive fashion is projected to be worth around $400 billion by 2026 (Alexiou

2022). This presents a golden opportunity for brands to not only maximise their profitability but also to profoundly impact people's lives.

Going the extra mile in delivering inclusive products on a grand scale can be a powerful means of enhancing brand credibility, rooted in the authenticity of their commitment to inclusivity. It's worth noting, however, that the path to successful inclusive design must involve working with disabled individuals rather than merely for them. This collaboration ensures that the design approach aligns seamlessly with the diverse needs and preferences of the community in question, resulting in products that truly resonate with their intended audience. Furthermore, this collaborative approach between brands and disabled individuals also opens up doors for what we might call 'inclusivepreneurs'. These are entrepreneurial visionaries from underserved communities who emerge as champions of innovation.

An important example of 'inclusivepreneurs' are disability influencers and creators. Lauren 'Lolo' Spencer, for instance, was a lively girl that loved running, street hockey and dancing. But when she turned 14, she started feeling fatigued and became concerned after noticing that her muscles had begun to weaken. Doctors diagnosed her with amyotrophic lateral sclerosis, also known as ALS. Having used a wheelchair for 12 years, Spencer knows all the everyday hardships that come with a disability. Initially, she had trouble finding answers or help online. So she turned to social media and began sharing her own personal experience (Bergeron 2019). Through her Instagram account, @itslolo-love, and her YouTube channel, Sitting Pretty, she gives insight, advice and support to the disabled community, and she has become an inclusivepreneur with many brand collaborations that actively sustain her business project, giving voice to disability and spreading inspirational stories. By engaging in a collaborative dialogue with these visionary entrepreneurs, brands not only foster an atmosphere of inclusivity but also help cultivate opportunities for these burgeoning entrepreneurs to thrive in the industry (Hallensleben 2022).

14.5.1   Conclusion

In conclusion, the fashion industry has a pivotal role in shaping not just aesthetic appearances but also the values that underpin our society. As this chapter explores, one of the most pressing issues in the modern fashion landscape is the quest for authentic brand activism and social sustainability, which entails inclusivity, equity, and respect for all individuals. In the context of disability representation, what will the 'inclusion revolution' look like, and will individuals with disabilities continue to be a part of it?

The fashion world is no stranger to rapid change and innovation, and the 'inclusion revolution' presents a unique opportunity for positive transformation for fashion brands. Vogue's recent and historic move to 'Reframing Fashion' is a great step in the right direction in the industry (Mowbray 2023). It's a chance to build a fashion industry that reflects and celebrates the diversity of our society, where disabled people need to be seen and represented. It is no longer sufficient to be treated as a tick-boxing exercise, and it is important to recognise that inclusive marketing can do both what's good for society and what's good for business (Ferraro et al. 2023). However, it's not only industry leaders who should bear the responsibility of ushering in this era of inclusivity; consumers, too, play a pivotal role. They must continue demanding that fashion brands engage meaningfully with their efforts towards diversity and inclusion. To ensure lasting change, these demands should extend beyond merely focusing on casting calls and runway models. They should encompass corporate boardrooms, and the branding and multi-channel teams – those who ultimately influence what consumers are exposed to and choose to buy.

References

Alexiou, G. (2021). Advertising industry must overcome its anxiety around disability representation.

Americans with Disabilities Act of 1990. (1990). Public Law 101-336. Retrieved from: Forbes.com/sites/gusalexiou/2021/07/26/advertising-industry-must-overcome-its-anxiety-around-disability-representation/?sh=7108f1817c32 [Accessed 17th October 2023].

Alexiou, G. (2022). Why Top Brands Should Rethink Adaptive Fashion And Take It Seriously. Retrieved from: https://www.forbes.com/sites/gusalexiou/2022/11/18/why-top-brands-should-rethink-adaptive-fashion-and-take-it-seriously/?sh=19f940c06df7 [Accessed 18th October 2023].

Americans with Disabilities Act of 1990, ADA (1990). Public Law 101–336.

Arsel, Z., Crockett, D. & Scott, M. L. (2022). Diversity, equity, and inclusion (DEI) in the Journal of Consumer Research: A curation and research agenda. *Journal of Consumer Research*, 48(5): 920–933.

Barry, B. (2019). Fabulous masculinities: Refashioning the fat and disabled male body. *Fashion Theory*, 23(2): 275–307.

Bergeron, R. (2019). Diagnosed with ALS at 14, she's now a disability lifestyle influencer. CNN Health, available at: https://edition.cnn.com/2019/05/31/health/turning-points-lauren-lolo-spencer-als-disability-lifestyle-influencer/index.html [Accessed on 26th October 2023].

Bugel. S. (2023). British Vogue releases its first braille edition. Retrieved from: https://www.theguardian.com/fashion/2023/may/12/british-vogue-first-braille-edition-reframing-fashion [Accessed on 5th October 2023].

Burgess, A., Wilkie, D. C. H. & Dolan, R. (2022). Brand approaches to diversity: a typology and research agenda. *European Journal of Marketing*, 57(1): 60–88.

Cosgrave, D. & O'Dwyer, M. (2020). Ethical standards and perceptions of CRM among millennial consumers. *International Marketing Review*, 37(5): 863–884.

Crawl, J. (2019, March 22). How top brands are including disabled representation in their marketing campaigns. Skyword. Retrieved from: https://www.skyword.com/contentstandard/how-top-brands-are-including-disabled-representation-in-their-marketing-campaigns [Accessed 26th October 2023].

De Castro, C. (2023). The purpose pound: What it is and why marketers should care. Retrieved from: https://www.purplegoatagency.com/insights/purple-pound/ [Accessed 10 Oct 2023].

De Perthuis, K. & Findlay, R. (2019). How fashion travels: the fashionable ideal in the age of Instagram. *Fashion Theory*, 23(2): 219–242.

Eisend, M., Muldrow, A. F. & Rosengren, S. (2022). Diversity and inclusion in advertising research. *International Journal of Advertising*, 1–8.

Feng, Y., Chen, H. & He, L. (2019). Consumer responses to femvertising: A data-mining case of dove's "campaign for real beauty" on YouTube. *Journal of Advertising*, 48(3): 292–301.

Ferraro, C., Hemsley, A. & Sands, S. (2023). Embracing diversity, equity, and inclusion (DEI): Considerations and opportunities for brand managers. *Business Horizons*, 66(4): 463–79.

Foster, J. & Pettinicchio, D. (2022). A model who looks like me: Communicating and consuming representations of disability. *Journal of Consumer Culture*, 22(3): 579–597.

Gambetti, R. C., & Biraghi, S. (2023). Branded activism: Navigating the tension between culture and market in social media. *Futures*, 145, 103080.

Graham, M. (2020). Nike releases 'Don't Do It' ad addressing racism in America. Retrieved from: https://www.cnbc.com/2020/05/30/nike-releases-dont-do-it-ad-addressing-racism-in-america.html#:~:text=%22Nike%20has%20a%20long%20history,help%20shape%20a%20better%20future.%22 [Accessed 19th October 2023].

Grue, J. (2016). The problem with inspiration porn: A tentative definition and a provisional critique. *Disability & Society*, 31(6): 838–849.

Haller, B. A. & Ralph, S. (2001). Profitability, diversity, and disability images in advertising in the United States and Great Britain. *Disability Studies Quarterly*, 21(2): 1–16.

Hallensleben, L. (2022). Inclusion's next wave: Vocabulary. Retrieved from: https://www.wundermanthompson.com/insight/inclusions-next-wave-vocabulary [Accessed 18th October 2023].

Hillman, B. L. (2013). The clothes I wear help me to know my own power: The politics of gender presentation in the era of women's liberation. *Frontiers: A Journal of Women Studies*, 34(2): 155-185.

Houston, E. (2022). Polysemic interpretations: Examining how women with visual impairments incorporate, resist, and subvert advertising content. *Journal of Advertising*, 51(2): 240–255.

Joo, B. R. & Wu, J. (2021). The impact of inclusive fashion advertising with plus-size models on female consumers: The mediating role of brand warmth. *Journal of Global Fashion Marketing*, 12(3): 260–273.

Lee, Z., Spry, A., Ekinci, Y. & Vredenburg, J. (2023). From warmth to warrior: Impacts of non-profit brand activism on brand bravery, brand hypocrisy and brand equity. *Journal of Brand Management*, 1–19.

Li, M. (2022). Influence for social good: Exploring the roles of influencer identity and comment section in Instagram-based LGBTQ-centric corporate social responsibility advertising. *International Journal of Advertising*, 41(3), 462–499.

Licsandru, T. C., & Cui, C. C. (2018). Subjective social inclusion: A conceptual critique for socially inclusive marketing. *Journal of Business Research*, 82, 330–339.

Low, J. (2020). Stigma management as celebration: disability, difference, and the marketing of diversity. *Visual Studies*, 35(4): 347–358.

Mazzone, D. (2020). Ellie Goldstein Always Wanted to Be Famous. Now She Is. Allure Magazine. Retrieved from: https://www.allure.com/story/ellie-goldstein-model-cover-interview [Accessed 15th October 2023].

McCormick, H. & Ram, P. (2022). 'Take a Stand': The Importance of Social Sustainability and Its Effect on Generation Z Consumption of Luxury Fashion Brands. In Sustainable Luxury (pp. 219–239). Palgrave Macmillan, Cham.

McFarlane, A. & E. Samsioe. (2020). # 50+ fashion Instagram influencers: cognitive age and aesthetic digital labours. *Journal of Fashion Marketing and Management: An International Journal*. 24 (3): 399–413.

McKinsey Report. (2022). The rise of the inclusive consumer. Retrieved from: https://www.mckinsey.com/industries/retail/our-insights/the-rise-of-the-inclusive-consumer [Accessed 5 Jan. 2023].

Michaelidou, N., Siamagka, N. T., Hatzithomas, L. & Chaput, L. (2022). Femvertising practices on social media: a comparison of luxury and non-luxury brands. *Journal of Product & Brand Management* (ahead-of-print).

Mirzaei, A., Wilkie, D. C. & Siuki, H. (2022). Woke brand activism authenticity or the lack of it. *Journal of Business Research*, 139, 1–12.

Moorman, C. (2020). Commentary: Brand activism in a political world. *Journal of Public Policy & Marketing*, 39(4): 388–392.

Mowbray, N. (2023). A necessary and overdue education: British Vogue dedicates five covers to disabled trailblazers. Retrieved from: https://edition.cnn.com/style/article/british-vogue-disabled-cover-stars-sinead-burke/index.html#:~:text=The%20%E2%80%9CReframing%20Fashion%3A%20

Dynamic%2C,cover%20stars%20for%20May%202023.   [Accessed   20 September 2023].

Mukherjee, S., & Althuizen, N. (2020). Brand activism: Does courting controversy help or hurt a brand? *International Journal of Research in Marketing*, 37(4): 772–788.

Nielson Ad Intel. (2021, August 19). Visibility of disability: Portrayals of disability in advertising. Retrieved from: https://www.nielsen.com/us/en/insights/article/2021/visibility-of-disability-portrayals-of-disability-in-advertising/ [Accessed 25th October 2023].

Oakenfull, G. K., McCarthy, M. S., & Greenlee, T. B. (2008). Targeting a minority without alienating the majority: Advertising to gays and lesbians in mainstream media. *Journal of Advertising Research*, 48(2): 191–198.

Palumbo, J. (2022). Victoria's Secret campaign features first model with Down syndrome. Retrieved from: https://edition.cnn.com/style/article/victorias-secret-sofia-jirau-love-cloud-campaign/index.html [accessed 17th October 2023].

Park, Y. W., Voss, G. B. & Voss, Z. G. (2022). Advancing customer diversity, equity, and inclusion: Measurement, stakeholder influence, and the role of marketing. *Journal of the Academy of Marketing Science*, 1–24.

Qayyum, A., Jamil, R. A., Shah, A. M., & Lee, K. (2023). Inclusive advertising featuring disability on instagram: Effect on consumer well-being, brand engagement, and purchase intention. *Journal of Retailing and Consumer Services*, 75, 103515.

Rasool, A. (2018). Aerie is featuring models with disabilities and illnesses. Retrieved from: https://www.teenvogue.com/story/aerie-models-disabilities-illnesses [Accessed 5 Jan. 2023].

Sarkar, C. (2018). The Case for Brand Activism—A Discussion with Philip Kotler and Christian Sarkar, *The Marketing Journal* (November 15), Available at https://www.marketingjournal.org/the-case-for-brand-activism-a-discussion-with-philipkotler-and-christian-sarkar/

Scaraboto, D. & Fischer, E. (2012). Frustrated fatshionistas: an institutional theory perspective on consumer quests for greater choice in mainstream markets. *Journal of Consumer Research*, 39(6): 1234–1257.

Seo, Y. & Buchanan-Oliver, M. (2015). Luxury branding: the industry, trends, and future conceptualisations. *Asia Pacific Journal of Marketing and Logistics*, 27(1): 82–98.

Shelton, S. S., & Waddell, T. F. (2021). Does 'inspiration porn'inspire? How disability and challenge impact attitudinal evaluations of advertising. *Journal of Current Issues & Research in Advertising*, 42(3), 258–276.

Shoenberger, H., Kim, E. A. & Johnson, E. K. (2020). # BeingReal about Instagram ad models: The effects of perceived authenticity: How image modification of female body size alters advertising attitude and buying intention. *Journal of Advertising Research*, 60(2): 197–207.

Sibai, O., Mimoun, L., & Boukis, A. (2021). Authenticating brand activism: Negotiating the boundaries of free speech to make a change. *Psychology & Marketing*, 38(10): 1651–1669.

Sobande, F. (2019). Woke-washing: 'intersectional' femvertising and branding 'woke' bravery. *European Journal of Marketing*, 54(11): 2723–2745.

Södergren, J., Hietanen, J., & Vallström, N. (2022). Tales from the crypt: A psycho-analytic approach to disability representation in advertising. *Journal of Consumer Culture*, 23(4): 747–768.

Södergren, J. & Vallström, N. (2022). Disability in influencer marketing: a complex model of disability representation. *Journal of Marketing Management*, 39 (11–12): 1012–1042.

Stanglin, D. (2023). Nike begins selling sports hijab for Muslim female athletes. USA TODAY Retrieved from: https://eu.usatoday.com/story/news/world/2017/12/20/nike-begins-selling-sports-hijab-muslim-female-athletes/970226001/ [Accessed 25th October 2023].

Stevens, H. S. (2022). Stop desexualising disabled people like the Victoria's Secret model with Down's syndrome. Retrieved from: https://www.independent.co.uk/voices/sofia-jirau-victorias-secret-downs-synrome-b2024418.html [Accessed 10th October 2023].

The Photo Studio (2023). 20 disabled models and how they got their starts. Retrieved from: https://thephotostudio.com.au/all/modelling/20-disabled-models-and-how-they-got-their-starts [Accessed 17th October 2023].

The Valuable 500 (2023). End Disability Exclusion. Retrieved from: Available: https://www.thevaluable500.com/about [Accessed 23rd October 2023].

Thomas, L. (2001). Disability is not so beautiful: a semiotic analysis of advertisements for rehabilitation goods. *Disability Studies Quarterly*, 21(2): 1–14.

Timke, E. (2019). Disability and advertising. *Advertising & Society Quarterly*, 20, 3.

UN. (2023). Social Sustainability Global Impact. Retrieved from: https://unglobal-compact.org/what-is-gc/our-work/social#:~:text=Our%20work%20on%20social%20sustainability,to%20business%20impacts%20on%20poverty. [Accessed 10th October].

Vredenburg, J., Kapitan, S., Spry, A. & Kemper, J. A. (2020). Brands taking a stand: Authentic brand activism or woke washing? *Journal of Public Policy & Marketing*, 39(4): 444–460.

Watson, A., Lecki, N. K. & Lebcir, M. (2015). Does size matter? An exploration of the role of body size on brand image perceptions. *Journal of Product & Brand Management*, 24(3): 252–262.

Wilde, A. (2018). Troubling images? The re-presentation of disabled womanhood: Britain's Missing Top Model. *The Journal of Popular Television*, 6(1): 41-58.

Wilkie, D. C. H, Burgess, A. J., Mirzaei, A. & Dolan, R. M. (2023): Inclusivity in advertising: A typology framework for understanding consumer reactions. *Journal of Advertising*, 52(5): 721–738.

15

The FHNC: A Case Study for the Handbook of Sustainable Fashion

Salamis Aysegul Sentug Tugyan and Christina Dymioti

15.1 What Is the FHNC?

The Fashion Heritage Network Cyprus (FHNC) was founded in July 2021. The FHNC consists of thirty-five volunteers across diverse departments, including fashion design, heritage research, event management, graphic design, and social media management. This group of young Cypriot fashion designers and creatives explores the beauty and uniqueness of Cypriot fashion heritage through zero-waste and sustainable fashion designs and art pieces. Aiming to combine ethics and aesthetics through contemporary and sustainable fashion, the FHNC seeks to stimulate, rediscover, and reinvent elements of Cypriot fashion heritage and communicate these creative shifts sustainably to a wider audience. The FHNC offers the public an opportunity to reflect on their current purchasing habits and rethink the way in which they treat their clothes. This is achieved through various activities, events, and online content. Correspondingly, the team creates educational videos on upcycling, Cyprus' fashion heritage, and the role of sustainability in Cypriot cultural heritage. To engage with a broader audience, the network holds interactive

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workshops regularly. The topics of these workshops include upcycling, mending clothes, and creating natural dyes with sustainable materials from nature (Figs. 15.1 and 15.2).

These types of activities provide audience with practical sustainable solutions to treat their clothes for longevity and overall live a more sustainable lifestyle. The FHNC also participates in related events, such as clothing swaps and thrift shop activities (Fig. 15.3).

Furthermore, the network organises museum visits, participates in panel discussions and conferences, and arranges educational workshops and seminars for its members (Figs. 15.4 and 15.5).

Distinguished by its distinctive concept and approach, the FHNC's most significant event is its annual art and fashion exhibition. This unique project showcases new, sustainable, zero-waste fashion designs inspired by Cypriot cultural heritage. Every year, the FHNC collaborates with young fashion designers and visual artists across the island, fostering a sense of unity and inclusivity. The exhibition is one of the most popular fashion exhibitions on the island due to its unique format and context, as it creatively merges elements such as fashion heritage, fashion sustainability, innovation, youth engagement, and peacebuilding (Fig. 15.6).

Fig. 15.1 Left and Right: the FHNC's Biochromes for Sustainable Futures Workshop led by FHNC member Marisa Satsia from the BioCuriosities Lab

Fig. 15.2 FHNC's upcycling workshop during the REVIVE exhibition in Cyprus. The topic of the workshop was turning leftover fabric and unwanted clothes into a tote bag. The workshop was led by the FHNC members Irene Panayi and Anna Michaelidou. (Photos by Sotiria Dymioti)

Fig. 15.3 Left and Right: Second Hand Market at the University of Nicosia, an event which was a collaboration between the FHNC, Fashion Revolution Cyprus and Kats Closet. (Photos by Markus Merz)

A remarkable aspect of the latest exhibition, REVIVE, was the collaboration with twelve young fashion designers and two visual artists from across the island. REVIVE exhibition took place in two different locations and at different times. The first part of the REVIVE exhibition was a 4-day event that took

Fig. 15.4 The FHNC team presenting the project during the 'Heritage Days' Event focusing on Intangible Heritage, which was organised by Europa Nostra and the Gardens of the Future in Nicosia, Cyprus

Fig. 15.5 Left and Right: The FHNC team visiting the CVAR museum in Nicosia

Fig. 15.6 REVIVE Exhibition in Nicosia, Cyprus, at the Gardens of the Future. Photographer: Sotiria Dymioti. Illustrator: Milan Theophilou Wooley. Fashion designer: Michalis Pantelidis. Visual artist: Danae Patsalou

place from 25 to 28 May 2023 and hosted a variety of activities, including upcycling workshops, a traditional Cypriot embroidery workshop, a clothes swap, a panel discussion on fashion sustainability, and a movie screening of a documentary focusing on ethical fashion. These activities attracted a wide audience, offering them a transformative experience that went beyond mere fashion display. By merging artistic expression and environmental consciousness, the exhibition manifested itself as a symbol of social responsibility and creativity. REVIVE achieved great success, drawing in over 700 visitors and garnering widespread attention from both online and offline media outlets.

The second part of the REVIVE exhibition took place at the Cyprus High Commission in London from September 26 to 29, and then continued from

October 2 to 5. During this period, the exhibition showcased the works of the young fashion designers and visual artists from the island. Visitors were captivated by the originality and craftsmanship displayed in each piece. The attention to detail and the use of sustainable materials showcased the designers' dedication to promoting a more sustainable and conscious approach to fashion. REVIVE not only aimed to challenge traditional notions of fashion but also to encourage visitors to reconsider their own fashion habits and embrace more eco-friendly alternatives. The exhibition was a massive success, hosting many esteemed guests from the world of fashion, culture, and the Cyprus diaspora. Notably, this was the embassy's first-ever contemporary and sustainable fashion exhibition inspired by Cypriot cultural heritage (Figs. 15.7 and 15.8).

Organisations with which the network works include the British High Commission in Cyprus, Australian High Commission in Cyprus, the Subministry of Culture in Cyprus, the Cyprus High Commission in London, Gardens for the Future, Cyprus Youth Board, the Commonwealth Fashion Council, Cyprus Youth Council, Home for Cooperation, Fashion Revolution Cyprus, and the Circular Economy Alliance.

Fig. 15.7   REVIVE, FHNC exhibition in London. (Photographer: Sotiria Dymioti)

Fig. 15.8   Above: REVIVE, FHNC Exhibition in London, photographer: Sotiria Dymioti. Left: the FHNC with the H.E. the High Commissioner of the Republic of Cyprus Mr Andreas Kakouris; Right: the Folkomona team with their creations and the Director of the network Christina Dymioti

15.2   What Does Sustainability Mean to the FHNC?

Drawing inspiration from Cyprus' circular economy, community, and culture, the FHNC aims to remind local communities that sustainability was once prevalent on the island. Cyprus' fashion heritage includes sustainable

Fig. 15.9 The FHNC's heritage-inspired Upcycling Workshop at Xarkis Festival—https://festival.xarkis.org/workshops-2023/

sourcing, design, and production systems. Moreover, sustainability practices found in Cypriot cultural heritage should be re-adapted to modern life to encourage sustainable development and living for both individuals and corporations. The goal is to celebrate Cypriot fashion heritage and its connection to sustainability by engaging the youth. Cultural sustainability is one of the main focuses of the FHNC, playing a fundamental role in the network's aim to establish a sustainable environment, both ecologically and culturally. This involves maintaining and redefining cultural practices and heritage through slow, zero-waste fashion (Fig. 15.9).

15.3   Rediscovering Cyprus' Fashion Sustainability Legacy

Fashion sustainability tactics have long been used on the island. Unlike the disposable fast fashion habits of today, Cypriot history demonstrates an appreciation for what people already had. In the roots of Cypriot culture, natural materials and dyes, reuse, repair, upcycling, and repurposing were common

sustainability practices, ensuring that clothing and fabrics were given new life instead of being discarded. Craftsmen and local women played a crucial role in this sustainable ecosystem, skilfully repairing shoes, mending clothes, and contributing not only to the conservation of resources but also to the local economy (Figs. 15.10 and 15.11).

The FHNC aims to initiate a cultural dialogue with the past and reintroduce sustainability into people's lives through Cyprus' rich cultural roots. Therefore, by researching and reintroducing fashion sustainability techniques

Fig. 15.10 Traditional textile and weaving workshop led by Folkmona: teaching young people Cypriot traditional weaving and embroidery techniques preserves cultural heritage, fosters creativity, promotes craftsmanship, and strengthens a sense of identity and connection to their cultural roots

Fig. 15.11 Left and Right: Fashion Designer Valetinas Koutsoudis designs made from upcycled old and traditional curtains. Model: Merylin Georgiou—Photographer: Shivani/@shiv.x.ni

and general fashion design approaches from Cypriot fashion heritage, the FHNC embraces cultural sustainability by committing to creating designs that are environmentally friendly and zero-waste.

15.4 The FHNC's Cultural Heritage Revival

The FHNC was founded with the aim of preserving and celebrating fashion heritage, cultural practices, crafts, and techniques by young people learning, adopting, and preserving traditional fashion techniques. The network's creatives are encouraged to use traditional Cypriot fabrics, such as *alatzia* and *sayia*, and traditional Cypriot embroidery techniques, such as *lefkatiktio*, *argalio*, and fythkiotiko. By celebrating the traditions and cultural practices of the past and infusing them with modern innovation, the FHNC aims to inspire the new generation to adopt sustainable fashion choices (Figs. 15.12, 15.13, 15.14 and 15.15).

15.5 Key Areas That Make the Organisation Unique

It is important to acknowledge that the FHNC is Cyprus's first fashion sustainability project to focus on Cypriot heritage. Cypriot fashion heritage is unique, consisting of elements from various periods of history and influences from minorities that live across the island. However, there is very little research

Fig. 15.12 Left: Alatzia fabric on loom Fythkiotika, Intangible Heritage of North Cyprus, Candas Yolga, p. 335; Middle: Sayia dress, Cypriot Costumes in the National Historical Museum, by National Historical Museum, p. 129; Bottom: Lefkatiko lace. (Photo by FHNC; Right: Argalio (the loom), Intangible Heritage of North Cyprus, Candas Yolga, p. 332)

on Cypriot fashion heritage. The network strives to showcase these influences on Cypriot fashion heritage through various events, activities, and publications. Hence, the FHNC aims to reintroduce traditional garments, techniques, and materials with innovative twists to incorporate contemporary needs and choices. Five elements make the FHNC unique: (1) it preserves Cyprus' fashion heritage; (2) it promotes sustainability in fashion; (3) it focuses on innovation; (4) it facilitates youth engagement; and (5) it fosters peacebuilding and sustainable development on the island. The aim is to celebrate and preserve cultural fashion techniques, enabling fashion designers and the public to change how they treat their clothes and strengthen fashion sustainability. In seeking alternative or greener ways to care for clothes, the FHNC offers young designers the chance to work collaboratively and promote their work through exhibitions, social media campaigns, and short films. Notably, the FHNC is the first-ever intercommunal fashion project on the island, bringing together young Cypriot fashion designers and artists from various communities and facilitating collaboration and idea exchange. Beyond fostering creativity, this platform also plays a vital role in peacebuilding efforts on the island.

Fig. 15.13   Artwork by Yasmin Avdji, which was exhibited during the REVIVE London exhibition

15.6   How Can the FHNC Address the Current and Future Challenges of the Fashion Industry?

The FHNC acknowledges that the fashion industry is one of the most pollut-ing industries in the world, and climate change is no longer just a probability. The FHNC takes proactive measures to minimise its environmental footprint. Specifically, the designers and artists of the network create garments with second-hand materials and implement zero-waste fashion design techniques. As one of the main elements of the FHNC is the adaptation of fashion sus-tainability techniques, which are part of the island's fashion heritage, such as upcycling and the use of sustainable natural materials, the FHNC's approach could serve as an inspiring catalyst for the fashion industry, not only in Cyprus but also in different countries, offering a potential solution to the prevalent problem of fashion waste. The FHNC could serve as a beacon for other com-munities to explore the sustainability practices of their own heritage. Drawing inspiration from the FHNC's work not only benefits communities but also

Fig. 15.14 Photos from the photoshoot in Cyprus Photographer—Harris Kyprianou, model: Helena Petrou Left: Fashion Designer- Ilkan Koral, Right: Visual Artist—Sukufe Emirtaneoglu

individual businesses and the broader fashion industry, as the FHNC's work enhances a collective movement towards a more responsible, sustainable, and environmentally conscious industry. The FHNC's REVIVE exhibition demonstrates the tangible and positive impact that could be achieved by creating awareness in the public on this matter.

15.7   Future Action Plan

The FHNC currently receives sponsorships from embassies, national youth organisations, and Commonwealth institutions, which are mainly utilised to fund and support the activities of the network.

The FHNC aims to maintain these sponsorships in the future and seeks additional ones to foster collaborations with other communities and countries that share a commitment to sustainability in their traditions and cultural practices. By bridging traditional sustainability practices, the network aims to

Fig. 15.15 Photos from the photoshoot in Cyprus Photographer—Harris Kyprianou, Models—Helena Petrou and Aliki Elraie; Fashion Designer: Kassandra Baker; Photos from the photoshoot in Cyprus. Photographer—Harris Kyprianou, Models—Helena Petrou and Aliki Elraie; fashion designers: Left top and bottom: Rengin Akcan; Right: Anna Michaelidou

catalyse positive change across the industry. Moreover, the FHNC intends to use these grants and sponsorships to establish a small-scale local production line dedicated to creating and selling an exclusive and limited-edition annual collection designed by the team. This initiative will enhance the profitability of the FHNC, ensuring the sustainable development of both the network and the careers of fashion designers and artists.

In conclusion, the FHNC is a promising platform for exploring the beauty and uniqueness of Cypriot cultural heritage through contemporary, sustainable fashion, and art. For the FHNC, a sustainable culture existed once and can be revisited. The question, then, is simple: If our ancestors were sustainable, why can't we be too?

References

British High Commission in Cyprus https://www.gov.uk/world/organisations/british-high-commission-nicosia

Australian High Commission in Cyprus https://cyprus.embassy.gov.au/

Deputy Ministry of Culture https://www.presidency.gov.cy/cypresidency/cypresidency.nsf/All/FBA917CB5206BC95C225896B0023FAFD?OpenDocument

Cyprus High Commission in London https://cyprusinuk.com/

Gardens for the Future https://gardensofthefuture.com/

Cyprus Youth Board https://onek.org.cy/en/

Commonwealth Fashion Council https://commonwealthfashioncouncil.org/

Cyprus Youth Council https://cyc.org.cy/

Home for Cooperation https://www.home4cooperation.info/

Fashion Revolution Cyprus https://www.fashionrevolution.org/europe/cyprus/

16

Environmental Sustainability in Luxury Fashion: A Consumers' Perspective

Darya Badiei Khorsand, Gianpaolo Vignali, and Daniella Ryding

16.1 Introduction

The fashion industry is one of the biggest industries in the world, generating trillions of dollars in global revenues annually (McKinsey and Company 2022). With its great size comes a dire negative environmental impact, hence, sustainability has become a major concern for all stakeholders involved in the fashion industry (Kumar et al. 2017; Chan et al. 2020; McKinsey and Company 2022).

Broadly speaking, sustainable development refers to "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" as per the definition provided by the World Commission on Environment and Development in 1987 (United Nations 1987, p. 37). It includes three pillars, economic, environmental and social, which are referred to as the 'triple bottom line', a term originally coined by Elkington in 1994 (Elkington 2018). In the context of fashion, sustainability refers to the minimisation of negative and maximisation of positive

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impacts on the environment and society throughout the supply chain; it can be achieved by providing fair working conditions for workers, using materials with lower environmental impact such as recycled and organic materials, effective management and reduction of waste, etc. (Jung and Jin 2014; Henninger et al. 2016; Chan et al. 2020; Rausch and Kopplin 2021).

With regard to sustainability in the luxury fashion industry, it can be argued that luxury fashion brands have an advantage over high-street brands as they are believed to have smaller production batches produced at a slower pace (Henninger et al. 2017; Davis 2020; Kent 2022). However, the fashion industry, including both high-street and luxury sectors, is extremely resource-consuming and has a significant negative impact on the environment (Jung and Jin 2014; Henninger et al. 2017; Athwal et al. 2019; Chan et al. 2020). Furthermore, consumers are becoming increasingly conscious of sustainability issues in the fashion industry, hence, luxury fashion brands can no longer continue operating based on their traditional unsustainable business models and must develop more sustainable practices (Janssen et al. 2017; Thomas 2022). However, sustainable practices have still not been widely adopted in the luxury fashion industry (Carrigan et al. 2013). Although this statement was argued by Carrigan et al. in 2013, it has remained accurate (Jain 2018; Pucker 2022) as "luxury fashion has long been set in its ways when it comes to business" (Thomas 2022). Nonetheless, due to consumers' growing awareness of sustainability issues, this industry is slowly starting to reshape to incorporate more sustainable practices into its business model (Athwal et al. 2019; Kent 2022; Thomas 2022).

16.1.1   Research Gap and Aim

As consumers play a critical role in the (luxury) fashion industry's transition into a more sustainable one (Jain 2018), having an in-depth understanding of their purchase intention of sustainable luxury fashion products is key. In extant literature on sustainability and consumers' purchase intention, sustainability is usually studied in a broad context (e.g. McNeill and Moore 2015; Chan et al. 2020) and while extensive research has been done in this realm, authors have rarely made a clear distinction between the three pillars of sustainability. Making this distinction is key as consumers' purchase intentions may differ in each pillar (Sander et al. 2021).

In this chapter, the authors aim to provide a comprehensive and integrated critical literature review of consumers' purchase intention within one of the pillars of sustainability, the environmental, in the context of the luxury fashion industry. Currently, whilst some authors refer to environmental

sustainability in their research, literature on this topic is fragmented and sparse. Environmental sustainability is chosen due to its growing relevance in the luxury fashion industry and is in line with the luxury fashion industry's aim to achieve net-zero emissions by 2050 (Amed et al. 2021; Thomas 2022). Environmental sustainability includes but is not limited to use of organic materials, recycling, waste management, energy saving, conservation, environmental friendliness, and green production (Godart and Seong 2015; Kumar et al. 2017).

To achieve the chapter's aim, consumers' attitude towards environmentally sustainable luxury fashion products and the factors affecting it are studied. This is key as attitude is one of the main determinants of purchase intention (Ajzen 2020). In line with this, the following research questions are developed:

1. What is environmental sustainability in the luxury fashion industry?
2. What are consumers' purchase intentions of environmentally sustainable luxury fashion products and what are the factors affecting them?
3. What are consumers' attitudes towards environmentally sustainable luxury fashion products and what are the factors affecting them?

By providing a comprehensive critical literature review of this topic using the extant fragmented literature, this chapter serves as a reliable foundation and reference for researchers who wish to delve deeper into environmental sustainability in the context of luxury fashion. Additionally, it equips luxury fashion brands who wish to incorporate environmental sustainability into their business models and practices with a synthesis of key literature on this topic, helping them make more informed strategic decisions. At the end of this chapter, the authors identify several gaps in the literature and provide future research suggestions for a better understanding of this very current and crucial matter.

16.2 Literature Review

16.2.1 Environmental Sustainability in the Luxury Fashion Industry

To understand environmental sustainability in the context of luxury fashion, it is imperative to first provide a brief overview of the term 'luxury' and what it means.

While the term 'luxury' is frequently used in the fashion industry, there is no widely accepted definition of it (Ko et al. 2019) as what 'luxury' constitutes has changed over time, and it is dependent on the social context and individuals' perceptions (Cristini et al. 2017). In other words, "what is luxury to one may just be ordinary to another" (Phau and Prendergast 2000, p. 123). As a subjective term, luxury is elusive to define, but "at its most elemental [luxury] is defined by the non-essential; goods or even simply experiences that are superfluous to need" (Kovesi 2015, p. 26). Luxury goods are purchased and used to show consumers' social status and wealth, a type of consumption which is often referred to as conspicuous consumption, a term originally coined by Veblen in 1899 (Veblen 1992).

In line with luxury's evolving definition (Kovesi 2015; Cristini et al. 2017), over a decade ago, Kleanthous (2011 cited in Gardetti and Muthu 2015) argued that luxury "is becoming less exclusive and less wasteful and more about helping people to express their deepest values" (p. vii). Since then, more researchers have highlighted this change. For instance, Janssen et al. (2017) argued that sustainability issues are becoming increasingly important to both brands and consumers and, hence, are being addressed by luxury fashion brands. Similarly, Henninger et al. (2017) highlighted that luxury fashion brands are capitalising on consumers' demand for sustainability by adopting strategies that project a more positive and sustainable image to their customers.

Luxury fashion brands have an advantage in terms of environmental sustainability over other sectors in the fashion industry and tend to be considered relatively environmentally sustainable by nature, therefore, they have not been criticised for environmental sustainability-related issues to the same extent as other sectors (Athwal et al. 2019; Karaosman et al. 2020; Davis 2020; Kent 2022). This is due to several foundational similarities between luxury and environmental sustainability, for instance, the timelessness, quality, and excellent craftsmanship of luxury products that make them more durable and longer-lasting (Kapferer 2010; Kovesi 2015; Athwal et al. 2019; Karaosman et al. 2020) and thus, reducing the need for replacements, which can be extremely resource-consuming with a significant negative impact on the environment. Furthermore, they tend to be more expensive and exclusive, limiting their demand compared to mass-produced products and, subsequently, are less resource-consuming and produced at a slower pace (Henninger et al. 2017; Kent 2022). Additionally, "luxury is the enemy of the throwaway society" (Kapferer 2010, p. 41); luxury fashion products are often handed down from one owner to another or sold on resell platforms due to their high resell value (Lichy et al. 2023) which prolongs their journey to landfill, unlike fast fashion products that are disposed of after a short amount of time (Rausch

and Kopplin 2021). Moreover, after-sales services such as repairs and refurbishes are common in the luxury fashion industry due to products' high monetary and perceived value further increasing products' lifespans (Kapferer 2010), which is in line with environmental sustainability.

It is key to note that the similarities highlighted in previous literature may no longer be accurate in 2024, the time of writing this chapter. For instance, masstige products, i.e., products that are considered luxury but are relatively cheaper, which have gained significant popularity in recent years, and are often mass-produced (Kumar et al. 2020). Hence, the points about being exclusive, having slower production cycles, and high prices resulting in lower demand may not apply to them. Additionally, trends are a core part of luxury fashion today which tend to last less than a season (Armitage and Roberts 2019). Fashion trend cycles are becoming increasingly faster, particularly as a result of social media where trends start, become 'viral' and end quickly (Kennedy 2023), which contradicts with the point about timelessness of luxury fashion products. While it is imperative to critically analyse extant literature on the advantages of the luxury fashion industry in terms of environmental sustainability, it is key to note that the luxury fashion industry is evolving rapidly and is implementing new practices to reduce its negative environmental impact beyond its advantages due to its nature. Several key strategies that are being increasingly used by many luxury fashion brands include the use of next-generation materials such as plant-based leather alternatives which are believed to have a lower environmental impact compared to conventional materials (Roberts-Islam 2022; Roshitsh 2022), the elimination of animal-based materials, such as fur (Kent 2023a), and the development of biodegradable products to prevent them from piling up in landfills (Benson 2022).

16.2.2 Factors Affecting Consumers' Attitude Towards and Purchase Intention of Environmentally Sustainable Luxury Fashion Products

16.2.2.1 Environmental Concerns

Environmental concerns refer to individuals' sense of responsibility regarding environmental protection and can have a direct and positive impact on consumers' attitudes towards sustainable fashion products leading to purchase intention (Rausch and Kopplin 2021). On the other hand, Kim and Damhorst (1998) argue that environmental concerns do not directly impact purchase intention; instead, they predict general pro-environmental purchase

behaviour. This argument was made about two decades before Rausch and Kopplin's (2021) research which found environmental concerns to have a direct and positive impact on consumers' attitudes and consequently purchase intentions. This could be an indication of a shift in consumers' attitudes towards supporting environmental sustainability more than ever before (McKinsey and Company 2022).

Another noteworthy finding regarding environmental concerns comes from Cervellon and Shammas's (2013) research, which found that consumers' desire to "show off" their concerns for the environment to get noticed by society as responsible consumers leads to the purchase intention of such products. This can be regarded as an extrinsic motivation (Hasbullah et al. 2020) and is in line with Alsaad et al.'s (2023) research on consumers showing off their concerns for the environment through the purchase and use of environmentally sustainable products and sharing it on social media with a global audience of billions.

16.2.2.2   Perceived Environmental Knowledge

Broadly speaking, knowledge has been found to positively impact actual behaviour (Park et al. 1994). Recent research suggests that perceived environmental knowledge, which refers to individuals' perception of their "knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems" (Fryxell and Lo 2003, p. 48), is a key determinant of attitude and intention (Kumar et al. 2017; Goh and Balaji 2016). Consumers with greater environmental knowledge have been found to be more likely to engage in sustainable fashion consumption and exhibit higher purchase intentions (Rausch and Kopplin 2021). Furthermore, previous research evidences the impact of perceived environmental knowledge as a key component of pro-environmental attitude formation (Kumar et al. 2017) as it enables consumers to understand the positive environmental impact of sustainable products (Rausch and Kopplin 2021). Additionally, consumers with higher perceived environmental knowledge tend to exhibit a higher sense of responsibility towards the environment which influences their purchase intention of environmentally sustainable products to fulfill their responsibilities (Fryxell and Lo 2003; Rausch and Kopplin 2021).

It is key to note that with the rise of environmental activism and sustainability advocates on social media, more consumers are becoming increasingly aware of the current environmental sustainability issues (Alsaad et al. 2023). Hence, the impact of this construct may strengthen even further in the future. However, environmental knowledge does not always translate into action, i.e.,

actual purchase of environmentally sustainable luxury fashion products (Tang and Hinsch 2018), particularly as consumers tend to compartmentalise their consumption process for luxury purchases (Athwal et al. 2019). For instance, research suggests that consumers give little attention to sustainability when purchasing luxury products, and other factors such as post-purchase satisfaction (Davies et al. 2012), product quality, and brand reputation (Achabou and Dekhili 2013) govern their purchase decisions. This calls for further research on how environmental knowledge can be translated into purchase intention and actual behaviour, despite the other factors that outweigh the impact of environmental knowledge.

16.2.2.3 Perceived Conspicuousness

Perceived conspicuousness has been studied greatly in the context of luxury fashion purchases and has been found to have a significant impact on consumers' attitudes and purchase intentions (Veblen 1992; Cristini et al. 2017; Ko et al. 2019; Blazquez et al. 2020). In recent years, in line with consumers' growing awareness of environmental sustainability issues, similar to the definition of luxury, conspicuos consumption has evolved (Jain 2018). Cervellon and Carey (2011) argued that in countries such as France where consumers are eco-centred, environmentally sustainable consumption is a new form of conspicuous consumption. As mentioned in Sect. 16.2.2.1, some consumers wish to display their concern for the environment and portray a positive image of themselves as responsible consumers by purchasing environmentally sustainable luxury fashion products. Cervellon and Carey (2011) highlighted that purchasing sustainable luxury fashion products can be noticed and praised by others. However, this raises the question of whether consumers who exhibit this type of behaviour are more concerned about their self-image or the environment. In other words, is their motivation purely extrinsic, instinct or a combination of both? Another perspective from which this question can be explored is, whether consumers' motivation is important if the goal of purchasing environmentally sustainable luxury fashion products is achieved, nonetheless.

16.2.2.4 Self-Identity

Self-identity refers to the identity and the persona individuals give to themselves that makes them unique (Conner and Armitage 1998) and is one of the predictors of consumers' behavioural intention. In the case of luxury fashion consumption, it refers to consumers' consumption to construct a favourable

image of themselves (Hennigs et al. 2013). This can be achieved by consumers "incorporating the symbolic meaning of luxury into their individual self-identity" (Blazquez et al. 2020, p. 348; Vigneron and Johnson 2017). McNeill and Moore (2015) argued that consumers who believe that fashion and the need for continuous newness to be part of their self-identity are more concerned about their own self and appearance as opposed to the environment, hence, they do not display an intention to purchase (environmentally) sustainable fashion products. On the other hand, environmental self-identity which refers to "the extent to which you see yourself as a person whose actions are environmentally friendly" (Van der Werff et al. 2013, p. 626) has been found to positively impact consumers' purchase intention of (environmentally) sustainable fashion products (Mishra et al. 2022). This is because ownership and use of products become part of consumers' self and hence, those who wish to identify as responsible individuals attempt to achieve that through the purchase of (environmentally) sustainable products (Mishra et al. 2022).

16.2.2.5   Perceived Uniqueness

Perceived uniqueness refers to consumers' perception of the exclusivity and rarity of a product (Vigneron and Johnson 2017) which positively impacts their attitude and aspiration to purchase luxury fashion products (Hennigs et al. 2013). This is due to the fact that consumers believe that a product's uniqueness can help them stand out from others and express their individuality (Hennigs et al. 2013). Sestino et al. (2022) found that perceived uniqueness can positively impact consumers' attitudes towards (environmentally) sustainable luxury fashion products leading to purchase intention. They suggest that luxury fashion brands can activate a high perceived uniqueness in consumers by communicating their products' (environmentally) sustainable attributes. However, they argue that high levels of desire for conspicuous consumption in consumers can weaken the impact of such communications.

A question that arises here is whether the impact of perceived uniqueness stimulated by environmental sustainability will weaken and potentially become non-existent in the future as more luxury fashion brands incorporate environmentally sustainable practices in their business models. Many governments are setting new regulations regarding environmental sustainability in the fashion industry that luxury brands must abide by (Kent, 2023b). Hence, the environmentally sustainable attributes of luxury fashion products and the brands' initiatives may no longer be perceived as unique if they become the norm or a legal requirement in the future. This calls for further research to

assess the relevance of perceived uniqueness ascribed to products as a result of their environmental sustainability attributes.

16.2.2.6   Contradictions Between Environmental Sustainability and Luxury

Whilst the luxury fashion industry is arguably more environmentally sustainable than other sectors in the industry (as discussed in Sect. 16.2.1) certain aspects of it may be considered contradictory to environmental sustainability (Kapferer 2010; Nash et al. 2016). Upon extensive review of the extant literature regarding their contradictions, the authors have grouped them into two categories of 'intangible' and 'tangible' aspects which are presented in Table 16.1.

In the context of luxury fashion, tangible aspects refer to the aspects that contribute to product excellence such as quality, exclusivity, uniqueness of materials, and outstanding technical and functional performance (Brun and Castelli 2013). Intangible aspects, on the other hand, refer to aspects that contribute to the creation of an emotional appeal for consumers and help establish and maintain a brand's reputation (Brun and Castelli 2013).

Kapferer and Michaut-Denizeau (2017) argue that for consumers who perceive luxury as 'superficial' and 'creating social unrest', luxury is believed to be

Table 16.1 Luxury aspects contradictory to environmental sustainability in fashion

	Luxury aspect	Explanation	Reference
Tangible	Use of (rare) materials	The materials used to make luxury fashion products are one of the key aspects of what constitutes luxury. This includes rare materials such as exotic skins, pearls, gemstones, or materials with a significant negative environmental impact such as leather and fur. However, this conflicts with environmentally sustainable fashion which seeks to use materials with a lower negative environmental impact such as recycled leather, renewable materials like hemp, and organic materials, for instance organic cotton, which may be perceived as less luxurious.	Henninger et al. 2016; Kapferer 2010; Karaosman et al. 2020

(continued)

Table 16.1 (continued)

	Luxury aspect	Explanation	Reference
Intangible	Conspicuousness	Luxury is associated with conspicuousness where purchases are made to display wealth as opposed to satisfaction of real needs; whereas environmental sustainability is associated with ethics and altruism where purchases are made in moderation.	Kapferer and Michaut-Denizeau 2017; Veblen 1992
	Need for constant change	Change is a form of luxury in fashion. For most luxury fashion consumers, it is not only important to be seen in the 'right' clothes but is also important to follow the latest trends which encourage a regular change of clothes, where "status and power are asserted through consumers' ability to discard products that are still useable, and this prompts and maintains recurrent change" (Godart and Seong 2015, p. 16). Whereas in environmentally sustainable fashion, products are used for as long as possible to prolong and even prevent their journey to landfill.	Godart and Seong 2015; Rausch and Kopplin 2021
	Irrational nature of luxury purchases	Luxury purchases are irrational by nature; consumers pay a large amount of money for products that make them appear "out of the ordinary" (Kapferer 2010, p. 43) and unique, whereas environmentally sustainable purchases are based on real needs and thoughtful consideration.	Kapferer 2010; Nash et al. 2016
	Excessiveness	"Luxury means excess" (Kapferer 2010, p. 43). Luxury purchases are made in excess which is the opposite of environmentally sustainable consumption which is associated with frugality and self-restraints.	Kapferer 2010; Nash et al. 2016; Athwal et al. 2019

contradictory with (environmental) sustainability. In another study, they found that 33.8% of participants saw luxury and sustainability as contradictory, 30.1% were neutral, and 36.1% did not see them as contradictory (Kapferer and Michaut 2015). Their findings are similar to Henninger et al.'s

(2017) study whose participants also reported different views regarding this matter. In their research on Chinese consumers, some participants indicated that sustainability and luxury fashion go hand in hand and believed that luxury fashion brands must incorporate sustainable practices in their business models. On the contrary, some participants argued that sustainability and luxury are not compatible, and whether products are environmentally friendly or not does not impact the core concept of luxury consumption. Henninger et al. (2017) therefore suggest that sustainability aspects do not impact the purchase decision of this group of participants and that aspects such as rarity and uniqueness play a (much more) significant role in their decision-making process. Hence, it is clear that there are various consumer groups within the luxury fashion industry (Henninger et al. 2017) which brands must target differently; they must either highlight or downplay the environmental sustainability of their products depending on the specific group they are targeting (Janssen et al. 2017). Nash et al. (2016) highlight the importance of appropriate framing and communication of environmental messages. They argue that through appropriate framing, environmental sustainability messaging will not only not negatively impact the brands, but can also enhance perceptions of luxury value and perceived uniqueness for consumers.

16.2.2.7 Greenwashing Concerns

Greenwashing refers to exaggerated, deceptive, unsubstantiated or false claims made by companies to appear more environmentally sustainable and to portray a positive public image (Badiei Khorsand et al. 2023). Due to consumers' rising demand for more environmentally sustainable luxury fashion products, many companies have engaged in greenwashing in an attempt to deliver on their consumers' demands; this has subsequently led to consumer scepticism regarding brands' environmental communications and development of greenwashing concerns (Goh and Balaji 2016). Greenwashing concerns have been found to negatively impact consumers' purchase intention as well as moderate the relationship between attitude and purchase intention (Rausch and Kopplin 2021; Badiei Khorsand et al. 2023). Many consumers are sceptical and suspicious of luxury brands' sustainability claims (Athwal et al. 2019) but simultaneously, they cannot confirm the extent to which their suspicions are accurate which negatively influences their purchase intentions (Rausch and Kopplin 2021).

It is key to note that greenwashing is against the law and many governments are actively investigating the environmental claims made by luxury fashion brands (Kent 2023b). Moreover, emerging technologies such as blockchain and digital product passports are enhancing transparency throughout products' supply chains, which can help prevent greenwashing (Amed et al. 2021; Badiei Khorsand et al. 2023). Hence, as greenwashing may become impossible in the near future, such concerns may no longer exist and may not impact consumer's attitudes towards and purchase intentions of environmentally sustainable luxury fashion products.

16.3   Conclusion

The luxury fashion industry is currently undergoing significant and rapid changes to become more environmentally sustainable by having a lower, if not positive impact on the environment. This is due to several key reasons including consumers' growing knowledge and concerns regarding environmental sustainability issues, new targets and regulations set by governments, and the emergence of new technologies such as blockchain. Hence, continuous research on consumers' attitudes and purchase intentions of environmentally sustainable luxury fashion products is imperative as they too are changing rapidly with the industry. Furthermore, for luxury fashion brands to successfully reshape, it is key to have an in-depth understanding of the various consumer groups in this sector. Hence, based on the gaps identified in this critical literature review, the authors suggest further research on the following areas.

First, there is currently limited literature on how environmental knowledge can be translated into purchase intention and ultimately into actual purchase of environmentally sustainable luxury fashion products. Understanding the factors that can hinder or catalyse this translation is key, as extant literature evidences discrepancy between knowledge, purchase intention, and actual purchase. Second, similar to environmental sustainability, research on social and economic sustainability is currently sparse and fragmented as current literature tends to approach sustainability from its broader perspective including all its three pillars. Hence, further critical literature review and primary research that specifically focuses on each pillar of sustainability in the luxury fashion industry is key. Furthermore, the impact of some factors that affect consumers' attitudes and purchase intentions of environmentally sustainable luxury fashion products may weaken or strengthen in the future as discussed in Sect. 16.2, including greenwashing concerns, perceived environmental knowledge and environmental concerns which calls for further research on

them in the future as the luxury fashion industry and consumers' behaviour evolve. Lastly, the extant literature on environmental sustainability in the luxury fashion industry tends to generalise its findings to all levels of luxury fashion, whereas as pointed out in Sect. 16.2.1, masstige products differ from what is traditionally defined in the literature. Hence, the authors suggest further research on consumers' attitudes and purchase intentions of environmentally sustainable products within different levels of luxury fashion such as haute couture, diffusion, and accessible luxury. Similarly, extant literature does not address the different ways in which environmentally sustainable luxury fashion products are produced; for instance, consumers' attitudes towards and purchase intentions of products made from plant-based leather alternatives, and biodegradable and recycled materials may be different. This requires further research to understand the nuances that may exist in different environmentally sustainable luxury fashion products.

References

Achabou, M.A. and Dekhili, S. (2013) 'Luxury and Sustainable Development: Is there a match?', *Journal of Business Research*, 66(10), pp. 1896–1903. https://doi.org/10.1016/j.jbusres.2013.02.011.

Ajzen, I. (2020) 'The theory of planned behavior: Frequently asked questions', *Human Behavior and Emerging Technologies*, 2(4), pp. 314–324. https://doi.org/10.1002/hbe2.195.

Alsaad, A., Alam, Md.M. and Lutfi, A. (2023) 'A sensemaking perspective on the association between social media engagement and pro-environment behavioural intention', *Technology in Society*, 72. https://doi.org/10.1016/j.techsoc.2023.102201.

Amed, I., Berg, A., Balchandani, A., Hedrich, S., Jensen, J., Straub, M., Rolkens, F., Young, R., Brown, P., Le Merle, L., Crump, H., & Dargan, A. (2021). The state of fashion 2022 [online]. Available at: https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2022/the-state-of-fashion-2022.pdf. (Accessed 30 June 2022).

Armitage, J. and Roberts, J. (2019) 'The globalisation of luxury fashion: The case of gucci', *Luxury*, 6(3), pp. 227–246. https://doi.org/10.1080/20511817.2021.1897268.

Athwal, N. *et al.* (2019) 'Sustainable Luxury Marketing: A synthesis and research agenda', *International Journal of Management Reviews*, 21(4), pp. 405–426. https://doi.org/10.1111/ijmr.12195.

Badiei Khorsand, D. *et al.* (2023) 'Greenwashing in the Fashion Industry: Definitions, Consequences, and the Role of Digital Technologies in Enabling Consumers to

Spot Greenwashing', in *The Garment Economy Understanding History, developing business models, and Leveraging Digital Technologies*. Springer International Publishing.

Benson, S. (2022) Is biodegradable fashion as good as it sounds?, Dazed. Available at: https://www.dazeddigital.com/fashion/article/57243/1/biodegradable-clothes-sustainability-tech-bottega-veneta-stella-mccartney (Accessed: 25 October 2023).

Blazquez, M., Alexander, B. and Fung, K. (2020) 'Exploring Millennial's perceptions towards luxury fashion wearable technology', *Journal of Fashion Marketing and Management: An International Journal*, 24(3), pp. 343–359. https://doi.org/10.1108/jfmm-09-2019-0200.

Brun, A. and Castelli, C. (2013) 'The nature of luxury: A consumer perspective', *International Journal of Retail & Distribution Management*, 41(11/12), pp. 823–847. https://doi.org/10.1108/ijrdm-01-2013-0006.

Carrigan, M., Moraes, C. and McEachern, M. (2013) 'From conspicuous to considered fashion: A harm-chain approach to the responsibilities of luxury-fashion businesses', *Journal of Marketing Management*, 29(11–12), pp. 1277–1307. https://doi.org/10.1080/0267257x.2013.798675.

Chan, H.-L. *et al.* (2020) 'Corporate Social Responsibility (CSR) in Fashion Supply Chains: A multi-methodological study', *Transportation Research Part E: Logistics and Transportation Review*, 142, p. 102063. https://doi.org/10.1016/j.tre.2020.102063.

Cervellon, M.-C. and Carey, L. (2011) 'Consumers' perceptions of "green": Why and how consumers use eco-fashion and Green Beauty Products', *Critical Studies in Fashion and Beauty*, 2(1), pp. 117–138. https://doi.org/10.1386/csfb.2.1-2.117_1.

Cervellon, M.-C. and Shammas, L. (2013) "The value of sustainable luxury in mature markets: A customer-based approach," Journal of Corporate Citizenship, 2013(52), pp. 90–101. Available at: https://www.jstor.org/stable/jcorpciti.52.90 (Accessed: April 280, 2023).

Conner, M. and Armitage, C.J. (1998) 'Extending the theory of planned behavior: A review and avenues for further research', *Journal of Applied Social Psychology*, 28(15), pp. 1429–1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x.

Cristini, H. *et al.* (2017) 'Toward a general theory of luxury: Advancing from workbench definitions and theoretical transformations', *Journal of Business Research*, 70, pp. 101–107. https://doi.org/10.1016/j.jbusres.2016.07.001.

Davies, I.A., Lee, Z. and Ahonkhai, I. (2012) Do consumers care about ethical-luxury? *Journal of Business Ethics*, 106, 37–51.

Davis, J. (2020) How are luxury retailers taking on sustainability?, Harper's BAZAAR. Available at: https://www.harpersbazaar.com/uk/fashion/fashion-news/a29386990/luxury-retailers-sustainability/ (Accessed: 28 August 2023).

Elkington, J. (2018) 25 years ago I coined the phrase 'triple bottom line.' here's why it's time to rethink it., Harvard Business Review. Available at: https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it%20%5bhbr.org%5d (Accessed: 25 October 2023).

Fryxell, G.E. and Lo, C.W. (2003) 'The Influence of Environmental Knowledge and Values on Managerial Behaviours on Behalf of the Environment: An Empirical Examination of Managers in China', *Journal of Business Ethics*, 46, pp. 45–69. https://doi.org/10.1023/a:1024773012398.

Gardetti, M. and Muthu, S., 2015. Handbook of sustainable luxury textiles and fashion. Springer.

Godart, F. and Seong, S. (2015) 'Is sustainable luxury fashion possible?', in *Sustainable Luxury*. 1st edn. London: Greenleaf Publishing, pp. 12–27.

Goh, S.K. and Balaji, M.S. (2016) 'Linking green skepticism to green purchase behavior', *Journal of Cleaner Production*, 131, pp. 629–638. https://doi.org/10.1016/j.jclepro.2016.04.122.

Hasbullah, N.N., Sulaiman, Z. and Mas'od, A. (2020) 'User-Generated Content Sources: The Use Of Social Media In Motivating Sustainable Luxury Fashion Consumptions', *INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH*, 9(3). Available at: https://www.researchgate.net/publication/340621815_User-Generated_Content_Sources_The_Use_Of_Social_Media_In_Motivating_Sustainable_Luxury_Fashion_Consumptions (Accessed: 31 October 2023).

Henninger, C.E. *et al.* (2017) 'Consumption strategies and motivations of Chinese consumers', *Journal of Fashion Marketing and Management: An International Journal*, 21(3), pp. 419–434. https://doi.org/10.1108/jfmm-05-2017-0046.

Henninger, C.E., Alevizou, P.J. and Oates, C.J. (2016) 'What is sustainable fashion?', *Journal of Fashion Marketing and Management: An International Journal*, 20(4), pp. 400–416. https://doi.org/10.1108/jfmm-07-2015-0052.

Hennigs, N.P., Wiedmann, K.-P. and Klarmann, C. (2013) 'Consumer Value Perception of Luxury Goods: A Cross-Cultural and Cross-Industry Comparison', in *Luxury marketing: A challenge for theory and Practice*. Wiesbaden: Springer Gabler, pp. 78–99.

Jain, S. (2018) 'Factors affecting sustainable luxury purchase behavior: A conceptual framework', *Journal of International Consumer Marketing*, 31(2), pp. 130–146. https://doi.org/10.1080/08961530.2018.1498758.

Janssen, C., Vanhamme, J. and Leblanc, S. (2017) 'Should luxury brands say it out loud? brand conspicuousness and consumer perceptions of responsible luxury', *Journal of Business Research*, 77, pp. 167–174. https://doi.org/10.1016/j.jbusres.2016.12.009.

Jung, S. and Jin, B. (2014) 'A theoretical investigation of slow fashion: Sustainable Future of the apparel industry', *International Journal of Consumer Studies*, 38(5), pp. 510–519. https://doi.org/10.1111/ijcs.12127.

Kapferer, J. (2010) "All that glitters is not green: The challenge of sustainable luxury," European Business Review [Preprint]. Available at: https://www.researchgate.net/publication/306152247_All_that_glitters_is_not_green_The_challenge_of_sustainable_luxury (Accessed: April 20, 2023).

Kapferer, J.N. and Michaut, A. (2015) 'Luxury and sustainability: A common future? the match depends on how consumers define luxury', *Luxury Research J.*, 1(1). https://doi.org/10.1504/lrj.2015.069828.

Kapferer, J.-N. and Michaut-Denizeau, A. (2017) 'Is luxury compatible with sustainability? luxury consumers' viewpoint', *Advances in Luxury Brand Management*, pp. 123–156. https://doi.org/10.1007/978-3-319-51127-6_7.

Karaosman, H. *et al.* (2020) 'Behind the runway: Extending sustainability in luxury fashion supply chains', *Journal of Business Research*, 117, pp. 652–663. https://doi.org/10.1016/j.jbusres.2018.09.017.

Kennedy, J. (2023) The life cycle of a viral fashion trend, The Business of Fashion. Available at: https://www.businessoffashion.com/articles/marketing-pr/the-life-cycle-of-a-viral-fashion-trend/ (Accessed: 03 September 2023).

Kent, S. (2022) How do fashion's biggest luxury players stack up on sustainability?, The Business of Fashion. Available at: https://www.businessoffashion.com/articles/sustainability/how-do-fashions-biggest-luxury-players-stack-up-on-sustainability/#:~:text=Kering%20and%20Burberry%20top%20the,Capri%2C%20Richemont%20and%20Tapestry%20lag.&text=When%20it%20comes%20to%20sustainability,better%20than%20lower%2Dcost%20players. (Accessed: 22 August 2023).

Kent, S. (2023a) Fashion's animal welfare taboo, The Business of Fashion. Available at: https://www.businessoffashion.com/articles/sustainability/animal-welfare-leather-fashion-fur/#:~:text=In%202017%2C%20Gucci%20famously%20declared,animal%2Dbased%20materials%2C%20however. (Accessed: 01 September 2023).

Kent, S. (2023b) Explainer: Why New Sustainability Rules are worrying the Fashion Industry, The Business of Fashion. Available at: https://www.businessoffashion.com/articles/sustainability/european-fashion-alliance-eu-regulation-sustainability-lobby/ (Accessed: 04 September 2023).

Kim, H.-S. and Damhorst, M.L. (1998) 'Environmental concern and apparel consumption', *Clothing and Textiles Research Journal*, 16(3), pp. 126–133. https://doi.org/10.1177/0887302x9801600303.

Ko, E., Costello, J.P. and Taylor, C.R. (2019) 'What is a luxury brand? A new definition and review of the literature', *Journal of Business Research*, 99, pp. 405–413. https://doi.org/10.1016/j.jbusres.2017.08.023.

Kovesi, C. (2015) 'What is luxury?: The rebirth of a concept in the early modern world', *Luxury*, 2(1), pp. 25–40. https://doi.org/10.1080/20511817.2015.11428563.

Kumar, B., Manrai, A.K. and Manrai, L.A. (2017) 'Purchasing behaviour for Environmentally Sustainable Products: A conceptual framework and empirical study', *Journal of Retailing and Consumer Services*, 34, pp. 1–9. https://doi.org/10.1016/j.jretconser.2016.09.004.

Kumar, A., Paul, J. and Unnithan, A.B. (2020) '"masstige" marketing: A review, synthesis and research agenda', *Journal of Business Research*, 113, pp. 384–398. https://doi.org/10.1016/j.jbusres.2019.09.030.

Lichy, J. *et al.* (2023) 'Resale as sustainable social innovation: Understanding shifts in consumer decision-making and shopping orientations for high-end secondhand clothing', *Social Enterprise Journal* [Preprint]. https://doi.org/10.1108/sej-01-2023-0016.

McKinsey & Company. (2022) Available at: https://www.mckinsey.com/industries/retail/our-insights/state-of-fashion (Accessed: 04 September 2023).

McNeill, L. and Moore, R. (2015) 'Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice', *International Journal of Consumer Studies*, 39(3), pp. 212–222. https://doi.org/10.1111/ijcs.12169.

Mishra, S. *et al.* (2022) 'Millennials' self-identity and intention to purchase sustainable products', *Australasian Marketing Journal*, 31(3), pp. 199–210. https://doi.org/10.1177/18393349221075026.

Nash, J., Ginger, C. and Cartier, L. (2016) 'The sustainable luxury contradiction: Evidence from a consumer study of marine-cultured pearl jewellery', Journal of Corporate Citizenship, 2016(63), pp. 73–95. https://doi.org/10.9774/gleaf.4700.2016.se.00006.

Park, C.W., Mothersbaugh, D.L. and Feick, L. (1994) 'Consumer knowledge assessment', *Journal of Consumer Research*, 21(1), p. 71. https://doi.org/10.1086/209383.

Phau, I. and Prendergast, G. (2000) 'Consuming luxury brands: The relevance of the "Rarity Principle"', *Journal of Brand Management*, 8(2), pp. 122–138. https://doi.org/10.1057/palgrave.bm.2540013.

Pucker, K. (2022) The myth of sustainable fashion, Harvard Business Review. Available at: https://hbr.org/2022/01/the-myth-of-sustainable-fashion (Accessed: April 27, 2023).

Rausch, T.M. and Kopplin, C.S. (2021) 'Bridge the gap: Consumers' purchase intention and behavior regarding sustainable clothing', *Journal of Cleaner Production*, 278, p. 123882. https://doi.org/10.1016/j.jclepro.2020.123882.

Roberts-Islam, B., 2022. Fashion Isn't Becoming More Sustainable, But Next-Gen Materials Might Fix That. [online] Forbes. Available at: https://www.forbes.com/sites/brookerobertsislam/2022/02/25/fashion-isnt-becoming-more-sustainable-but-next-gen-materials-might-fix-that/?sh=1de5be0c68ad (Accessed 1 September 2022).

Roshitsh, K., 2022. *Next-gen Materials Saw $2.3B Invested Since 2015, Report Finds – WWD*. [online] Wwd.com. Available at: https://wwd.com/sustainability/materials/next-gen-materials-saw-2-3b-investments-with-growth-ongoing-report-finds-1235142994/ (Accessed 1 September 2022).

Sander, F. *et al.* (2021) 'Green or social? an analysis of environmental and Social Sustainability Advertising and its impact on brand personality, credibility and

attitude', *Journal of Brand Management*, 28(4), pp. 429–445. https://doi.org/10.1057/s41262-021-00236-8.

Sestino, A., Amatulli, C. and De Angelis, M. (2022) 'Consumers' attitudes toward sustainable luxury products: The role of perceived uniqueness and conspicuous consumption orientation', *Sustainable Textiles: Production, Processing, Manufacturing and Chemistry*, pp. 267–279. https://doi.org/10.1007/978-981-16-5967-6_12.

Tang, Y. (Elina) and Hinsch, C. (2018) 'Going green to be morally clean: An examination of environmental behavior among materialistic consumers', *Psychology and Marketing*, 35(11), pp. 845–862. https://doi.org/10.1002/mar.21139.

Thomas, D. (2022) Inside the luxury fashion industry's Big Sustainability push, British Vogue. Available at: https://www.vogue.co.uk/fashion/article/fashion-industry-sustainability (Accessed: 22 August 2023).

United Nations. (1987) Report of the World Commission on Environment and Development Our Common Future. rep.

Van der Werff, E., Steg, L. and Keizer, K. (2013) 'I am what I am, by looking past the present', Environment and Behavior, 46(5), pp. 626–657. Available at: https://journals.sagepub.com/doi/epub/10.1177/0013916512475209.

Veblen, T. (1992). The Theory of the Leisure Class (1st ed.). Routledge. https://doi.org/10.4324/9781315135373

Vigneron, F. and Johnson, L.W. (2017) 'Measuring perceptions of Brand Luxury', *Advances in Luxury Brand Management*, pp. 199–234. https://doi.org/10.1007/978-3-319-51127-6_10.

17

Small Changes, Big Impact: The Implications of Nearshoring on Latin America

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17.1 Small Changes, Big Impact: The COVID-19 Crisis

Chaos theory, often referred to as the Butterfly Effect, which studies nonlinear dynamic systems, originates from the field of physics, and has since seen increased application in the social sciences (Levy 1994; Mossinkoff and Kent 2017). Chaos theory focuses on the entirety rather than parts of a phenomenon, highlighting that nothing exists in a vacuum, but rather as part of complex structures and dynamics. Williams (2010: 223) states "the flap of a butterfly's wing might lead to a storm or other event halfway around the

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globe", thus, any small change in a system and/or environment can have a big impact.

Who would have thought that this theory becomes even more relevant for the fashion industry in the twenty-first century, which, up until the beginning of 2020, has seen a steady increase in year-on-year revenues. Yet, this was prior to COVID-19, a global pandemic that has changed the world as we know it and in which it is "estimated that revenues for the apparel and footwear sectors will contract by 27 to 30 percent in 2020 year-on-year with even deeper declines in some sub-sectors and geographies" (Berg et al. 2020: 5). Various major department store chains (e.g. Debenhams, Galeria Karstadt Kaufhof) have indicated financial difficulties as sales in their physical stores have dropped dramatically as a consequence of the pandemic, indicating that jobs are not only at risk, but some are already lost (Vogue 2020). Some of these have since permanently ceased operations. Moreover, various major (fast) fashion brands have cancelled orders and declined payments for orders made prior to the pandemic that can now no longer be sold, thereby leaving manufactures at a loss, as they are unable to pay their workers, who suffer the most from the current pandemic (Fashion Revolution 2020; Vogue 2020).

Amidst this bleak backdrop, we however also see some positive outcomes, in that sustainability continues to hold a centre stage position. Sustainability is not a new phenomenon, but rather has stirred debate since the 1970s, and has become more important than ever in recent years (Henninger et al. 2016; Athwal et al. 2018; Davies et al. 2020). It (sustainability) has moved from being simply a buzzword of the twenty-first century to a necessity that needs to be incorporated across industries and lifestyles (Henninger et al. 2017; Athwal et al. 2019; Davies et al. 2020). Sustainability most commonly refers to social, environmental, and economic aspects and its related issues (Henninger et al. 2016), which in the twenty-first century (pre-COVID-19) was coined by climate change actions, with many countries and institutions having declared a climate emergency that calls for rethinking of current practices (e.g. Rankin 2019). The fashion industry has been singled out more than once in the last decade as an industry that is polluting the environment and mistreating humans and animals alike, with pressure groups including Fashion Revolution (2020) and Extinction Rebellion (2020) calling for changes to be implemented and a more sustainable future to be created. Although companies are increasingly committed to making changes and putting sustainability at the core of their business operations, it was not always feasible to successfully implement and execute all strategies. An explanation that can be given is the fact that the industry is highly volatile and fast changing and as such has

seen dramatic changes in its landscape over the past decades and even century (Henninger et al. 2018; McKinsey 2019).

This has now changed, as the global pandemic is forcing industries to re-think current practices and approaches. To explain, the post-COVID-19 world that has seen an industrial standstill, which provides a key turning point in history that has two opposing options: (1) go on as if nothing has happened or (2) look at positive outcomes (e.g. reduction in CO_2 emission) and try and enhance these further without negative implications (e.g. job losses). To reiterate this further, in their recent report, Edited (2020) have indicated that the 'forced' slowdown of the industry has resulted in a 25% reduction of greenhouse gases, whilst at the same time, consumers start to make more conscious purchase decisions, thereby focusing on buying less, but better. Berg et al. (2020) further outline future outlooks, indicating in their publication that 'times are changing', which could see current industry prac-tices being questioned even further and new structures implemented. Thus, companies may re-evaluate their sourcing strategies, "to better balance risk, cost, and flexibility" (ibid: 12), which could imply developing stronger dual sourcing and nearshoring relationships. The latter is of interest to this chapter and will be further evaluated in the context of Latin America.

17.2   Latin America, Nearshoring Opportunity, and COVID-19

17.2.1   Latin America: Overview

Prior to discussing the impact of COVID-19 on nearshoring and Latin America, it is vital to understand what we refer to as 'Latin America' and the emergence and importance of nearshoring. According to the Encyclopaedia Britannica (2020), Latin America can be divided into Mexico, Central America, South America, and the Caribbean Islands and as such incorporates more than 30 countries. According to Young (2017) "the fashion market in Latin America is bigger than the Middle East and growing as fast as Asia", this is in terms of not only spending power but also manufacturing opportunities. Although there remains a great disparity between countries and within coun-tries, in terms of financial resources, income, and class, Latin America has managed to emerge as a global fashion player (Suhrawardi 2019).

What is further noteworthy is the fact that sustainability seems to be a key focal point in Latin America and will (hopefully) increase over time. To

explain, the Latin American Fashion Summit, which was established to support the fashion industry and showcase talent from the Latin American region, offered networking events and workshops that fostered discussions of interest from its participants and members, which in 2019 was on sustainability and social responsibility (LAFS 2019). Over 700 members attended the second Latin American Fashion Summit representing 20 countries, thus, over half of the countries making up Latin America. This further reiterates the point that sustainability seems to be of concern in Latin America (LAFS 2019; Suhrawardi 2019). Moreover, individual countries, including, but not limited to Brazil, Columbia, and Mexico have further made a name to take a stronger sustainability stance in the fashion industry and become almost drivers of the sustainability agenda.

Brazil is not only a textile producer, as it is the third largest exporter for cotton globally and involved across the apparel pipeline from providing raw materials, to spinning yarns and making woven materials, to producing finished textile goods, but also actively promoting sustainable fashion, through its Eco Fashion Week, which was established in 2017 (Common Objective 2018; Petty 2018). Brazil is also the "birthplace of some great sustainable fashion brands" (Fashion Revolution 2014), such as VEJA, who design shoes from organic cotton and natural rubber that is sourced sustainability from the Amazon. According to VEJA (2020), "for a kilo of harvested rubber, 1.2 ha of forest is protected every year", thus not only showcasing environmental responsibility but also paying a higher price for the rubber that provides workers with a living. A further example is Osklen, a luxury fashion pioneer that was set up in 1998 with sustainability at the core of the business. Osklen utilises organic cotton, recycled plastic, and innovative materials, such as pirarucu fish leather (a natural waste material form the Pirarucu fish skin (Turner 2019)) in its collections, thereby making a stance that sustainability is not only a viable option to conduct business, but also essential and will only grow in importance in the future (Common Objective 2018; Osklen 2020). Insecta is the last example to be discussed. Founded in 2015, Insecta is the first company in Brazil and the second fashion company globally to have been B-corp certified, which implies that they "have a responsibility to provide solutions to social and environmental problems" by further operating to high standards of management transparency (Insecta 2020a). Insecta utilises recycled materials (e.g. plastic bottles, cotton, rubber, vintage clothing, deadstock fabrics) to create new shoes that are termed as 'ecosexy', which is described as "the union of ethics and aesthetics" (Insecta 2020b).

Columbia has been named number one in Latin America for promoting and supporting sustainable development and ethical practices by the Sourcing

Journal (2018), and as a country supports environmental standards, such as the ISO14000 and 9000 series and Fair Trade. The British clothing brand Páramo collaborates with the Columbia-based Miquelina Foundation, which was set up in order to support vulnerable women in Bogotá and provide them with an opportunity to gain new skills and work in a safe environment (Páramo 2024). The Miquelina Foundation has since transformed into a viable business that employs 120 women, and since 2017 is a member of the World Fair Trade Organisation (Clayton 2019; Páramo 2024). A further example is Lafayette, whose business centres on sustainable eco fabrics, supports its workers through affordable housing and day-care centres, whilst at the same time seek to "develop technological processes to minimize the environmental impact" their materials could have on the natural environment (Lafayette 2019).

Mexico is a further key player within the Latin American fashion industry, which has seen stable growth rates, compared to their regional counterparts, fostered by a population segment that has high purchasing powers (Brown 2018; CottonWorks 2018). Campos Deschamps et al. (2017) further point out that the Mexican population has an affinity for sustainability, and thus shows a willingness to not only embrace ethical fashion but to also shop more consciously for it (sustainable fashion), thus making the country a key player for the sustainable fashion market. Laguna Collective (2020) and Collectiva Concepcion (2020a) are examples of organisations that focus on social and environmental sustainability, with both supporting artisan handicraft of indigenous communities and utilising organic materials that are not only woven on pedal looms (Collectiva Concepcion 2020b) but also dyed with traditional techniques (Laguna Collective 2020). Maralgui (2020), on the other hand, has developed a sustainable technology that allows them to produce *"Bolsas de papel, bonitas, que resisten y nos ayudan a salvar el planeta"* (ibid) (beautiful paper bags that are water resistant and help us save the planet). Their unique technology has enabled Mariana Navarro (founder) to create a leather-like material that is washable, handcrafted, waterproof, and made from 100% eco-friendly paper (Maralgui 2020).

Although these examples highlight that there is great potential in Latin America not only in terms of being a manufacturing destination that shows technological advancements to support a sustainable fashion future but also in driving the sustainability agenda forward as consumers are willing to purchase more sustainable choices (e.g. Brown 2018; CottonWorks 2018), it currently remains in its infancy and will need to be nurtured in order to further blossom. To explain, Ibrahim (2017) reported on scandals surrounding American Apparel, who had their garments produced under sweatshop-like

conditions within Central America and the Caribbean Islands, which high-
lights that there remain issues with social sustainability and labour law.
Scandals that expose poor working conditions and environmental hazards are
commonplace in the fashion industry and do not solely occur in developing
countries but also in developed ones (e.g. Heighton-Ginns and Prescott
2019). An explanation that can be provided of why these issues still remain to
date are the continuous fashion appetite for cheap clothing that often 'forces'
manufacturers to cut corners in order to stay competitive, the price of which
is paid by workers as seen in the devastating factory collapse of Rana Plaza in
2013 (Sharma and Hall 2010; Henninger et al. 2016; Safi and Rushe 2018).

Berg et al. (2020) have highlighted that nearshoring will become even more
important post-COVID-19 pandemic as it allows for more flexibility in the
supply chain, which is discussed in the next section of this chapter. Whilst this
will be a great opportunity in terms of economic sustainability and develop-
ment, it is vital to ensure that Latin America will be supported in their effort
to continue to drive and thrive for a more sustainable fashion industry.

17.2.2　Nearshoring and COVID-19

When the industrial revolution started to peak and wages increased with
economies developing rapidly, sectors, including the fashion and textile indus-
try, started looking for opportunities to move into surrounding countries
(nearshoring) or further afield (offshoring), which might be less developed,
and thus allow for keeping product prices down by having to expense less on
wages (Bock 2008; Boardman et al. 2020). Nearshoring is a common practice
within the textile and apparel industry, for example Western European manu-
facturers often have their garments produced in Eastern Europe, in countries
such as Rumania, Bulgaria, and Croatia but also Turkey (ILO 1996; Barrie
2014), whilst companies from the United States of America are using factories
in, for example, Mexico, El Salvador, and Honduras (e.g. Shannon 2017;
McKinsey 2019, 2020).

Various benefits are associated with nearshoring, such as identical time
zones, which is beneficial, especially when a brand might need to change or
amend orders at short notice. This can also translate into more flexibility
across the supply chain, as proximity implies that products can be produced
quicker and lead times can be reduced (Boardman et al. 2020). In case of any
issues that may arise with orders, such as having to amend the amount or stop
manufacturing due to miscalculated sizing or consumer uptake, problem
solving is more efficient and effective if the manufactures are in closer

proximity, as trips can be organised to go to the manufacturing site. In addition, nearshoring is currently used to produce fewer quantities of fashionable items that have been trending and, thus, seen a high consumer buy-in (Camargo et al. 2020). An explanation as for why nearshoring has been popular with fashion companies is the fact that it allows for a shorter and more efficient delivery time, as well as a stronger local branding approach. Moreover, conducting a site visit in a neighbouring country is not only less costly, compared to offshoring destinations, but also travel time is relatively short, making quick and short notice inspection visits a feasible and viable option, which may be especially important when it comes to sustainability and adherence to contractual terms and guidance. Nearshoring may also be beneficial for consumers supporting fashion brands based on low transport miles and emissions. Mitigating environmental, social but also operational risks may be more feasible with nearshoring as closer production to headquarters implies more control over communication and logistics (Brun et al. 2016). Due to the proximity of countries, it can also be assumed that there are historic ties, which can promote collaboration, whilst at the same time neighbouring countries might also be closer in terms of their culture, thus it is less likely that culture clashes may occur (Antoshak 2019; Boardman et al. 2020; Fibre2Fashion 2020).

As with anything, there are not only benefits but also drawbacks, in that nearshoring is costlier than offshoring, as neighbouring countries may not necessarily be classified as 'low labour cost' countries. Even though some neighbouring countries are close in culture, others might not be, for example Western European countries and Turkey, with the former being predominantly of Christian faith, whilst the latter is guided by Islamic principles. As a result, there may be various cultural differences in terms of religious bank holidays, values, and language that need to carefully considered and reviewed. Moreover, economic, environmental, social, and political issues in the countries' environments can have an impact on relationships, and in a worst-case scenario lead to production delays or terminated contracts (Antoshak 2019; Boardman et al. 2020; Fibre2Fashion 2020).

Economic and environmental issues played and are still playing a key role not only during COVID-19 but also now post-COVID. Fashion manufactures have complex global supply chains that cannot always adapt quickly to changes in the market environment (Boardman et al. 2020). When the COVID-19 outbreak started in China, non-essential businesses, including clothing and textile manufacturing sites, were closed (Just-Style 2020; Kelly 2020), which has meant a standstill in the fashion cycle that sees turnaround times of between 7 and 14 days (Henninger et al. 2016; Blazquez Cano et al.

2020). Whilst, on the one hand, this led to reductions in CO_2 emission rates globally, as indicated in the introduction, it also meant that fashion companies were unable to gain orders and restock their outlets (Edited 2020). As the pandemic spread from China to hit other countries, lockdowns were imposed, which implied, when China was able to reopen their manufacturing locations and start up production again, these products could not be sent out and/or sold in the destination countries, which has led to fashion companies cancelling orders and declining outstanding payments (Fashion Revolution 2020; Kelly 2020; Vogue 2020).

In 2018 Andersson et al. (2018) pose a key question "is apparel manufacturing coming home?", thereby highlighting that nearshoring, automation of supply chains, and sustainability become increasingly important. The recent COVID-19 crisis has enhanced this thinking process further, as nearshoring would have meant orders could have been stopped potentially earlier, thereby creating fewer financial losses, but potentially also enabled companies to change what they are producing quicker. Whilst these are hypothetical thought processes, the COVID-19 crisis has highlighted various shortcomings in the fashion industry: (1) lack of flexibility and adaptability, as orders were cancelled too late and workers now suffering the consequences; (2) dependency on a small number of manufacturing countries, which implies that in times of crisis even essential products (e.g. face masks, personal protective equipment) could no longer be sourced; (3) waste management issues, as (fast) fashion retailers usual order in bulk, however, as garments are no longer needed and/or can no longer be sold due to their seasonality, there is a question of what happens to this overstock that is now seen as unwanted waste material. Moreover, as previously indicated, consumer behaviour post-COVID-19 may also change. Whilst we can already observe a trend towards more conscious consumption (Edited 2020), this may see further support, with economies potentially facing a recession, as people having lost their jobs and, thus, financial income to spend on non-essential items, such as garments.

Although it is unknown what the future holds, it is vital to take these aspects into consideration and carefully review what the implications might be for Latin America as a nearshoring destination, which is discussed in the following section.

17.2.3 Latin America: The Future of Nearshoring Post-COVID-19

In summarising what has been highlighted thus far about Latin America, we can say that Latin America as a continent shows strong commitment to developing a more sustainable fashion industry, which is evidenced by the emergence of various sustainable fashion brands that not only have a strong social and environmental commitment but also highlight technological innovations that support sustainable practices (e.g. Brown 2018; CottonWorks 2018; Maralgui 2020). It was also demonstrated that Latin America is already a nearshoring destination, which implies that Latin American has various key manufacturing hubs that are producing garments and textiles not only for local fashion brands but also for global players (Shannon 2017; McKinsey 2019, 2020).

Following in line with Andersson et al. (2018) and Berg et al. (2020) it becomes evident that nearshoring will increase in importance post-COVID-19, which implies that Latin America could see an increase in manufacturing practices and raw material production. Whilst this could be seen as an economic opportunity, as increased levels of industrialisation, will not only stimulate local economies but also create job opportunities and could (ideally) start reducing the gap between rich and poor, there can also be environmental and social challenges that need to be carefully considered in order to ensure that Latin America that has been striving to and fostering a sustainable future can continue to do so even if there is an increase in demand for raw materials and production arrangements.

Increased demand for raw materials is already a key issue linked to sustainability. With companies starting to move away from synthetic man-made fibres, such as polyester and nylon, due to increased awareness of microfiber pollution, and towards natural fibres, including man-made cellulosic fibres (viscose and rayon fabrics) deforestation becomes an issue (Fibre2Fashion 2014; McCullough 2014; Canopy 2020; Yan et al. 2020). Not only are "more than 150 million trees logged every year and turned into cellulosic fabric" (Canopy 2020), but also some of these trees used originate from endangered and ancient rainforest, which can have devastating consequences (McCullough 2014). Deforestation is further linked to fires, with recent media indicating that "the 'lungs of the planet' are on fire" (Woodward 2019), which is an issue especially for the Brazilian Amazon. We can return again to the Butterfly effect, as a small thing, such as the coronavirus can have a big impact, as evidenced in the COVID-19 pandemic that in turn can have unexpected

consequences impacting global livelihoods. Cutting down trees in the Amazon rainforest is an issue not only due to potential loss of flora and fauna, as well as destroying habitats of indigenous people, but also as the Amazon rainforest is vital in combating CO_2 emissions (Gatehouse 2020; WWF 2020). Thus, a challenge here that needs to be carefully addressed is what impact nearshoring might have, as increased economic opportunities might imply having to expand factory facilities, potentially increase the amount of raw materials that need to be sourced and/or produced, and urbanise more land in order to allow workers to live close to factory sites, all aspects of which could further enhance and foster the destruction of the rainforest, the global implications of which could be devastating.

A potential solution for negative implications of nearshoring could be overarching guiding principles that are carefully managed, such as environmental standards or eco-labels, which are a form of private and self-regulation with an increasing worldwide popularity aiming at supporting sustainable consumption and production. To date there are approximately 457 eco-labels, nine of which are dedicated to the textile and fashion industry (e.g. Organic Content Standard, Global Organic Textile Standard (GOTS), Oeko-Tex Standard 100, Global Organic Textile Standard), 73 are used in organic production, and a further nine are certifying Fair Trade worldwide (Henninger 2015; Ecolabel Index 2020). It may not be surprising that Latin America shows not only strong support for sustainability standards, but also has a long-standing relationship with the International Organization for Standardization (ISO), and, thus, encourages companies to adhere to the ISO14000 and 9000 series (Naden 2018; Sourcing Journal 2018). An explanation here could be that the Brazilian Associação Brasileira de Normas Técnicas (ABNT 2014), established in 1940, is one of the founding members of the ISO and is an accredited registration body to certify quality and environmental management systems, and several products. Similarly, the Instituto Argentino de Normalización y Certificación (IRAM), founded in 1935, is the Argentine equivalent, involved in standards setting and certifications (ISO, n.d.). Moreover, in 2018, the Global Sustainability Standards Symposium in Brazil brought together business leaders, accreditation bodies, NGOs, and government representatives to discuss eco-labels, standards, and business competitiveness (ISEAL 2018). This further demonstrates an earlier point made, in that there seems to be a need to find overarching guiding principles that are transnational and support sustainability and sustainable development.

Although eco-labels provide a lot of opportunities, supply chain management and thus, nearshoring, is one of the challenges of developing and sustaining a competitive eco-label market. Explanations that can be provided are

complex auditing systems and contractual agreements, inspection requirements and resources, efficiency and quality control management, all of which come at a cost and need to be carefully maintained, which is not always a possibility (Alevizou et al. 2015). With a majority of fashion organisations no longer producing garments themselves, but having these outsourced to either nearshore or offshore locations, achieving sustainable and responsible global supply chains can be challenging, as there is a lack of control in terms of how contracted business partners are operating and/or implementing production practices (Boström et al. 2015). To reiterate this further, with a shift in production destinations, a "governing at a distance" approach has emerged, which becomes tenuous and temporal (Loconto 2015: 72). A governing distance approach implies that local interests and institutions are more influential than written standards, which presents a challenge in terms of standards alignment and governance, especially from a distance. Loconto (2015) highlights that, when these interests misalign, the ability to govern will no longer be available. As such, the geographical challenge in complex supply chains, such as the ones in the fashion industry, is becoming more relevant as efforts are being made to create 'shorter' and more sustainable supply chains, which involves a reduction of geographical distances and a return to closer proximities, both in terms of actual distance (kilometres), but also in terms culture distance (e.g. values, traditions, language) (Boström et al. 2015; Andersson et al. 2018; Berg et al. 2020).

A local sourcing and governance approach may also address standards compliance and implementation as studies show that ensuring on the ground compliance with principles and guidelines is a challenge (Boström 2015). This may justify the efforts by ABNT and the Brazilian Government and other stakeholders, aiming to develop two official eco-labels by mid-2020 (ABNT 2019) as studies stress risks associated with global generic standards and governance (e.g. Loconto 2015; Henninger 2015). However, this is not to imply that multiple local standards and eco-labels are the only way forward. Brazil, for instance, saw a boom in greenwashing claims in the previous decade reaching 41 green standards in 2015 with only 15% of the green claims being backed up by third-party certifications (Moodie 2015). As such efforts should be made in ensuring traceability, transparency, credibility, and compliance of standards setting, auditing practices, and implementation.

17.3   Concluding Remarks

The twenty-first century provides Latin America with a lot of potential whereby small changes can have a big impact. Depending on how and what individual countries are deciding to do, they can drive the sustainability agenda in the future and nurture their potential of developing environmentally friendly materials and collections. With consumers becoming increasingly conscious of the impact their decision-making has on the natural environment (Nikolaou and Tsalis 2018), which is further fostered by the COVID-19 pandemic (Edited 2020), companies can gain renewed momentum to implement more sustainable practices across their supply chains. This could be done, by, for example, promoting sustainable production, through innovative and eco-materials (e.g. recycled materials, Pirarucu fish leather) (e.g. Turner 2019; Maralgui 2020; Osklen 2020), or through the use of eco-labels and standards that are third party certified. However, a challenge that emerges with the latter is the fact that with more than 400 standards globally consumers feel confused and sceptical in terms of whether these certifications are real, or part of greenwashing (e.g. Moodie 2015), what they mean, and how they affect sustainable production and consumption.

Moreover, standardising certifications and eco-labels has been an ongoing challenge for policy makers and organisations worldwide. A reason for this is that global variations in legislation, cultural diversity, and practices can be problematic for global standards, as there is no one-fits-all approach. Latin America may have an opportunity to alleviate some of the challenges with nearshoring as traceability and transparency may organically emerge with closer to home production (Henninger 2015) and thus, develop a framework of guiding principles that is overarching in nature, whilst at the same time acceptable to all countries involved in textile manufacturing. It will be interesting to see what the future holds and how the impact of a butterfly's wing will change, foster, and/or enhance current sustainability practices within the region. Seeing as sustainability is already a vital part of the Latin American fashion industry, it is hoped that this is continuous in the years to come.

References

ABNT (Associação Brasileira de Normas Técnicas) (2019) *Capacity building on Type 1 eco-labels in Latin America and Caribbean*, Workshop delivered as part of the UN Environmental Program, August 2019.

Alevizou, P., Henninger, C.E., & Redmond, J., (2015) *A stepping-stone to EMS: A stakeholder approach*. British Academy of Management Conference, Portsmouth University, UK.

Andersson, J., Berg, A., Hedrich, S., Ibanez, P., Janmark, J., & Magnus, K.H. (2018) *Is apparel manufacturing coming home?*, McKinsey (online): https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/Is%20apparel%20manufacturing%20coming%20home/Is-apparel-manufacturing-coming-home_vf.ashx, 06/06/2020.

Antoshak, R.P. (2019) *From field to shelf - so, is nearshoring ta thing?*, Just-style (online): https://www.just-style.com/comment/from-field-to-shelf-so-is-nearshoring-a-thing_id137305.aspx, 06/06/20.

Associação Brasileira de Normas Técnicas (ABNT) (2014) *Conheça a ABNT,* ABNT (online): http://www.abnt.org.br/abnt/conheca-a-abnt, 07/06/20.

Athwal, N., Nervino, E., Carrigan, M. & Wells, V. K. (2018) Communication Sustainability: The Cases of LVMH and Kering, accepted at The Mystique of Luxury Brands Conference, Singapore, 8th May 2018.

Athwal, N., Wells, V., Carrigan, M., and Henninger, C.E. (2019) Sustainable luxury marketing: a synthesis and research agenda, *International Journal of Management Review*, 21(4): 405–426

Barrie, L. (2014) *Eastern Europe a 'cheap labour sewing backyard',* Just-Style (online): https://www.just-style.com/analysis/eastern-europe-a-cheap-labour-sewing-backyard_id122003.aspx, 05/06/2020.

Berg, A., Haug, L., Hedrich, S., & Magnus, K.H. (2020) *Time for change*, McKinsey (online): https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/Time%20for%20change%20How%20to%20use%20the%20crisis%20to%20make%20fashion%20sourcing%20more%20agile%20and%20sustainable/Time-for-change-How-to-use-the-crisis-to-make-fashion-sourcing-more-agile-and-sustainable.ashx, 03/06/20.

Blazquez Cano, M., Henninger, C.E., Alexander, B., and Franquesa, C. (2020) Consumers' knowledge and intentions towards sustainability: A Spanish fashion perspective, *Fashion Practice,* 12(1): 34–54.

Boardman, R., Parker Strak, R., & Henninger, C.E. (2020) *Fashion Buying & Merchandising in the 21st century*, Routledge, Abington, UK

Bock, S. (2008) Supporting offshoring and nearshoring decisions for mass customization manufacturing processes, *European Journal of Operational Research*, 184: 490–508.

Boström, M., Jönsson, A.M., Lockie, S., Mol, A.P. & Oosterveer, P. (2015). Sustainable and responsible supply chain governance: challenges and opportunities. *Journal of Cleaner Production*, *107*: 1–7.

Boström, M. (2015). Between monitoring and trust: commitment to extended upstream responsibility. *Journal of Business Ethics*, *131*(1): 239–255.

Brown, H. (2018) *Mexican wave: why fashion brands are eyeing this growing market*, Drapers (online): https://www.drapersonline.com/business-operations/mexican-wave-why-fashion-brands-are-eyeing-this-growing-market/7032860.article, 07/06/20.

Brun, A., Castelli, C. & Karaosman, H. (2016) *See now buy now: A revolution for luxury supply chain management*. In Workshop on business models and ICT technologies for the fashion supply chain (pp. 33–46). Springer, Cham.

Camargo, L.R., Pereira, S.C.F., & Scarpin, M.R.S. (2020) Fast and ultra-fast fashion supply chain management: an exploratory research. International Journal of Retail & Distribution Management, ahead-of-print (https://doi.org/10.1108/IJRDM-04-2019-0133).

Campos Deschamps, T., Carnie, B., & Mao, N. (2017) Public consciousness and willingness to embrace ethical consumption of textile products in Mexico, *Textiles and Clothing Sustainability*, 2(6): 1–16.

Clayton, J. (2019) *Miquelina Foundation - How Páramo clothing is helping vulnerable women in Columbia*, MPora (online): https://mpora.com/gear/miquelina-foundation-paramo-clothing-columbia/, 06/06/2020.

Canopy (2020) *CanopyStyle*, Canopy (online): https://canopyplanet.org/campaigns/canopystyle/, 07/06/20.

Collectiva Concepcion (2020a) *Collectiva*, Collectiva Concepcion (online): https://collectivaconcepcion.com/pages/about, 07/06/20.

Collectiva Concepcion (2020b) *Pedal loom: craft and heart,* Collectiva Concepcion (online): https://collectivaconcepcion.com/pages/journal, 07/06/20.

Common Objective (2018) *The Brazilian brand embracing sustainability*, Common Objective (online): https://www.commonobjective.co/article/the-brazilian-brands-embracing-sustainability, 06/06/20.

CottonWorks (2018) *Mexico and the global apparel industry*, CottonWorks (online): https://www.cottonworks.com/wp-content/uploads/2018/05/Cotton-Incorporated-Market-Research-Mexico-2018.pdf, 07/06/20.

Davies, I., Oates, C.J., Tynan, C., Carrigan, M., Casey, K., Heath, T., Henninger, C.E., Lichrou, M., McDonagh, P., McDonald, S., McKechnie, S., McLeay, F., O'Malley. L., Wells, V. (2020) Seeking Sustainable Futures in Marketing and Consumer Research, *European Journal of Marketing*, (status: accepted – in press).

Ecolabel Index (2020) Alphabetical index of 457 ecolabels, Ecolabel Index (online) http://www.ecolabelindex.com, 07/06/20.

Edited (2020) *5 ways coronavirus is drawing attention to sustainable fashion*, Edited (online): https://edited.com/resources/coronavirus-and-sustainable-fashion/, 03/06/20.

Encyclopaedia Britannica (2020) *List of countries in Latin America*, Encyclopaedia Britannica (online): https://www.britannica.com/biography/German-Emilio-Ornes, 03/06/20.

Extinction Rebellion (2020) *The Truth*, Extinction Rebellion (online): https://rebellion.earth/the-truth/, 03/06/20.

Fashion Revolution (2014) *Made in Brazil*, Fashion Revolution (online): https://www.fashionrevolution.org/brazil-blog/made-in-brazil/, 06/06/2020.

Fashion Revolution (2020) *The impact of COVID-19 on the people who make our clothes*, Fashion Revolution (online): https://www.fashionrevolution.org/the-impact-of-covid-19-on-the-people-who-make-our-clothes/, 03/06/20.

Fibre2Fashion (2020) *Outsourcing is changing the apparel industry across the globe: nearshoring and onshoring*, Fashion2Fibre (online): https://www.fibre2fashion.com/industry-article/8574/outsourcing-is-changing-the-apparel-industry-across-the-globe-nearshoring-and-onshoring, 06/06/2020

Fibre2Fashion (2014) *Fashionable fabrics leading to deforestation*, Fibre2Fashion (online): https://www.fibre2fashion.com/industry-article/7365/fashionable-fabrics-leading-to-deforestation, 07/06/20.

Gatehouse, G. (2020) *Deforested parts of Amazon 'emitting more CO_2 than they absorb*, BBC (online): https://www.bbc.co.uk/news/science-environment-51464694, 08/06/20.

Heighton-Ginns, L. & Prescott, K. (2019) *Leicester: a city fighting fast-fashion sweatshops*, BBC (online): https://www.bbc.co.uk/news/business-48226187, 06/06/20.

Henninger, C.E. (2015) Traceability the new eco-label in the slow-fashion industry? – Consumer perceptions and micro-organisations responses, *Sustainability,* 7: 6011–6032.

Henninger, C.E., Alevizou, P.J. and Oates, C.J. (2016) What is sustainable fashion?, *Journal of Fashion Marketing & Management*, 20(4): 400–416

Henninger, C.E., Alevizou, P.J., Goworek, H., & Ryding, D. (eds) (2017) *Sustainability in Fashion: A cradle to upcycle approach*, Springer: Heidelberg.

Henninger, C.E., Jones, C., Boardman, R., & McCormick, H. (2018) The circular economy phenomenon an overview of its status in the UK market, in Niinimäki, K. (ed) *Sustainable fashion in a circular economy*, Aalto ARTS Books, Helsinki, (Chapter 3), pp. 62–75

Ibrahim, N. (2017) The new American Apparel: Claims of 'ethically made' aboard clash with reality, The Guardian: https://www.theguardian.com/business/2017/nov/12/the-new-american-apparel-claims-of-ethically-made-abroad-clash-with-reality, 23/09/2024.

ILO (International Labour Organization) (1996) *Globalization changes the face of the textile, clothing and footwear industries*, ILO (online): https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_008075/lang%2D%2Den/index.htm, 05/06/20.

Insecta (2020a) *Certifications - Fashion and environmental responsibility*, Insecta (online) https://www.shopinsecta.com/pages/certifications, 07/06/20.

Insecta (2020b) *We are a brand of vegan and ecological shoes and accessories*, Insecta (online): https://www.shopinsecta.com/pages/about, 07/06/20.

ISEAL (2018) *Resources from the 2018 Global Sustainability Standards Conference*, ISEAL (online): https://www.isealalliance.org/get-involved/resources/resources-2018-global-sustainability-standards-conference, 07/06/20.

ISO (International Organization for Standardization) (n.d.) *IRAM Argentina*, ISO (online): https://www.iso.org/member/1520.html, 07/06/20.

Just-Style (2020) *Timeline - how coronavirus is impacting the global apparel industry*, Just-Style (online): https://www.just-style.com/news/timeline-how-coronavirus-is-impacting-the-global-apparel-industry-free-to-read_id138313.aspx, 07/06/20.

Kelly, A. (2020) *Garment workers face destitution as COVID-19 closes factories*, The Guardian (online): https://www.theguardian.com/global-development/2020/mar/19/garment-workers-face-destitution-as-covid-19-closes-factories, 07/06/20.

Lafayette (2019) *Ambiental*, Lafayette (online): https://www.lafayette.com/en/sustainability/ambiental/, 06/06/20.

Laguna Collective (2020) *We explore art, we preserve heritage, we empower culture*, Laguna Collective (online): https://www.lagunacollective.com, 07/06/20.

LAFS (Latin American Fashion Summit) (2019) *About the Latin American Fashion Summit*, LAFS (online): https://www.latamfashionsummit.com/about/, 06/06/20.

Levy, D. (1994) Chaos Theory and Strategy, *Strategic Management Journal*, 15: 167–178.

Loconto, A. (2015). Assembling governance: the role of standards in the Tanzanian tea industry. *Journal of Cleaner Production*, *107*: 64–73.

Maralgui (2020) *Hacemos bolsas bien chulas*, Maralgui (online): https://maralgui.com/pages/nosotros, 07/06/20.

McCullough, D.G. (2014) *Deforestation for fashion: getting unsustainable fabrics out of the closet*, The Guardian (online): https://www.theguardian.com/sustainable-business/zara-h-m-fashion-sustainable-forests-logging-fabric, 07/06/20.

McKinsey (2019) *The state of Fashion 2019*, McKinsey (online): https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/The%20influence%20of%20woke%20consumers%20on%20fashion/The-State-of-Fashion-2019.ashx, 03/06/20.

McKinsey (2020) *The state of Fashion 2020 – Coronavirus update*, McKinsey (online): https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/its%20time%20to%20rewire%20the%20fashion%20system%20state%20of%20fashion%20coronavirus%20update/the-state-of-fashion-2020-coronavirus-update-vf.ashx, 05/06/20.

Moodie, A. (2015) *Brazil's big greenwash boom,* The Guardian (online): https://www.theguardian.com/sustainable-business/2015/may/29/brazil-greenwash-environment-research-study-consumer-products, 07/06/20.

Mossinkoff, M. & Kent, A. (2017) *Towards a common space for research in fashion*, IREP conference (online): http://irep.ntu.ac.uk/id/eprint/30153/1/PubSub7104_Kent.pdf, 03/06/20.

Naden, C. (2018) *Creating a safety culture in Latin America*, ISO (online): https://www.iso.org/news/ref2274.html, 07/06/20.

Nikolaou, I.E., & Tsalis, T. (2018) A framework to evaluate eco-and social-labels for designing a sustainability consumption label to measure strong sustainability impact of firms/products. *Journal of Cleaner Production,* 182: 105–113.

Osklen (2020) *Sustentabilidad*, Osklen (online): https://www.osklen.com/, 06/06/2020.

Páramo (2024) Fairtrade manufacturing, Páramo: https://paramo-clothing.com/en-gb/our-ethics/manufacturing/, 23/09/204.

Petty, W. (2018) *Sustainability in the Brazilian fashion industry*, Common Objective (online): https://www.commonobjective.co/article/sustainability-in-the-brazilian-fashion-industry, 06/06/20.

Rankin, J. (2019) *'Our house is on fire': EU parliament declares climate emergency*, The Guardian (online): https://www.theguardian.com/world/2019/nov/28/eu-parliament-declares-climate-emergency, 03/06/20.

Safi, M., & Rushe, D. (2018) *Rana Plaza, five years on: safety of workers hangs in balance in Bangladesh*, The Guardian (online): https://www.theguardian.com/global-development/2018/apr/24/bangladeshi-police-target-garment-workers-union-rana-plaza-five-years-on, 06/06/2020

Shannon, S. (2017) *Is 'nearshoring' the new offshoring?* BoF (online): https://www.businessoffashion.com/articles/global-currents/is-nearshoring-the-new-offshoring, 05/06/20.

Sharma, T.D. & Hall, C. (2010) *Green PLM for fashion & apparel*, White Paper, Infosys (online): http://www.infosys.com/industries/retail/white-papers/Documents/green-plm-fashion-apparel.pdf, 01/02/2018.

Sourcing Journal (2018) *Why the Colombian fashion industry is leading the region on sustainability*, Sourcing Journal (online): https://sourcingjournal.com/topics/sustainability/colombia-sustainability-106827/, 06/06/2020.

Suhrawardi, R. (2019) *The Latin American fashion summit as a global fashion player*, Forbes (online): https://www.forbes.com/sites/rebeccasuhrawardi/2019/12/02/the-latin-american-fashion-summit-emerges-as-a-global-fashion-player/#490b77723961, 06/06/20.

Turner, C. (2019) *Pirarucu leather awarded the GCC brandmark*, Eco-age (online): https://eco-age.com/news/pirarucu-leather-awarded-gcc-brandmark, 08/06/20.

VEJA (2020) *Rubber*, VEJA (online): https://project.veja-store.com/en/single/rubber, 06/06/2020.

Vogue (2020) *Fashion industry crisis deepens amid COVID-19 chaos*, Vogue Business (online): https://www.voguebusiness.com/companies/fashion-industry-crisis-deepens-amid-covid-19-chaos, 03/06/20.

Williams, N. (2010) Butterfly Effect, *Current Biology, 20*(5): R223–R224

Woodward, A. (2019) *The 'lungs of the planet' are on fire*, World Economic Forum (online): https://www.weforum.org/agenda/2019/08/amazon-burning-unseen-rate/, 07/06/20.

WWF (2020) *Why is the Amazon important?*, WWF (online): https://wwf.panda.org/knowledge_hub/where_we_work/amazon/about_the_amazon/why_amazon_important/, 08/06/20.

Yan, S., Henninger, C.E., Jones, C., & McCormick, H. (2020) Sustainable knowledge from Consumer Perspective Addressing Microfibre Pollution, *Journal of Fashion Marketing & Management*, 1351–2025.

Young, R. (2017) *Latin America's $160 billion fashion opportunity*, Business of Fashion (online): https://www.businessoffashion.com/articles/global-currents/latin-americas-160-billion-fashion-opportunity, 03/06/20.

18

DONSEE 10: Redefining Sustainable Fashion in China

Xiaoye Fu

The founder of **DONSEE 10** (http://www.donsee10.com), Chen Danqi, is the first Chinese designer to win the Swarovski International Fashion Award at the Graduation Fashion Week and she founded the sustainable fashion brand **DONSEE 10** in 2019. From the expression of content to the application of eco-friendly materials, she redefines the consumption scenario of artistic commuter and business casual clothing, with the aim of bringing a more sustainable fashion experience to consumers.

The work of the brand's founder, Chen Danqi, has been showcased at the opening ceremony of China International Fashion Week, The Houses of Parliament (United Kingdom), Fashion Scout Event (United Kingdom), Shanghai Fashion Week Ontimeshow, Design Shanghai "Talents" and many other prestigious fashion shows globally. To continue to promote sustainable fashion, Danqi Chen, as a co-founder of the project, launched the "Re-form" project in 2020, using art as a point of innovation, through the design and use of materials to extend the life cycle of household waste and regain vitality (Fig. 18.1).

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Fig. 18.1   Chen Danqi, Founder of DONSEE 10

Two years after its creation, DONSEE 10 was awarded the YU PRIZE as Sustainability Champion (https://www.yu-holdings.com/yu-prize-2021) in 2021. In the same year, DONSEE10 joined the Fur Free Retailer programme, which aims to provide consumers with a wider choice of sustainable products. In 2022, DONSEE10 was awarded the Sustainable Fashion Design Innovation Award by the China National Textile and Apparel Council (https://m.tech.china.com/redian/2022/1119/112022_1181518.html).

In Shanghai Fashion Show AW23, DONSEE 10 launched the AW23 collection "ANIMUS", which explores the hidden masculinity of the female unconscious while using a higher degree of eco-friendly materials, providing a new perspective and dimension of value for fashion sustainability (Figs. 18.2 and 18.3).

Fig. 18.2   Jacket made from sustainable cotton and unique mottled texture

18.1   Interview with the Founder of DONSEE 10, Chen Danqi

18.1.1   Xiaoye Fu: What Sustainability Means to You and for Your Organisation?

Chen Danqi: For me personally, sustainable fashion, or simply sustainability, I see it as promoting a more positive, more efficient lifestyle, or a way of being human. I don't think sustainability is something that traditionally China does not have. Since the time of Laozi, we have been talking about the unity of heaven and man. For the West, because of the industrial revolution and other key technological advances, there is an emphasis on the use of technology, such as in the energy sector, for the design of a circular system in order to improve the state of human existence and well-being.

Fig. 18.3 Suit made from sustainable organic cotton. The filling is made with BLUESIGN® eco-certified fibres

In the case of China, we have a discontinuity because of historical events. But now our country is beginning to emphasise sustainability, firstly as an overarching system, a bigger context, whose ultimate aim is to improve the way we live and secondly, to create a more efficient, and beautiful plan for humanity, and for the planet.

For our brand, sustainable fashion is a part of this system, and I take the basic elements of life, such as clothing, food, housing and transport, as the starting point, and trying to rethink the way we dress, improve the 'feeling' of dressing and thus influence consumer behaviour. So I think that sustainability needs to be educated at a cognitive level, or at a soft level, for consumers.

But when it comes to consumption, it's all about better products and better experiences for the consumer. And since there will always be many consumers
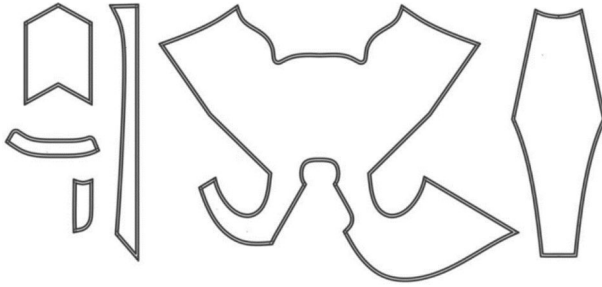
Fig. 18.4 Special fit design reduces fabric waste due to tailoring and increases worker efficiency

who need to consume in this way, we will think about making more efficient and earth-friendly designs from the source, from the manufacturing side (Figs. 18.4, 18.5, and 18.6).

18.1.2   Xiaoye Fu: What Are Key Areas That Make Your Organisation Unique?

Chen Danqi: The uniqueness of our brand is reflected in three main areas:

The first is the materials we use and the production process. We use environmentally friendly fabrics and materials, and we develop and select more advanced processes to obtain more sustainable and expressive garment fabrics. For example, we have developed textured velvet knit materials, eco-friendly denim materials, vegan faux leather, acetate wool and other eco-friendly materials. In the case of eco-denim, for instance, we can simulate the texture of washed denim, without going through a chemical washing process. And with materials such as machine-washable eco-friendly acetate wool fabric and GRS-certified recycled polyester (www.nsf.org), which we have developed in collaboration with Chinese textile company IDOLE (http://www.idoletrading.com/), we are able to obtain sustainability while ensuring the quality of the design and the consumer experience (Fig. 18.7).

In terms of production, we have some innovations in the fit. We have a number of integrated designs and specific fits, initiatives that reduce waste in the production of the garments. In post-processing, we use the CLO 3D fashion design software (https://www.clo3d.com/), which is a significant improvement in terms of environmental protection and efficiency gains (Figs. 18.8 and 18.9).

Fig. 18.5 Pants made from eco-friendly, machine-washable fabric, combining luxurious 17.5-micron merino wool with eco-friendly recycled polyester

The second is marketing. In marketing process, we hope to achieve zero waste, or rather, to do some aesthetic presentation in a more natural and less material-consuming way. For example, for our order fairs, we try to use some original materials, bricks and floral arrangements, and these materials are presented in a more natural state throughout the exhibition to reflect a more natural presentation effect (Figs. 18.10, 18.11, 18.12 and 18.13).

We also have an online show. We use video to promote our designs, and the whole process of making the video is without any assistance or post-production external construction. We just go to the cityscape and shoot. So the online show is essentially a way to reduce energy consumption as it doesn't use or generate as much material as a live show. In our live shows, we don't have a lot of decorations and we don't go for a lot of materials. We use simple lighting as much as possible to set off and highlight the overall atmosphere and aesthetic qualities of the season. So visual creativity and presentation is also something

Fig. 18.6   Sets made from recycled polyester

we focus on, as it doesn't use too much material, which naturally reduces the possibility of physical material waste (Fig. 18.14).

Thirdly, it is the attitude of our brand values and the fulfilment of the consumers' spiritual aspirations. In our DONSEE10 AW23 (http://www.don-see10.com/aw2023firstlook), for example, we have tried to explore the hidden masculinity of the female unconscious sphere. This unconscious sphere, which often has a compensatory heterosexual quality, is also an important point of view of Plato and Jung regarding human psychology. So, we wanted to present an attitude free from the boundaries and shackles of medium, identity and thought through the corresponding clothing designs and materials. Through clothing, we wanted to convey the idea of recognising and breaking away from the dichotomy of duality and authentically embracing and practicing diversity. I think it is an emancipation of thought, a unity that goes beyond the boundaries of identity, not only between people but also between the city
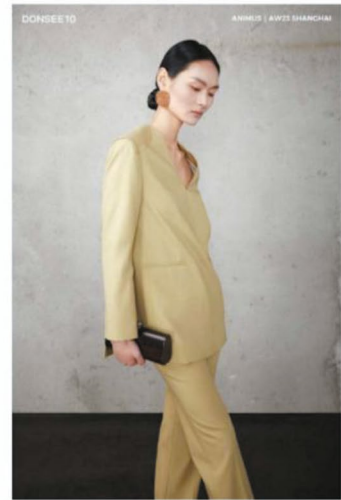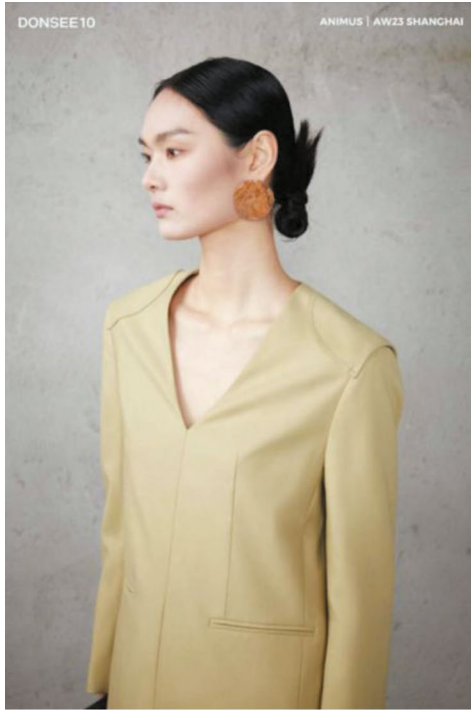
Fig. 18.7 Pants made from machine-washable acetate merino wool fabric

and nature, where we want to achieve integration and unity, and no longer separation and opposition.

In general, our idea is very pure: "We want to make beautiful things that happen to be sustainable". So from the design, to the product, to the marketing and the output of the concept, always focusing on the aesthetic experience of the consumer at the clothing level and working on the details of sustainability is our greatest uniqueness.

Xiaoye Fu: What are the current or future challenges in the industry related to sustainability and what is the role of your organisation?

Chen Danqi: The challenge for us now is to look at how we can directly inform consumers about the brand, about our sustainability and the eco-friendly materials and processes behind the garments, which need to resonate in a more popular, straightforward way.

As a designer, I want to create something that is more 'alive', so using design to meet people's needs is what the brand was originally created for. At the same time, design or clothing has longevity and is a manifestation of sustainability, so we have always focused on solving problems with design and using design to reflect sustainability in the creation of our brand.
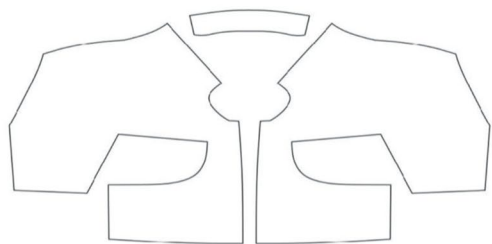
Fig. 18.8   Example of CLO 3D design

Fig. 18.9   Special fit design reduces fabric waste

Fig. 18.10 Show lighting and zero-waste design

Fig. 18.11 Example of a product display at the trade show

Fig. 18.12   Example of a product display at the trade show

From my own personal experience, when we started, both the consumers and the companies we worked with, they didn't really care about sustainability and didn't understand it. So I thought, can I make a design that is beautiful and at the same time sustainable, so that we can express our brand values from this perspective without burdening consumers with too much thought?

After COVID-19, cities such as Shanghai, Chengdu, Guangzhou, Beijing and Xiamen, which are relatively more open and international, are slowly changing their mindset.

But I still find that consumers' perception of the issue is relatively limited; for example, they only care about whether your material is eco-friendly or not, but I want to talk to them about a bigger sustainable recycling system, a

Fig. 18.13   Example of design presentation on Shanghai Fashion Show 2023

Fig. 18.14   Screenshot from original video for Digital Shanghai Fashion Show 2022. (https://www.bilibili.com/video/BV1WW4y167ud/?spm_id_from=333.999.0.0&vd_source=9d5731b92b384d432a5b6322bc850fb4)

bigger design path, to make them understand that sustainability is not just about eco-friendly fabrics.

So changing perception is a big challenge, hence we are trying to find more innovative ways to express ourselves in our means of publicity. Now the biggest difficulty is how to make people feel this thing (sustainability) from a perceptual level. Rather than directly talking whether the product is sustainable or not, we want to make consumers feel a natural affinity and liking when they see it. We want to further build our brand on this emotional dimension, so that people feel that our brand is a very relaxed, pleasant and natural design and product.

Finally, sustainability is not an advantage for our brand in the Chinese market; it might even be a disadvantage because of the cost. But we are trying to turn this disadvantage into an advantage through design. In fact, we have a lot of good sustainable products in China, but these companies specialise in exporting and their brands are not well known to domestic consumers. We try to find these local suppliers who are more stable, as localised supply and manufacturing not only reduce costs but also enhance sustainable in a way that also helps us to get a better grip on quality. So, for our market, while sustainability may be a disadvantage in terms of consumer decisions, our supply chain is an advantage. We are trying to integrate these advantages to compensate for these disadvantages.

In addition, we will also make some innovations from our business model, for example, we may transform from our original order-based production model to an order-based plus consignment-based production and sales model to reduce the unit price and increase the coverage. After all, at the end of the day, it's all about raising consumer awareness and balancing our costs. The challenge is always there, and all I can say is that we are always trying to explore solutions.

All in all, our way of dealing with the challenge is to always try to perfect the closed loop of our sustainable fashion path, understanding the aesthetics of the design itself, the wearability of the material, the story and emotional connection behind the product, and even the ease and fun of the way it is communicated, from the perspective of the public to the technology of the production, the intelligence of the supply chain, the sustainability of the marketing approach and the inspiration and output of the sustainability perspective. We strive to make this chain complete and efficient. There will always be challenges, but we will strive to solve them because sustainability, as I said before, is a more contemporary way of living and we always aspire to use fashion to meet the most tangible needs of the public and then visually communicate sustainable ideas to make people's lives easier and more comfortable.

19

Case Study of simétrie: Navigating Sustainability and Economic Viability in the Australian Fashion Industry

Taylor Brydges

19.1 Introduction

The Australian fashion industry boasts a diverse landscape, blending international brands with independent fashion houses. The industry has distinctive heritage of crafting garments from natural materials such as wool, cotton, and leather. Whereas a number of Australian fashion brands have gone global in recent years, others are intentionally keeping their businesses small, local, and sustainable. Nevertheless, for independent creatives, striking a balance between environmental consciousness and economic sustainability poses a significant and ongoing challenge.

This chapter takes the form of the case study of Simone August, founder of the Melbourne-based business simétrie. Despite facing some of the strictest lockdowns in the world, Simone has managed to launch and relaunch her brand over the past five years with a refined concept that seeks to set the brand on an environmentally and economically sustainable path. It highlights the deeply intertwined relationship between materials, products, and values in the Australian fashion industry and how independent creatives work to strike the balance between environmental sustainability and economic viability and

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how her journey can offer insights and inspiration to other independent creatives in the industry.

In this life story interview Simone openly discusses the challenges she has faced with respect to the financial sustainability of her brand, negotiating the tension between doing what she loves creatively and continuing her passion of being a maker while ensuring that she pays herself and her employees fair wages. It also reveals changes to her brand's pricing model to ensure that she remains economically viable without compromising her values.

19.2   Simone August, Founder and Designer, simétrie

I've always been a creative person. Even as a child, I enjoyed working with various materials. I was particularly fascinated by a show called "Art Attack" and would try and recreate the projects the host was making.

My mom taught me how to sew, knit, and crochet, which is probably where my interest in crafting started. As a child, I wasn't particularly skilled at it, but it was all about having fun. I developed a strong interest in fashion during high school and then I decided pursue fashion at university.

While at university, experimented with leather and had an internship with a leather maker in Melbourne. He primarily used kangaroo leather, which had minimal wastage. It reminded me of the natural origin of the material, and sometimes, we'd recover old saddles with new leather, which showed how they had aged and changed over time. I worked with him on and off for about four years.

I also gained experience during my final year at university working for a belt factory in Melbourne. This factory produced leather belts for several Australian fashion brands. It was a small factory with just the owner, one full-time employee, and two casuals, including myself. The full-timer had been working there since the '90s, at least 20 years.

Unfortunately, that factory no longer exists. Often, when manufacturing goes offshore, the machinery follows suit. This is one of the challenges I face in my business. We lack the specialized machinery in Australia, which hinders our ability to keep up with global manufacturing standards. I've been thinking more and more about this issue, but I'll get back to that. Reflecting on my time at that factory, it was a valuable experience.

Afterward, I entered the industry and worked as a designer for another company that produced bags for a major Australian retailer, manufacturing

them in China. During that time, we watched the documentary "The True Cost," which made me question my role in the fashion industry. I felt like a small cog in a big machine, disconnected from the environmental and ethical aspects of production. I realized I wanted to be more involved in the creation process, work with women, and pass on traditional craft skills.

That's when I started Simetrie, which was officially launched in 2019. I started with kangaroo leather bags. The passion for creating items that people would cherish inspired me to offer workshops. I believed that if people made their own bags, they would value them more and be less likely to discard them when they needed minor repairs.

When I initially started the brand, it was primarily a creative outlet for me. I loved the craft aspect and making bags to order, but I also needed to do freelance manufacturing for other brands to keep things running.

I reached a point where I had to face the reality of what I was doing. I decided that I needed to make Simetrie more affordable and more accessible. People loved the shapes and the ethos behind my brand, but many couldn't afford it. I had to reevaluate my approach and find a way to make it sustainable.

I had been working on designs that were time-consuming and resource-intensive. I realized that to sustain the brand, I needed a new material that allowed me to create the designs more efficiently. I had used kangaroo leather for so long, that I was worried about how my audience would react to the change.

Fortunately, I found a material that met my criteria and began collaborating with a tannery. This material is a combination-tanned leather, starting with chrome tan and finishing with vegetable tan. It's sourced from Australian cattle, and the tannery is environmentally conscious, following waste treatment protocols.

This new material enabled me to create my sculptural designs more affordably, add functionality to existing designs, and potentially offer wholesale options. It was a game-changer in terms of making Simetrie accessible to a broader audience.

Balancing environmental and economic sustainability has been a complex challenge. It has taken me a long time to figure out a sustainable business model. There's no guarantee that this new direction will work, and it may not be the right time either. It's a difficult equation to solve, especially considering the rising costs of materials and living expenses.

One way I hope to connect with consumers is by emphasizing that my work is art, and supporting it means supporting a community. When people invest in my products, they become part of something bigger than a

commercial transaction. My goal is to bridge the gap between art and craft, inspiring people while fostering a sense of connection to the creation process.

I'm excited to share it with everyone. It's been a journey, and I hope people appreciate the blend of art and craftsmanship in my work.

Ultimately, I believe that by putting myself out there and creating that connection with my audience, I can overcome many of the challenges artists face. It's about making people feel a sense of belonging and community through my work.

19.3   Conclusion

This case study has traced the evolution of Simone's creative passion and craftsmanship, spanning from childhood curiosities and early influences to her formal education and practical experiences. Her creative journey, marked by an unwavering dedication to artistic exploration and craft, laid the foundation for her career in the fashion industry.

However, after watching the documentary The True Cost, which exposed the human and environmental impacts of the fashion industry, Simone felt the need to reassess her entrepreneurial pursuits. This also paved the way for the inception of simétrie—an embodiment of ethical production practices and a commitment to traditional craftsmanship.

Over the past five years, entrepreneurship in the fashion industry has presented its own set of challenges, demanding a delicate balance between sustainability and economic viability. Not only has Simone had to navigate the intricacies of small-scale manufacturing, adapting material choices and production methods to align with a sustainable ethos, this has come against the backdrop of some of the longest Covid-19 lockdowns in the world and ongoing inflationary and cost-of-living pressures coming out of the pandemic.

At its core, Simone's experience and evolution in the fashion industry revolves around the three themes of connection, art, and community. The desire to forge meaningful connections with consumers propels the work beyond mere transactions, positioning her products as a type of art and emphasising the community that not only contribute to how these leather goods are made but how they are worn and cared for over time. Simone's determination to overcome the challenges with her line of work are reframed as an opportunity to create lasting connections and instil a sense of belonging through the artistry and craftsmanship inherent in the work—ensuring these ethically and sustainably made bags can stand the test of time.

20

How Do Fashion Brands Communicate About Sustainability?

Shuchan Luo

20.1 Introduction

The fashion industry is a $2.4 trillion-dollar industry that employs 300 million people worldwide (UN alliance 2023). However, it has a substantial negative impact on the planet. It is responsible for 10% of the world's greenhouse gas emissions, generates one-fifth of the world's annual plastic production (Falk 2023), consumes around 215 trillion litres of water per year (c. 20%), suffers from $100 billion dollars of losses due to the underutilisation of materials, and accounts for 9% of annual microplastic losses to the ocean. These figures highlight the pressing and immediate requirement to adopt sustainable practices within the fashion industry (Falk 2023) as these problems are expected to worsen over the coming years rather than improve. Without major changes to production processes and consumption patterns in fashion, the social and environmental costs of the sector will continue to mount (UN alliance 2023). One way in which the consumption habits of mainstream fashion can be changed is through communications. By increasing consumers' awareness and understanding about sustainability-related knowledge through communication campaigns, shoppers can be educated about the severity of the harms caused by the fast fashion industry and about more sustainable

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alternatives, which will enable them to make more informed decisions. This chapter will discuss how sustainability is currently communicated in the fashion industry by showing *how* it is communicated and *where* it is communicated to the wider public. An understanding of this will help to inform what can be done further to combat the destructive nature of the sector.

20.2 A Rationale for Communicating About Sustainability

A key motive for communicating about sustainability in fashion is to move mainstream consumers' away from fast fashion. However, this is complicated to implement. It is challenging for fashion brands to know how to persuasively communicate about the benefits of sustainability to not only appeal to mainstream consumers but also to encourage and persuade them to cease purchasing fast fashion. Many consumers do not consider sustainability when shopping for clothing, in spite of being aware of the impact of climate change and the poor treatment of garment workers (Harris et al. 2016). In addition to communicating about the benefits of purchasing sustainably, fashion brands will need to overcome the potential deterrents to shopping sustainably for fashion, such as price, perceived inferior design quality, and style (e.g. Henninger et al.; Lee et al. 2016; Han et al. 2017). But this will not be relevant to all mainstream consumers. This raises the question of how communication about sustainability can be effective so as to reach the relevant stakeholder(s), who are diverse and heterogeneous in nature due to their different needs and knowledge about sustainability (Lee et al. 2023). Brands that communicate sustainability-related information have been found to create stronger connections between the fashion organisations and their target audience (Sauers 2010), so this is a vital strategy for them to adopt. However, although all parties will be interested in where garments come from, how they are produced, or what their social and environmental impacts are (Verganti 2009), this will be to varying levels. It is therefore important for fashion brands to develop clear objectives and goals for an effective strategy when communicating about sustainability, so they know who they want to target. For example, corporate audiences such as shareholders/investors, journalists, and partners will require more direct and detailed information in the form of company reports and press releases. Communications are more likely to receive buy-in from consumers when they speak to them more frequently (Turunen und Halme 2021); however, fashion brands have to contend with

their different levels of knowledge about sustainability. Some consumers will naturally take more of an interest in this by researching it and being actively involved in the sustainability movement, whilst others will have very limited knowledge and less desire to change this (Lee et al. 2023).

20.3   *How* to Communicate About Sustainability

Although messages can be either visual (e.g. imagery, logos, eco-label) or verbal (text, hashtags, straplines) in form, the majority of communication in fashion tends to be visual or non-verbal (Solomon and Rabolt 2004). The manner in which sustainability is communicated is important. If it does not provide sufficient information about the materials, production methods, and processes (Yan et al. 2012), this can either confuse consumers or even alienate those with less sustainability knowledge. This can result in them becoming doubtful about the message and not trusting it, which can run the (long-term) risk of impacting negatively on the brand's sales. Slow fashion has been found to act as the sustainable solution to contemporary fashion, as it represents both an awareness of and engagement with the environment, which will benefit society at large. It communicates positive elements such as being environmentally sustainable, and social issues such as paying employees a living wage and having safe working conditions (Lee and Weder 2021).

Fashion brands need to know how to communicate their messages better and clearly highlight what makes their collections "sustainable" (Henninger et al. 2016). The content and tone of the messages needs to be accepted by their wider audience, so it does not offend or even talk down to consumers, who will find this irritating. This is the case even when the message is accurate (Lee et al. 2020). There are an abundance of different strategies discussed in the academic literature about how best to communicate to consumers. These include the messages being easily recognisable; short, creative, and highly engaging (Solomon and Rabolt 2004; use language that consumers understand easily and can engage with (Han et al. 2017); and being more specific about the sustainability of the product rather than focusing on superficial attributes (Kim et al. 2012). Consumers have also been found to connect more with emotional stories about those working in the fashion industry rather than more abstract ideas about climate change and environmental degradation (Han et al. 2017). Additionally, the communication needs to be consumer-oriented so that it is relevant to, or related to the consumer's daily life, or product sustainability-related information needs to be communicated that is relevant to consumers (Turunen and Halme 2021). However, this

guidance is very exhaustive and it will be challenging for any brand to incorporate all of the elements. Overall, fashion brands need to be completely transparent in terms of their processes, the fabrics used, and the supply chain that delivers the clothing item to the shop floor and how that affects the carbon footprint. This clearly illustrates how and why brands are classified as being sustainable (Henninger et al. 2016). This level of transparency and accountability needs to form an integral part of each brand's communication strategy, in a way which connects and is relevant to consumers (Han et al. 2017). These elements will contribute to consumers gaining an understanding of the fashion brands' sustainability practices, which will lead to them trusting a brand, buying into the brand's sustainability credentials, and inevitably being more willing to purchase it.

20.4   How Not to Communicate About Sustainability: Misleading Consumers Through Greenwashing

Some fashion organisations are less committed to sustainability but overemphasise the minimal sustainability practices that they have adopted (Da Giau et al. 2016; Lee et al. 2023). This misleading strategy and lack of transparency is known as greenwashing. Sadly, greenwashing is rife in the fashion industry with many mainstream brands pretending to be more sustainable than they actually are and misleading their consumers. A policy report found that a staggering 59% of all sustainability claims by European and UK fashion brands are misleading and could be classed as greenwashing (Changing Markets Foundation, 2021). Big fashion brands such as ASOS, Boohoo, Decathlon, George at Asda, and H&M have been found by regulators to have been making false claims. Consumers are being misled as they might think that clothes labelled as 'recycled' (e.g. using recycled polyester) means that they were made out of old clothes and can be recycled again into new clothes, but no evidence has been found to prove that they are part of a truly circular system for clothes (Abelvik-Lawson 2023).

H&M and Decathlon promised to "adjust or no longer use sustainability claims on their clothes and/or websites" and to ensure consumers are better-informed, following an investigation into them potentially using misleading marketing claims, which found that certain terms like 'Ecodesign' and 'Conscious' were not clear or sufficiently substantiated. They donated €500,000 and £400,000, respectively, to causes linked to sustainability in the

fashion industry (Deeley 2022). Zara plans to switch to 100% renewable energy to run its internal operations by 2030, to only use cotton and polyester materials that are both sustainable and recyclable, and to reduce and offset all emissions by 2040. However, they have failed to release detailed enough factory lists or to publish the results of their audits, which has sparked concerns about transparency. This is because this makes it difficult to evaluate how impactful their sustainability goals truly are (Igini 2022).

Some well-known brands with supposedly sustainable (i.e. 'eco-friendly' or 'responsible') collections have also been found to be suspected of greenwashing. These include Decathlon Ecodesign, H&M Conscious, Mango Committed, Primark Cares, Tesco F&F Made Faithfully, and Zara Join Life. This has been for a variety of reasons such as continuing with mass production; not having public information from across the chain of production including information about materials; continuing to rely on discredited measurement tools such as the Higgs Index on Materials Sustainability; adopting misleading claims of 'circularity' that rely on recycled polyester from plastic bottles; having confusing labelling including false 'certifications' that are merely named after the company's sustainability programmes; promoting unrecyclable fabric in blends such as polycotton; and lacking verification on environmental, social and human rights measures (Abelvik-Lawson 2023). They display examples of lacking transparency by not being able to support their sustainability claims, which is misleading to consumers.

The International Consumer Protection and Enforcement Network (ICPEN) is a global network of consumer protection authorities from over 70 countries that works to coordinate cross-border enforcement of greenwashing guidance. They utilise different levels of enforcement ranging from voluntary compliance and warning letters, to formal investigations with court processes that can be considered criminal in some cases of intentionally reckless conduct. In its most recent sweep of global websites, the ICPEN found that as many as 42% of environmental claims mislead consumers. In the UK, the Competition and Market Authority (CMA) is the UK's watchdog; it has found that more than half of consumers take these sustainable claims into account when making purchasing decisions (Webb 2021). This is further supported by consumers, increasingly researching brands and their sustainability credentials prior to making a purchase decision (Iran et al. 2022; Vladimirova et al. 2022). Hence, the European Green Claims Directive is expected to launch by 2024, which will result in any environmental claims made by brands having to be backed up by scientific evidence (Chan 2023).

The opposite of greenwashing is greenhushing. Some fashion brands are described as 'low disclosure' because they are very committed to sustainability

but do not communicate it (Da Giau et al. 2016; Han et al. 2017; Lee et al. 2023). The companies choose to refrain from communicating about their sustainability practices due to not having sufficient confidence to do this or not knowing how to do it. So they choose to err on the side of caution so as to prevent any potential need for crisis management or damage limitation (Lee et al. 2023). However, this can also be problematic because if fewer brands are sharing what they are doing publicly, there may be less incentive for others to adopt more sustainable practices as a result (Chan 2023). The ideal position would be that fashion brands that are actually committed to having sustainability initiatives would communicate about these effectively (Da Giau et al. 2016). Fashion brands that are closer to this include Patagonia, Everlane, Stella McCartney, Veja, People Tree, and Allbirds, but their communications about sustainability could still be improved to be consistently clear.

20.5   Communicating About Sustainability Across Different Platforms

An optimal communications campaign involves using short and creative messages that are often highly engaging using visual means that are delivered through a wide variety of media to reach the target audience (Solomon and Rabolt 2004). Following this thread, social media has been identified as the most effective communication tool for sustainable fashion (Sinan et al. 2013). It reaches a wide audience, and it has high usage among consumers. It is multi-directional in nature, thus fostering a dialogue among its users. It has been found to increase purchase intention, positive attitudes, and self-efficacy (de Lenne and Vandenbosch 2017). Nevertheless, both offline and online channels are still considered to be important as fashion organisations seek to broadcast their core values through a variety of channels, such as flickering billboards, web pop-ups, social media messages, in-store communication, magazine adverts, A-boards, and garment labels (Han et al. 2017). Different segments of consumers need to be reached using different communication channels so as to speak to the heterogeneous needs and knowledge of consumers (Bhaduri and Ha-Brookshire 2015; Lee et al. 2012; Di Benedetto 2017; Dabija 2018).

20.6 Offline Communication Channels: Clothing Tags, Labels, Certifications, Retail Staff, and PR

Clothing tags, also known as 'Hang tags', communicate messages to consumers near to the point of purchase within physical stores (Thomas and Harden 2008; Moon et al. 2015; Blanchet 2017; Ma et al. 2016). They have been found to be better at generating attention about sustainable fashion and they have the advantage of being in close proximity to the point of a purchase decision (Hyllegard et al. 2012). However, this type of messaging is perceived as being quite complex to understand by consumers and so they can be quite sceptical of the claims that are made as a result of this (Mukendi et al. 2020). This method has the additional drawback of consumers being unaware of their purpose (Sonnenberg et al. 2014; Henninger et al. 2015; Hwang et al. 2016).

Labelling is also commonly utilised to communicate sustainability (Thomas and Harden 2008; Hwang et al. 2016; Henninger et al. 2015), and it can incorporate logos or certifications as a communication strategy to promote the consumption of sustainable fashion products. The global organic textile standard (GOTS) is an example of a green logo, which symbolises the organic status of textile products that harvest raw materials through socially responsible manufacturing (Lee et al. 2020). Consumers have been reported to look upon certification schemes, labels, or third-party initiatives as trusted sources of information on brands' sustainability credentials. Additionally, one in three UK consumers are choosing to purchase items with sustainability labels or certifications either frequently or always (Changing Markets Foundation 2023); this shows how influential this can be in consumers' purchasing decisions. However, consumers can be sceptical of labels (Bly et al. 2015), especially when they are not familiar with the certifications that they display (Henninger et al. 2015), and so they are not always able to apply this to their decision-making (Sonnenberg et al. 2014; Henninger et al. 2015; Hwang et al. 2016; McLaren and Goworek 2017). The certification and material has the additional challenge for smaller fashion brands of also being costly (Moon et al. 2015).

A report by the Changing Markets Foundation demonstrated that there are ten certification schemes in the fashion sector (Higg Index and SAC, bluesign, OEKO-TEX, Cradle to Cradle, Ellen MacArthur Foundation, Textile Exchange, The Microfibre Consortium, ZDHC, WRAP, and the EU Ecolabel), but these merely act as smokescreens, as they fail to hold

sufficiently high standards, lack accountability, and are delaying the progress of issues relating to circularity including overproduction, the rise of fast fashion, and the industry's reliance on fossil fuels. The report shows that the industry's environmental impact has worsened significantly over the last 20 years, with the usage of polyester fibre doubling, the industry's reliance on the continued extraction of fossil fuels, and fuelling overproduction and mountains of waste. The certification schemes have reportedly provided fashion brands such as Boohoo and Primark with a licence to greenwash (Changing Markets Foundation 2023).

A fashion brand's sustainability ethos can also be communicated by instore dialogue. This is only possible for brands that have a physical premise, as they can utilise stockists and retail staff as a means of communication about sustainability. They have direct access to consumers who can express an interest in sustainability issues. They are able to connect with consumers and share stories about the clothes items in terms of manufacturing and the supply chain, such as the extra work they take in sourcing materials, and having smaller production runs to ensure that ethical standards are upheld. This provides consumers with the required level of information about the fashion brand in an engaging and non-confrontational manner, which should help to cement their purchase and repeat custom. The retail staff are also in a prominent position to receive feedback about the products on offer (Han et al. 2017). This form of multi-directional communication is only effective if staff have been well-trained and are knowledgeable about the company's ethical credentials, source material origins, and supply chain. This can be enhanced through regular training, factory visits, and job shadowing of other functions.

Fashion brands can also enlist PR agencies to help them communicate their sustainability; the PR agencies can place editorials in fashion publications to enable a multi-channel communication approach. This strategy tends to be limited to micro and small-size organisations (Han et al. 2022). Some consumers view the mainstream media and fashion press as lacking in their coverage of sustainable fashion (Vehmas et al. 2017; Han et al. 2022), to the extent that it is shown as a novelty and not integrated alongside other fashion editorials. This is because of their unbalanced coverage of the pertinent issues with the industry. Although they have covered stories about working conditions and labour rights abuses in Asia, consumers think that more could be done to highlight responsible alternatives to fashion consumption or to show that sustainable style is equally as desirable as mainstream fashion (Han et al. 2022).

20.7 Online Communication Channels: Websites, Social Media, Influencers, and Instagram

Web-based sustainability communication refers to when organisations communicate about sustainability using their websites to provide detailed information (Luo et al. 2022). The company website of a fashion brand has a prominent position regarding its communication. It enables the company's information about sustainability to be posted so that it is readily available for their stakeholders, even though it is not the purpose of the site to communicate sustainability initiatives (Da Giau et al. 2016). It can target either the trade, whereby different stakeholders are targeted on the corporate website (Sanil and Ramakrishnan 2015; Siano et al. 2016), or consumers on the commercial website. Commercial websites can communicate the company's values and sustainability ethos. They can provide information on the provenance of materials and production, thus highlighting the ethos behind the brand's activities in creating enduring and sustainable fashion (Han et al. 2022). However, consumers can find website communications confusing because they use a number of different terminologies relating to sustainability and they are posted in different parts of the company's website (Kunz et al. 2020; Osburg et al. 2021), so they are not necessarily in a more prominent position like on the main part of the site (Luo et al. 2022). Different levels of engagement have been identified by recipients of sustainability-related information such as those who notice the messages but are not willing to explore the sustainability-related information, those who held previous perceptions about brands' sustainability commitment and this prevented them from exploring any further action, and those who read the communication for a specific purpose. The design of communication on a website and whether an action is required by users whilst browsing the website are both salient as they can influence whether consumers are willing to explore sustainability-related messages further (Kapferer and Michaut Denizeau 2015; Luo et al. 2022). Web-based sustainability communication can be effective when companies create a connection between the sustainability messages and consumer interests by using interactive methods such as gamification in the messages. This can be done instead of inputting vast amounts of contextual content about their sustainability performance. Additionally, if the ease of use of their websites is improved, then this can make sustainability communication more actionable (Luo et al. 2022).

Social media enables fashion brands to connect with a wider audience, including mainstream fashion shoppers. This can happen either in real-time

or with a slight delay, so it is much quicker than offline channels. They can share sustainability-related content through storytelling about issues and causes they find important, other brands and designers that they support, and non-product-related posts that communicate a lifestyle, ethos, and experiences to the audience. Social media enables fashion brands to even re-post non-fashion-related sustainability content that aligns closely with their company ethos, demonstrating a clear message about their beliefs and values. They can collect feedback easily and conduct market research among their consumers, along with responding quickly to questions from customers in an open forum. Social media allows social comparisons to be made, and the peer-to-peer dialogue may also provide a platform to engage individuals through more positive messages of social change and clean technologies. This is as well as providing the brands with opportunities to make the right decisions going forward (Han et al. 2022).

The fashion industry is the most popular category for influencer marketing campaigns. Influencers are considered to be the driving force in the fashion market (Hubspot 2022). Although they might not have professional expertise or education related to sustainable fashion, they are highly influential to their follower base and community based on their passion, credibility, and originality within the fashion industry, especially when they create their own content. They are highly persuasive and are able to influence the buying decisions of their audience through their own experiences, personal opinions, or preferences. Consumers often admire their honesty and so trust their opinions. Being focused on specific aspects of sustainable fashion in their communication enables them to form a closely interconnected community that knows and cooperates with each other. These close connections support the exchange of knowledge within the network, but this has limited reach and is not accessed by the wider fashion consumers. This could be overcome if the opinion leaders were to gain a better understanding of the meaning of fashion, the concept, and how to communicate sustainable fashion effectively and in an actionable way so that it is more informative for consumers (Orminski et al. 2021). Opinion leaders are similar to influencers in the way that they exert a strong influence on consumers' attitudes and behaviours but have not solely gained their status on social media. Their communication about sustainability has been looked at on Twitter. Although they have been found to discuss the subtypes of sustainable fashion frequently, they have not been found to distinguish between the different terms clearly enough. Additionally, they have been found to use different hashtags and subterms, which makes it more difficult for their audience to understand the concept of sustainable fashion as it is less clear (Orminski et al. 2021).

Instagram has been found to communicate about sustainability by using slow fashion. It is represented as the sustainable solution to contemporary fashion issues, and it reinforces an awareness and engagement regarding the environment. Slow fashion has been found to be positioned as more sustainable than fast fashion, as this is represented as being unsustainable. This exacerbates the message that practising slow fashion is positive for the environment. Slow fashion businesses have been portrayed as being better for the environment than mainstream fashion due to being less wasteful as well as being altogether 'cleaner' and more 'natural' and providing consumers with 'sustainable' fashion shopping options. The issues associated with fast fashion are communicated to produce a need for slow fashion and suggest that slow fashion is the 'logical' reaction to all the bad things that exist in the fashion industry, such as issues of modern slavery, environmental pollution, excessive resource consumption, and, interestingly, the oppression of women. Slow fashion is represented as a statement and a medium for empowerment, which opposes the industry-determined and seasonal definitions of fashion, whilst providing a means to address the systemic issues of fast fashion (Lee and Weder 2021).

20.8   Closing Remarks

This chapter has illustrated how communication has progressed in the fashion industry by recommending different messaging strategies, along with guidance about how not to communicate about sustainability. Consumers are heterogenous with different levels of sustainability knowledge. Fashion brands need to assume that this is limited so as to appeal to a wider mainstream base, which will be more inclusive for all. The use of both online and offline channels is needed to increase the reach and the appeal of the messages. It is, however, clear that communication cannot be looked at in a silo. Regardless of how effective it is in terms of the clarity of the message and being understood by the target audience, it needs to be paired with the sustainability initiatives that the fashion brands are adopting. This perfect match is needed to help address the industry's increasingly harmful impact on the environment. Only one element will not result in any change.

In order to see any change in terms of the environment, the industry needs to recognise that consumers are only part of the equation and can only do so much. Once their awareness and knowledge about sustainability has been developed, there will need to be sufficient sustainable clothing options for them to choose from, which are to their liking in terms of price, quality, and

style. Although they can request or demand these, their production and availability is ultimately the responsibility of the fashion organisations. A consortium of the bigger, mainstream fast-fashion brands needs to be developed (e.g. Mukendi et al. 2020; Han et al. 2020), as this will be able to make the most significant contribution to the detrimental effects on the environment. They should set more moderate targets that are more achievable in a manageable time frame. Smaller steps are better than none or misleading consumers. Even if it stabilises the negative impact on the environment, then this will help the environment and society at large. These changes will then need to be effectively communicated to consumers, in addition to promoting circular models based on reuse, rental, take-back schemes, and clothes swapping.

References

Abelvik-Lawson, H. (2023). Fashion greenwash: how companies are hiding the true environmental costs of fast fashion. https://www.greenpeace.org.uk/news/fashion-greenwash-report-companies-hiding-true-environmental-costs-fast-fashion/

Bhaduri, G., and Ha-Brookshire, J. (2015). Gender differences in information processing and transparency: cases of apparel brands' social responsibility claims. J*ournal of Product and Brand Managemen*t, 24, 5, 504–517.

Blanchet, V. (2017). ""We make markets": the role of the ethical fashion show in categorising the ethical fashion", R*echerche et Applications en Marketing* (English Edition), 32, 2, 26–45.

Bly, S., Gwozdz, W., and Reisch, L. (2015). Exit from the high street: an exploratory study of sustainable fashion consumption pioneers. *International Journal of Consumer Studies*, 39, 2, 125–135.

Chan, E. (2023). Is Greenhushing The New Greenwashing? https://www.vogue.co.uk/fashion/article/what-is-greenhushing

Changing Markets Foundation. (2021). The Changing Markets Foundation partners with NGOs on market focused campaigns. https://changingmarkets.org/

Changing Markets Foundation. (2023). New Report Finds Fashion Certification Schemes Enable Greenwashing. https://changingmarkets.org/wp-content/uploads/2022/03/Certification-Scheme-Report-Press-Release_FINAL.pdf

Dabija, D.-C. (2018). Enhancing green loyalty towards apparel retail stores: a cross-generational analysis on an emerging market. *Journal of Open Innovation: Technology, Market, and Complexity,* 4, 8, 1–16.

Da Giau, A., Macchion, L., Caniato, F., Caridi, M., Danese, P., Rinaldi, R. and Vinelli, A. (2016). Sustainability practices and web-based communication. *Journal of Fashion Marketing and Management*, 20, 1, 72–88.

de Lenne, O., and Vandenbosch, L. (2017). Media and sustainable apparel buying intention. J*ournal of Fashion Marketing and Management: An International Journal*, 21, 4, 483–498.

Deeley, R. (2022). H&M, Decathlon Dial Back Claims to Dodge Greenwashing Crack down. https://www.businessoffashion.com/news/sustainability/hm-decathlon-to-make-donations-dial-back-sustainability-claims-to-avoid-dutch-greenwashing-crackdown/

Di Benedetto, C.A. (2017). Corporate social responsibility as an emerging business model in fashion marketing. *Journal of Global Fashion Marketing*, 8, 4, 251–265

Falk, Y. (2023). The State of Sustainability in the Fashion Industry. https://infomineo.com/sustainable-development/the-state-of-sustainability-in-the-fashion-industry/

Han, S.L.-C., Henninger, C.E., Apeagyei, P. and Tyler, D. (2017). Determining effective sustainable fashion communication strategies, in Henninger, C., Alevizou, P., Goworek, H., and Ryding D. (Ed.), *Sustainability in Fashion*, Palgrave Macmillan, Cham, 127–149.

Han, J., Heshmati, A., & Rashidghalam, M. (2020). Circular Economy Business Models with a Focus on Servitization. *Sustainability, 12*(21), 8799.

Han, M. S., Hampson, D. P., Wang, Y., & Wang, H. (2022). Consumer confidence and green purchase intention: An application of the stimulus-organism-response model. *Journal of Retailing and Consumer Services*, 68, 103061.

Harris, F., Roby, H., and Dibb, S. (2016). Sustainable clothing: challenges, barriers and interventions for encouraging more sustainable consumer behaviour. International Journal of Consumer Studies, 40, 3, 309–318.

Henninger, C. E., Alevizou, P. J. and Oates, C. J. (2016). What is sustainable fashion? *Journal of Fashion Marketing and Management*, 20, 4, 400–416.

Henninger, C.E., Alevizou, P.J., Oates, C.J. and Cheng, R. (2015). Sustainable supply chain management in the Slow-Fashion industry, in Choi, T.M., and Cheng, T. (Eds), *Sustainable Fashion Supply Chain Management: From Sourcing to Retailing*. Springer, Cham, 129–153.

Hubspot. (2022). State of Marketing Inbound Trends. https://www.hubspot.com/hubfs/2022_State-of-Inbound-Marketing-Trends_V712.pdf

Hwang, C., Lee, Y., Diddi, S., and Karpova, E. (2016). Don't buy this jacket. *Journal of Fashion Marketing and Management: An International Journal,* 20, 4, 435–452.

Hyllegard, K.H., Yan, R.-N., Ogle, J.P., and Lee, K.-H. (2012). Socially responsible labeling: the impact of hang tags on consumers' attitudes and patronage intentions toward an apparel Brand. *Clothing and Textiles Research Journal*, 30, 1, 51–66.

Igini, M. (2022). 5 Fast-Fashion Brands Called Out for Greenwashing. https://earth.org/fast-fashion-brands-greenwashing/

Iran, S., Joyner Martinez, C. M., Vladimirova, K., Wallaschkowski, S., Diddi, S., Henninger, C. E., McCormick, H. , Matus, K., Niinimäki, K. Sauerwein, M., Singh, R., and Tiedke, L. (2022). When mortality knocks: Pandemic-inspired attitude shifts towards sustainable clothing consumption in six countries.

International Journal of Sustainable Fashion & Textiles, 1(1), 2754–0278. https://doi.org/10.1386/sft/0002_1

Lee, E-J., Choi, H., Han, J., Kim, D. H., Ko, E., and Kim, K. H. (2020). How to "Nudge" your consumers toward sustainable fashion consumption: An fMRI investigation. *Journal of Business Research,* 117, 642–51

Lee, N., Choi, Y.J., Youn, C., and Lee, Y. (2012). Does green fashion retailing make consumers more eco- friendly? The influence of green fashion products and campaigns on green consciousness and behavior. *Clothing and Textiles Research Journal*, 30, 1, 67–82.

Lee, E., and Weder, F. (2021). Framing Sustainable Fashion Concepts on Social Media. An Analysis of #slowfashionaustralia Instagram Posts and Post-COVID Visions of the Future. *Sustainability, 13*, 9976. https://doi.org/10.3390/su13179976

Lee, Z., Gordon-Wilson, S., Davies, I., & Pring, C. (2023) Communicating about sustainability in fashion: A construal level theory approach. *European Journal of Marketing* [in press]. https://doi.org/10.1108/EJM-09-2021-0701

Luo, S., Henninger, C. E., Normand, A. L., and Blazquez, M. (2022). Gen Y consumer perceptions of web-based sustainability communications—the case of luxury fashion. *Journal of Strategic Marketing*, https://doi.org/10.1080/0965254X.2022.2160483

Kapferer, J. N., and Michaut Denizeau, A. (2015). Luxury and sustainability: A common future? The match depends on how consumers define luxury. *Luxury Research Journal*, 1(1), 3–17. https://doi.org/10.1504/LRJ.2015.069828

Kim, H., Lee, E.-J., and Hur, W.-M. (2012). The normative social influence on Eco-Friendly consumer behavior: the moderating effect of environmental marketing claims. Clothing and Textiles Research Journal, 30, 1, 4–18.

Kunz, J., May, S., and Schmidt, H. J. (2020). Sustainable luxury: Current status and perspectives for future research. *Business Research*, 13(2), 541–601. https://doi.org/10.1007/s40685-020-00111-3

McLaren, A., and Goworek, H. (2017). Investigating the relationship between consumer attitudes and sustainable fashion product development, in Henninger, C., Alevizou, P., Goworek, H. and Ryding, D. (Eds), *Sustainability in Fashion*. Palgrave Macmillan, Cham, 171–192.

Ma, Y.J., Lee, H.H.,. and Goerlitz, K. (2016). Transparency of global apparel supply chains: Quantitative analysis of corporate disclosures. *Corporate Social Responsibility and Environmental Management*, 23, 5, 308–318.

Moon, K.K.-L., Lai, C.S.-Y., Lam, E.Y.-N., and Chang, J.M.T.T. (2015). Popularization of sustainable fashion: barriers and solutions. *The Journal of the Textile Institute*, 106, 9, 939–952.

Mukendi, A., Davies, I., Glozer, S., and McDonagh, P. (2020). Sustainable fashion: current and future research directions. *European Journal of Marketing*, 54, 11, 2873–2909.

Orminski, J., Edson C. T. Jr., and Detenber, B.H. (2021). #sustainablefashion—A Conceptual Framework for Sustainable Fashion Discourse on Twitter. *Environmental Communication*, 15:1, 115-132, https://doi.org/10.1080/17524032.2020.1802321

Osburg, V. S., Davies, I., Yoganathan, V., and McLeay, F. (2021). Perspectives, opportunities, and tensions in ethical and sustainable luxury: Introduction to the thematic symposium. *Journal of Business Ethics*, 169, 201–210. https://doi.org/10.1007/s10551-020-04487-4

Sanil, H. S., and Ramakrishnan, S. (2015). Communicating the corporate social responsibility on the company website: A study conducted on WRAP certified apparel manufacturers in India. *International Journal of Economics and Financial Issues*, 5(1S), 52–56.

Sauers, J. (2010). *Is "Sustainable Luxury" a contradiction-in-terms*. Jezeble. [Online] https://jezebel.com/is-sustainable-luxury-a-contradiction-in-terms-5649145

Siano, A., Conte, F., Amabile, S., Vollero, A., and Piciocchi, P. (2016). Communicating sustainability: An operational model for evaluating corporate websites. *Sustainability*, 8(9), 950. https://doi.org/10.3390/su8090950

Sinan, A., Chrysanthos, D., and David, G. (2013). Introduction to the special issue-Social media and business transformation: A framework for research. *Information Systems Research,* 24, 3–13.

Solomon, M.R., and Rabolt, N.J. (2004). Consumer Behavior: In Fashion. Prentice Hall, Upper Saddle River.

Sonnenberg, N., Jacobs, B., and Momberg, D. (2014). The role of information exposure in female university students' evaluation and selection of Eco-Friendly apparel in the South African emerging economy. *Clothing and Textiles Research Journal*, 32, 4, pp. 266–281.

Tarunen, L. L. M., and Halme, M. (2021). Communicating actionable sustainability information to consumers: The shades of green instrument for fashion. *Journal of Cleaner Production*, 297, 126605.

Thomas, J., and Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, 1.

Verganti, R. (2009). *Design Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean*. Boston: Harvard Business Press

UN Alliance. (2023). UN Alliance for Sustainable Fashion. https://unfashion-alliance.org/

Vehmas, K., Raudaskoski, A., Pirjo, H., and Ali, H. (2017). Consumer attitudes and communication in circular fashion. *Journal of Fashion Marketing and Management: An International Journal,* 22, 286–300

Vladimirova, K., Henninger, C. E., Joyner-Martinez, C., Iran, S., Diddi, S., Durrani, M., Iyer, K. , Jestratijevic, I., McCormick, H., Niinimäki, K., Thangavelu, P., Sauerwein, M., Singh, R., Simek, P., and Wallaschkowski, S. (2022). Fashion consumption during COVID-19: Comparative analysis of changing acquisition prac-

tices across nine countries and implications for sustainability. *Cleaner and Responsible Consumption*, 5, 100056, 2666–7843. https://doi.org/10.1016/j.clrc.2022.100056

Webb, B. (2021). The big global greenwashing crackdown. https://www.voguebusiness.com/sustainability/the-big-global-greenwashing-crackdown?

Yan, R-N., Hyllegard, K. H., and LaVon B. F. (2012). Marketing eco-fashion: The influence of brand name and message explicitness. *Journal of Marketing Communications,* 18, 151–68.

21

Sustainability Communication: Shrinking the "Sustainability Distance" Between Luxury Fashion Brands and Consumers in China

Shuchan Luo

21.1 Introduction

The primary objective of luxury products is to offer consumers an affluent and opulent lifestyle and experience, surpassing the realm of ordinary consumer goods (Chang et al. 2019). To remain relevant to luxury consumers, the concept of luxury needs to constantly evolve and adapt to consumers' ever-changing desires (Atwal and Williams 2017; Athwal et al. 2019). In today's context, there is a growing demand for sustainable products and increased recognition of environmental and social issues. In response to these consumer changes, integrating sustainability into corporate visions and missions has become crucial for the development and success of fashion companies (Yang et al. 2017; Olofsson and Mark-Herbert 2020). Especially for luxury fashion companies, sustainability has been embraced as an integral component of business strategies and communication objectives (Kong et al. 2021).

Communication is a fundamental aspect to identify sustainable practices for fashion companies (Kusá and Urmínová 2020). Various studies have emphasised the importance of placing sustainability communication at the core of business objectives for fashion companies (e.g. Da Giau et al. 2016; Blazquez et al. 2020). Most of these studies have focused on the

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communication of sustainability in the general fashion context, but relatively few have analysed how the sustainable strategy is communicated specifically by the luxury fashion companies to consumers (e.g., Arrigo 2018; Luo et al. 2023; Caastillo-Abdul et al. 2022). It is called to explore a careful and elaborate way of sustainability communication in the luxury fashion industry (Osburg et al. 2021).

To address this research call, the chapter aims to investigate how luxury fashion companies express their sustainability performance to their Chinese consumers, by focusing on companies' e-commerce websites. Consistent with previous research (Luo et al. 2021), evaluating the sustainability communication features on luxury fashion companies' websites provides concrete information for consumers. Additionally, examining communication on these websites is essential for assessing website quality, which significantly impacts the effectiveness of communication and consumer acceptance (Cao et al. 2005; Akram et al. 2018). Drawing upon Huizingh (2000) established framework for assessing communication capabilities in terms of both content and design on a company's website, widely acknowledged in scholarly discourse (Venkatesh et al. 2022). Therefore, this study adopts this Huizingh's framework to appraise the design and content concerning sustainability on luxury companies' websites as a strategic means of communicating sustainability.

This chapter specifically centres its investigation on the Chinese market, which remains the most promising market for luxury goods, despite setbacks in 2022 (Lannes and Xing 2023). Furthermore, as of 2023, sustainability stands out as one of the prominent trends in the luxury market in China (GMA 2023). However, there is a paucity of research that positions the Chinese market as a springboard for examining how well-known luxury fashion companies execute their sustainability communication to Chinese consumers.

Consequently, this chapter addresses this research challenge by focusing on the Chinese market to explore how luxury fashion companies convey their sustainability performance to Chinese consumers through their brand websites. Data is extracted from four well-known luxury fashion companies' websites to perform a qualitative content analysis. Building upon the Huizingh's framework for evaluating website quality, the data underscores that the design elements related to sustainability communication on these companies' websites influence information accessibility, while certain content provided may cause confusion and fail to attract action. Corporate sustainability performance can serve as a critical bridge to connect with consumers who are concerned about sustainability development. While data from only four sampled luxury companies may not be generalisable, it provides substantive insights that can serve as a foundation for future research in this area.

21.2 Literature Review

21.2.1 Sustainability Communication in Luxury Fashion Industry

The debate surrounding the compatibility of sustainability and luxury has become increasingly prominent in research. Athwal et al. (2019) argue that sustainability and luxury may appear paradoxical because the former often invokes terms such as altruism, sobriety, temperance, and ethics, which seems contrary to the latter. However, Grazzini et al. (2021) counter this by suggesting that the durability associated with luxury implies endurance over generations, encouraging prudent use of resources, which aligns with the goals of sustainability. Moreover, in the production of luxury goods, luxury fashion companies are often more resource-efficient than mass-market brands, leading to greater conservation of natural resources (Amatulli et al. 2018).

In the literature, there thus has been a noticeable shift towards accepting the compatibility of sustainability and luxury (Osburg et al. 2021; Park et al. 2022). However, Luo et al. (2023) found that some consumers may still be uncertain about how luxury fashion can be sustainable. One of the challenges in integrating sustainability into luxury fashion is the need for consumers to genuinely believe in the sustainability-related information conveyed by luxury fashion companies (Kunz et al. 2020; Turunen and Halme 2021). For companies, effectively communicating sustainability-related information is a crucial signal to demonstrate their commitment to creating deeper value (Sauers 2010).

Sustainability communication is a dynamic process that necessitates active engagement by brands to convincingly convey that their entire value chain aligns with sustainability principles. This entails demonstrating a commitment to sustainability not only in rhetoric but also in practice, such as by evaluating a product's performance in terms of environmental and social impacts. By doing so, companies can avoid falling into the trap of "greenwashing", where sustainability claims are unsubstantiated or misleading (Brydges et al. 2022). The core purpose of sustainability communication is to enrich individuals' comprehension and recognition of various dimensions of sustainability, including aspects related to the environment, natural resources, and human development (Godemann and Michelsen 2011). This communication takes into account a wide spectrum of values and norms, spanning economic, social, environmental, and cultural dimensions, all with the overarching aim of fostering a collective consensus on the concept of sustainable development (Lähtinen et al. 2017).

Sustainability communication plays a multifaceted role in the context of conveying sustainability-related information (Henninger and Oates 2017; Bitter-Fesseler and Weicht 2020). On one hand, it serves as a transmitter/sender for companies in the dialogue, enabling them to inform their audience, which may include consumers, stakeholders, and the public, about their sustainability performance (Bitter-Fesseler and Weicht 2020). For instance, as exemplified by Brydges et al. (2022), communicating sustainability-related information allows companies, including luxury fashion brands, to elucidate how their products are manufactured with a more environmentally friendly approach when compared to non-sustainable alternatives. On the other hand, sustainability communication also functions as a receiver, allowing companies to gather valuable feedback from consumers, often facilitated through social media platforms (Henninger and Oates 2017). This feedback loop enables companies to assess the effectiveness of their sustainability strategies and management practices, fostering continuous improvement in their sustainability efforts (Henninger and Oates 2017).

The discussion about the role of sustainability communication in the fashion industry is emerging (e.g. Turunen and Halme 2021; Brydges et al. 2022), especially in luxury fashion industry (Kong et al. 2021; Luo et al. 2023). Previous research has indicated that sustainability communication tends to be industry-specific, which can pose challenges for consumers trying to navigate the wealth of the information (e.g. Henninger et al. 2016; McKeown and Shearer 2019). However, recent a study from Turunen and Halme (2021) has shed light on innovative approaches to sustainability communication. They have introduced the concept of consumer-oriented sustainability communication, which encompasses third-party-verified sustainability labels and free-form sustainability communication. They also argue that these two forms of communication could help consumers better understand and trust sustainability information provided by companies, ultimately leading to a transition from emotional attitudes to actual purchasing behaviour. Consistent with prior research by scholars like Brydges et al. (2022) and Luo et al. (2023), this study aligns with the conceptualisation of consumer-oriented sustainability communication by Turunen and Halme (2021). The aim is to investigate how luxury fashion companies convey their sustainability performance to Chinese consumers through their companies' websites.

21.2.2 Sustainability Communication on Companies' Websites

The literature has seen a growing discourse on how companies communicate their sustainability efforts to consumers across various channels, including social media platforms (Kong et al. 2021), companies' websites (Luo et al. 2023), and both online and offline channels (Brydges et al. 2022). In this study, the primary focus is on companies' websites, specifically their e-commerce websites, which provide a direct and significant channel for companies to communicate with consumers (SanMiguel et al. 2021). Therefore, here, when referring to "company(ies)' website(s)", it pertains to the e-commerce websites of luxury fashion companies where they engage in direct communication with their audience.

In today's digitalisation, websites have become central platforms for disseminating information on sustainability issues (Tagesson et al. 2009; Siano et al. 2016). A company's website not only allows a company to publicise a large amount of continuously updated and tailored information with consumers (Sanil and Ramakrishnan 2015), but also provides a means to disclose sustainability-related information that is more accessible and timely compared to other online methods, such as annual reports or sustainability reports (Strähle et al. 2015). It is worth noting that company websites, especially e-commerce websites, are not merely an information system but also actively engage consumers across all phases of online purchase behaviour, including pre-sales, on-line sales, and after-sales activities (Liu and Arnett 2000). As a result, conducting research on sustainability communication within the context of company websites aligns with the concept of consumer-oriented sustainability. This approach recognises the pivotal role that websites play in conveying sustainability-related information, engaging consumers, and influencing their behaviour throughout their interaction with the brand.

However, research on sustainability communication through company websites is still nascent and awaits further exploration (SanMiguel et al. 2021; Kong et al. 2021). This is an area that has been acknowledged but not extensively studied (Luo et al. 2021; SanMiguel et al. 2021). It is crucial to assess the quality of websites when exploring sustainability communication because the structural features of a website can significantly impact its credibility in the eyes of consumers who receive information through it (Hong 2006). Additionally, the design and content of a website can influence consumers' perceived attitudes towards the information and their subsequent online behaviours (Akram et al. 2018).

The literature has identified various attributes of a website that can be used to evaluate its quality from user-perceived perspective (e.g. Aladwani and Palvia 2002; Al-Qeisi et al. 2014). Huizingh (2000) conducted an empirical study and developed a framework for assessing website quality, which has been widely discussed in the literature. For example, Venkatesh et al. (2022) extended this framework to examine the impact of website quality on online shopping behaviours.

Furthermore, as websites serve as channels for communication, it is essential to evaluate the credibility of the content delivered on these websites. Both message features and structural features of websites have been found to be associated with perceptions of source credibility (Hong 2006). Yet, the evaluation of website quality and credibility has not been extensively applied in the field of sustainability communication.

To bridge this gap, this study draws on the findings of the two aforementioned studies as literature support to assess website quality for communicating sustainability-related information to consumers, particularly within the luxury fashion industry. By leveraging established frameworks for evaluating website quality and credibility, this research aims to shed light on how luxury fashion brands effectively communicate sustainability to their audience while ensuring credibility and user-perceived quality of their websites.

21.3 Research Method

In this chapter, the content analysis has been employed to extract insights pertaining to sustainability communication on the e-commerce websites of luxury fashion brands, specifically targeting Chinese consumers. The selection of the research sample was informed by a combination of scholarly literature (e.g. Janssen et al. 2014; Kong et al. 2021; SanMiguel et al. 2021) and industry reports (e.g. Ap 2021; GMA 2023). There are four well-known international luxury fashion companies that have been investigated and denoted by the pseudonyms Brand C, Brand G, Brand H, and Brand L to safeguard their brand identities. These four brands have been identified not only for their popularity influence among Chinese consumers, as affirmed by industry sources, but also for their active engagement in sustainable fashion, as validated by academic references.

To ensure the eligibility of the sampled brands to the research endeavour, a set of rigorous selection criteria was established, mandating that the brands in question must:

- Possess e-commerce websites equipped with a Chinese language interface, denoting their market presence and accessibility to Chinese consumers
- Feature dedicated sustainability sections within their respective e-commerce websites, indicative of a deliberate commitment to the communication of sustainability performance
- Occupy preeminent position within the collective consciousness of Chinese consumers as renowned luxury fashion brands, thereby attesting to their market prominence in China
- Enjoy recognition for their sustainability initiatives and performance within the academic discourse, substantiating their active engagement in the sphere of sustainability

The criteria listed in Table 21.1 stress that the researcher adopts a neutral stance regarding the claims made by luxury brands about sustainability but also shows that the selection is building upon existing knowledge and research conducted by others in the field. By adopting a neutral position and building on existing research, this study is positioned to contribute valuable insights into how these luxury brands communicate their sustainability efforts on their e-commerce websites, without making judgements about the veracity of their claims. This approach can provide a comprehensive view of the strategies and messaging used by these four brands in the context of sustainability.

The data analysis adheres to a contextual content analysis approach, focusing on the dissemination of sustainability-related information conveyed on the e-commerce websites. Regarding the intricate and distinctive nature of web-based content, it is imperative to establish a unit of analysis before commencing the coding process (McMillan 2000; Kim and Kuljis 2010). In consonance with existing research in the field of sustainability communication on e-commerce websites (Luo et al. 2021), as well as informed by initial website perusal, the study firstly employs the data-driven coding system that comprises three sections: default homepage, product page, and dedicated sustainability section webpage. Meanwhile, for evaluating the website quality, the analysis adjusts the investigation on website's design and content features, as

Table 21.1 Criteria of selecting the four brands

Items	Brand C	Brand G	Brand H	Brand L
Chinese interface?	✓	✓	✓	✓
Sustainability-related sections?	✓	✓	✓	✓
Luxury Fashion Brands in China?	✓	✓	✓	✓
Identified in Academic Literature?	✓	✓		✓

expounded by Huizingh (2000), and the website's credibility (Hong 2006), the coding instrument (see Appendix A).

This study thus firstly investigates how sustainability-related contents are communicated across these three sections on luxury brands' websites.

This prescriptive step not only facilitates the systematic examination of the content but also permits the identification of uncharted contextual elements, stemming from previous studies. Additionally, it necessitates deliberation regarding the extent to which the websites warrant review and whether the defined unit of analysis comprehensively encompasses all pertinent design elements (McMillan 2000; Kim and Kuljis 2010). Therefore, ensuring the analysis appears to be comprehensive and well considered, the coding approach is taking into account both structural and sematic aspects of website content while considering the specific context and design for communicating sustainability on e-commerce websites.

21.4 Analysis

This chapter explores how luxury fashion brands broadcast their sustainability-related information to Chinese consumer on their brands' websites. Referring to the prior study (Luo et al. 2021), the findings are thoroughly analysed among three sections of the sampled brands' websites, including the homepage, product page, and sustainability-related sites. Following Huizingh's (2000) framework, the findings evaluate the website quality from the *design features* (including navigation structure, search function, and presentation style) and the *content features* (regarding to sustainability-related information conveyed on luxury brands' websites.

21.4.1 Design

The findings from the qualitative content analysis shed light on the design features used by luxury fashion brands for communicating sustainability-related information on their websites, with a specific focus on design aspects and presentation elements. The analysis first explores the design features, encompassing navigation structure and presentation, before delving into the content of sustainability communication.

21.4.1.1 Navigation Structure

The study reveals innovative insights to the academic realm, with a primary focus on the strategic placement of hyperlinks on the homepages of luxury fashion brand websites. It postulates that the location of these hyperlinks serves as a crucial mechanism for directing users' attention towards the sustainability communication elements embedded within these websites, a proposition consistent with the findings of previous research conducted by Luo et al. (2021). During the analysis of sustainability-related information on the homepages, it became evident that all four brands have systematically adopted a common practice. They have consistently integrated relevant hyperlinks within the navigation bars located at the top of their websites. This empirical observation underscores a deliberate endeavour by these sampled brands to heighten user awareness of their sustainability communication practices.

It's worth noting that not all brands extended these hyperlinks to the footer section at the bottom of the homepage. Nonetheless, for those brands that did include these hyperlinks in the footer, they consistently positioned them in a designated "company section". This section was often denoted as "About the Company" or "Our Company". This practice aligns with the previous research findings of Brydges et al. (2022). The results have been summarised.

In conclusion, the incorporation of sustainability-related hyperlinks within both the navigation bar and the footer is progressively solidifying as a standardised industry approach for communicating sustainability on brand websites.

In the context of navigation structure, Huizingh's (2000) framework classifies it into four distinct types: *a Tree structure*, *a Tree structure integrated with a return-to-homepage button*, *a Tree structure featuring a limited number of horizontal links*, and *an extensive network structure*. This framework encompasses the configuration observed on the homepage, encompassing elements such as the navigation bar, and the transition mechanisms between various sections of the website.

To delve deeper into the specifics of navigation bar structure on the homepage, it came to light that three of the sampled brands (Brand C, Brand G, and Brand H) opted to position their sustainability sections within the second level of their navigation structure. In practical terms, this designates the sustainability section as a subheading beneath a broader thematic section. For instance, Brand C necessitated users to initially click on "About XXX" before granting access to the sustainability section for further exploration. Notably, Brand L deviated from this pattern by placing its sustainability hyperlink in

two distinct locations: a sub-section under "LXX's World" and the primary section within its navigation bar. This signifies that Brand L adopts a more proactive stance in communicating sustainability information directly from its homepage, distinguishing itself from the other three brands. These findings emphasise the critical role of navigation structure in directing users towards sustainability-related content on the websites of luxury brands. Moreover, they indicate that different brands employ diverse strategies in achieving this objective.

Furthermore, when considering the transition from the homepage to sustainability-related pages, the sampled brands utilise various navigation structures. As shown in the Table 21.2, three of the brands incorporate a tree structure with horizontal hyperlinks for page transition. In this arrangement, the sustainability-related section remains within the same network as the homepage. Therefore, users can easily return to the homepage or navigate to other pages, such as product listings, using the same navigation menu. In contrast, Brand G adopts an extensive network for the transition between the homepage and sustainability-related sections. In this scenario, if users click on the sustainability-related section, they are directed to a separate website dedicated solely to the brand's sustainability communication. This action effectively leads them away from the brand's e-commerce website, where other information, such as product description, is available.

Consequently, this study sheds light on the navigation structure within luxury brand websites dedicated to sustainability communication, encompassing both the homepage and the structural components influencing page transitions from the homepage to the sustainability-focused sections. The findings underscore that luxury brands currently employ intricate and non-uniform navigation structures for conveying sustainability-related information on their websites. This diversity in navigation structures may pose challenges for audiences in identifying relevant content and subsequently navigating through the available information.

Table 21.2 Results of navigation structure

	Brand C	Brand G	Brand H	Brand L
Located in navigation Bar?	Y	Y	Y	Y
Located in footer?	N	Y	Y	Y
Navigation structure on homepage	TH	TH	TH	TH
Navigation structure about page transition	TH	ExN	TH	TH

TH tree with horizontal links, *ExN* extensive network
[a]Notes: Y = Yes, N = No

21.4.1.2   Presentation

Presentation, as an integral aspect of design, plays a pivotal role in facilitating the comprehension of information. This component encompasses various graphical elements within website design. It caters to user engagement by incorporating elements such as images (encompassing their inclusion, size, and resolution), multimedia content (e.g. animations or audio), format features (including colour, font, and text size), visual layout, and more (Garett et al. 2016). In the context of this study, it was observed that the sampled brands predominantly rely on textual content and images to convey sustainability-related information across their homepage, product pages, and dedicated sustainability sections. An interesting exception to this pattern was observed in Brands H and L, which utilised videos as an additional means of communicating their sustainability-related information. This incorporation of video content could potentially enhance the perceived effectiveness of their communication efforts (Newman and Golpalkrishnan 2022).

Furthermore, it is crucial to recognise that colour holds significant influence as a mode of communication. It can impact consumers' evaluations of brands, their perceptions of product quality, and even guide them towards more sustainable choices (Sekki et al. 2023). Traditionally, the colour green has been strongly associated with concepts of nature and environmental friendliness (Pancer et al. 2017; Larranaga and Valor 2022). However, this study revealed a noteworthy departure from this convention among sampled brands. Instead of employing green, brands often chose to utilise their signature brand colours when communicating sustainability-related information. For instance, Brand H predominantly used orange, which corresponds to its signature colour, to convey sustainability-related content on its website. As a recommendation, to enhance consumer acceptance and awareness of sustainability information, it is suggested that luxury brands consider adopting green as the thematic colour for sustainability communication, rather than relying solely on their brand's signature colours. Such an adjustment could potentially foster a more favourable impression of luxury brands' sustainability communication efforts.

In summary, this study builds upon the established framework for website evaluation, revealing that design features on luxury brand websites dedicated to sustainability communication encompass both navigation structures (pertaining to the homepage and page transitions) and elements of presentation. Navigation structure influences users' journeys through the homepage and transitions to sustainability-specific sections. In terms of presentation, the

study highlights the prevalent use of multimedia content, including images, text, and video, to convey sustainability-related information. Furthermore, the colour schemes employed for sustainability communication may benefit from adjustments to more closely align with sustainability themes.

21.4.2 Content

The fundamental purpose of a website is information dissemination to its audience. This information can be broadly categorised into two main types, namely commercial and non-commercial information (Huizingh 2000). Commercial information typically encompasses details about the company itself, which is often featured on the homepage, as well as information related to the products, typically found on product-specific pages. Non-commercial information, on the other hand, includes a wider range of subjects, such as company events, new technologies, insights into the industry, and geographical context. In line with this categorisation, this study's findings suggest that sustainability-related information primarily falls under the commercial information category.

Through a comprehensive content analysis, this research investigates the methods employed by luxury brands to communicate sustainability-related information to their Chinese consumers, encompassing various sections of their websites, including the homepage, product pages, and dedicated sections focusing on sustainability. Additionally, the study leverages the insights of Hong (2006) to evaluate the credibility of the messages conveyed.

In terms of the specific terminology employed for sustainability communication, it is observed that the majority of brands adopt the term 'sustainability' to label their respective sections, aligning with established conventions in the field. However, it is worth noting that Brand G deviates from this norm by utilising the title "Equilibrium".

Within the realm of research, previous work by Kim and Ji (2017) has explored the expectations of Chinese consumers regarding sustainability-related information, encompassing aspects such as the source of communication, distribution channels, and content preferences. However, there remains a noticeable gap in the academic literature when it comes to investigating how global companies communicate sustainability-related information to Chinese consumers from the companies' perspective. In this context, the present findings offer initial insights into how luxury brands communicate with their Chinese audience through their dedicated Chinese e-commerce websites.

21.4.2.1   Language

One of the central issues addressed in this study pertains to the language used for sustainability communication across various sections of the websites, including the homepage, product pages, and dedicated sustainability sections. Given that the concept of sustainability has largely originated in Western countries, English has traditionally been the dominant language employed for communicating sustainability-related content (Kim and Ji 2017). From the consumers' viewpoint, Kim and Ji (2017) have highlighted that Chinese consumers generally prefer communication in Chinese, as it aligns with their language and cultural context. However, the current study identifies a practice among sampled luxury brands of mixing both Chinese and English when conveying sustainability-related information on their Chinese websites. For instance, Brand G's website features sustainability reports, some of which are initially composed in English and later translated into Chinese. This hybrid approach raises concerns regarding the potential challenges Chinese consumers may face in comprehending sustainability-related information presented in English on luxury brand websites.

It is important to note that China has emerged as the world's largest internet market (Akram et al. 2018). When users browse websites, information about products and services can significantly influence their purchasing decisions and overall online shopping experience (Akram et al. 2018). Therefore, effective sustainability communication should encompass pertinent information on the product pages to capture consumers' attention and convey a company's sustainability performance (Luo et al. 2023). Building on this understanding, this research delves into the strategies adopted by luxury brands in communicating sustainability-related information on their product pages. The analysis primarily centres on sustainability-related content. A noteworthy revelation from this investigation pertains to the language choices employed by the sampled brands on their product pages. The findings indicate that only two brands, *Brand L and Brand G*, incorporate sustainability-related information on their product pages, while the other two, Brand C and Brand H, do not feature any sustainability-related content on their product pages. However, for both Brand L and Brand G, the sustainability-related information is presented in English rather than in Chinese, despite the focus on a Chinese audience.

The practice of using a mix of languages (Chinese and English) to convey sustainability-related information on product pages may not effectively capture consumers' attention and can potentially lead to scepticism about the

authenticity of this information. Therefore, these findings emphasise the importance of employing the Chinese language when communicating sustainability to Chinese consumers on a company's website. This approach is recommended to reduce potential confusion and doubts among consumers.

21.4.2.2 Message Features

Website credibility significantly impacts the user's online browsing experience, with specific relevance to issue involvement as conveyed through website messages (Hong 2006). Various message features can influence website credibility, encompassing aspects like site ownership, sponsorship/advertising, information quality, and third-party endorsements (Hong 2006). In line with this classification, this study primarily focuses on the message features associated with sustainability, which are categorised as information-related and third-party endorsements (refer to items in Appendix A).

Another crucial aspect to consider pertains to Chinese consumers' distinctive expectations regarding sustainability-related information, which differ slightly from those in Western countries, as evidenced by Kim and Ji (2017). This study delves into how luxury fashion brands express relevant information to Chinese consumers from the companies' standpoint. In the face of growing consumer scepticism concerning sustainability communication and the concept of "green-washing", Chinese consumers increasingly desire factual and transparent sustainability communication from companies (Kim and Ji 2017). A unique characteristic of Chinese expectations is the desire to see third-party endorsements and evidence of government involvement. Consequently, this analysis assesses the information presented on the websites of the sampled luxury brands, focusing on evaluating website credibility and its alignment with consumer expectations.

One of the prominent findings is that the sampled brands heavily rely on statistical information to demonstrate their commitment to sustainability. For instance, Brand C provides a specific statistic, stating:

> *the transportation of our creations represents 20% of our carbon footprint, … This switch will allow us to save around 10,000 tonnes of CO2 each year*

This numerical data offers consumers a clearer and more accurate understanding of the brand's efforts in reducing carbon emissions. However, it also opens the door to scrutiny regarding the veracity of the information.

For instance, Brand L's statement—*"100% of the wood used for the fabrication of …. have been certified according to the strictest standards for this supply chain"*—lacks specificity regarding the precise standards employed.

This finding aligns with Henninger et al.'s (2023) research, which highlights that claims such as *"100% organic",* without sufficient evidence, can foster scepticism and concerns about transparency.

In line with Chinese consumers' expectations, another noteworthy finding pertains to third-party endorsements. The analysis indicates that sampled brands frequently employ endorsements from ISO standards as references to signify their adherence to sustainable production standards. While various third-party endorsements are utilised to communicate sustainability performance, it is unfortunate that government involvement aspects, which align with the expectations of Chinese consumers, are rarely evident in the communication content of the sampled brands.

As a result, the analysis underscores the need for luxury companies to consider adjusting their communication strategies, particularly with regard to language and message features, when targeting Chinese consumers.

21.5 Conclusion

This study makes a significant contribution to the field of sustainability communication by examining how luxury fashion companies convey sustainability-related information to their Chinese consumers through their brand websites. Drawing on previous research (Luo et al. 2021; Brydges et al. 2022), the study highlights that luxury brands actively engage in sustainability communication with Chinese consumers across three sections of their e-commerce websites: the Homepage, product pages, and dedicated sustainability sections. Additionally, this research bridges the gap between sustainability communication literature and website evaluation literature by extending the framework for evaluating website quality originally proposed by Huizingh (2000) and Hong (2006) to assess the sustainability communication practices of luxury fashion companies on their websites.

Through a meticulous content analysis of website content, this study scrutinises the content and user-perceived design quality of sustainability-related information on luxury brands' websites. The findings suggest that while luxury fashion companies are indeed improving their sustainability communication efforts on their websites, there is room for enhancement in terms of providing more detailed explanations and creating user-friendly designs.

The implications of this research are valuable for managers in the luxury fashion industry, emphasising the importance of managing sustainability communication in a manner that is user-friendly and effective. The study suggests that managers should consider structuring their sustainability-related information on websites in a way that facilitates easy access for users, such as by including a dedicated "Sustainability" section in the website's navigation menu. Additionally, there is a call for the industry to establish consistent guidelines for sustainability communication on websites to reduce potential consumer confusion, especially regarding specialised terminology.

It's important to note that the data collected in this study primarily represents the perspective of the companies. Future research should aim to investigate how consumers react to the content and design of sustainability communication on luxury brands' websites. This would provide a more comprehensive assessment of the effectiveness and user-friendliness of these communication efforts.

Furthermore, the study sample in this chapter is limited in scope. To determine the generalisability of the results across different contexts, future studies should consider diverse research settings and larger sample sizes. Overall, the study encourages future research endeavours to build upon its findings, exploring them from the perspective of consumers and examining various contexts to deepen our understanding of sustainability communication in the luxury fashion industry.

Appendix A: Coding System About Message Features (Adopted from Hong 2006)

Sections	YES	NO
Information		
For the following sections (information), carefully read through all the text that provides information on a sustainability-related topic		
Information currency		
—A date that indicates when the information was last updated		
Information authorship		
—An author cited for the information provided		
Information reference		
—At least one citation of reference for the information provided		
Testimonials		
—A story or account given by an individual (either anonymous or specified by name) regarding the sustainability-related topic, A quote in the main text		

(*continued*)

(continued)

Sections	YES	NO
Quotations		
—A quote regarding the sustainability-related topic that is attributed to an individual appear in the main text of the site		
Statistics		
—Statistics regarding the health-related topic used on this site, e.g. percentages and ratios		
Third-party endorsements		
—An emblem/seal, notice, or other indication that the site is endorsed by a third-party organisation that attests to the integrity of the site? Examples: ISO 140 series		
Government involvement		
Contexts are related to the role of the Chinese government involved in sustainability activities		

References

Al-Qeisi, K., Dennis, C., Alamanos, E., & Jayawardhena, C. (2014). Website design quality and usage behavior: Unified Theory of Acceptance and Use of Technology. Journal of Business Research, 67(11), 2282–2290.

Aladwani, A. M., & Palvia, P. C. (2002). Developing and validating an instrument for measuring user-perceived web quality. Information & management, 39(6), 467–476.

Akram, U., Hui, P., Kaleem Khan, M., Tanveer, Y., Mehmood, K., & Ahmad, W. (2018). How website quality affects online impulse buying: Moderating effects of sales promotion and credit card use. Asia Pacific Journal of Marketing and Logistics, 30(1), 235–256.

Amatulli, C., De Angelis, M., Korschun, D., & Romani, S. (2018). Consumers' perceptions of luxury brands' CSR initiatives: An investigation of the role of status and conspicuous consumption. Journal of Cleaner Production, 194, 277–287.

Arrigo, E. (2018). The flagship stores as sustainability communication channels for luxury fashion retailers. Journal of Retailing and Consumer Services, 44, 170–177.

Athwal, N., Wells, V. K., Carrigan, M., & Henninger, C. E. (2019). Sustainable luxury marketing: A synthesis and research agenda. International Journal of Management Reviews, 21(4), 405–426.

Atwal, G., & Williams, A. (2017). Luxury brand marketing–the experience is everything! Advances in luxury brand management, 43–57.

Ap, T. (2021). Chanel and Dior Top China Luxury Brands Ranking, Yahoo Finance, May, 2021 [Online] available at: https://finance.yahoo.com/news/chanel-dior-top-china-luxury-115032266.html?guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAIWpdhuk0cvIOu5qTgZzkQe1rp8qA

LYt69iPZRslOeUxCK-wTO_0hu5c2x6xAfE1UL811h-72FZRrRmZSZtGdWK
wgd2N2Yyd325fNc8uv1GZNHDe415hxYsdS-NESxZSkvneX8KQgUoiSaz4A
nRLMUmApjQbkOsME0kCZcvvlHhp&guccounter=2

Bittner-Fesseler, A. and Weicht, J. F. (2020), Beyond sustainability communication: Sustainability-integrated corporate communications, Journal of Strategic Innovation and Sustainability, 15:1, pp. 93–101.

Blazquez, M., Henninger, C. E., Alexander, B., & Franquesa, C. (2020). Consumers' knowledge and intentions towards sustainability: A Spanish fashion perspective. Fashion Practice, 12(1), 34–54.

Brydges, T., Henninger, C. E., & Hanlon, M. (2022). Selling sustainability: Investigating how Swedish fashion brands communicate sustainability to consumers. Sustainability: Science, Practice and Policy, 18(1), 357–370.

Cao, M., Zhang, Q., & Seydel, J. (2005). B2C e-commerce web site quality: an empirical examination. Industrial management & data systems, 105(5), 645–661.

Castillo-Abdul, B., Ortega Fernandez, E., & Romero-Rodriguez, L. M. (2022). Corporate social responsibility communication of male luxury fashion brands: analysis on Instagram, Facebook and TikTok. Management Decision.

Chang, D. R., Jang, J., Lee, H., & Nam, M. (2019). The effects of power on consumers' evaluation of a luxury brand's corporate social responsibility. Psychology & Marketing, 36(1), 72–83.

Da Giau, A., Macchion, L., Caniato, F., Caridi, M., Danese, P., Rinaldi, R., & Vinelli, A. (2016). Sustainability practices and web-based communication: an analysis of the Italian fashion industry. Journal of Fashion Marketing and Management, 20(1), 72–88.

Garett, R., Chiu, J., Zhang, L., & Young, S. D. (2016). A literature review: website design and user engagement. Online journal of communication and media technologies, 6(3), 1.

GMA (2023). China Luxury Market: Best Strategies for Fashion Brands. GMA, 10 May, [Online] available at: https://fashionchinaagency.com/china-luxury-market-best-strategies-for-fashion-brands/

Godemann, J., & Michelsen, G. (2011). 'Sustainability communication–an introduction', In Godemann, J. and Michelsen, G. (eds.) Sustainability Communication: Interdisciplinary Perspectives and Theoretical Foundation. Dordrecht: Springer Netherlands, pp. 3–11.

Grazzini, L., Acuti, D., & Aiello, G. (2021). Solving the puzzle of sustainable fashion consumption: The role of consumers' implicit attitudes and perceived warmth. Journal of Cleaner Production, 287, 125,579.

Henninger, C. E., & Oates, C. J. (2017). The role of social media in communicating CSR within fashion micro-organizations. In Communicating corporate social responsibility in the digital era (pp. 232–244). Routledge.

Henninger, C. E., Alevizou, P. J., Oates, C. J., & Cheng, R. (2016). Communicating sustainability: The case of slow-fashion micro-organizations. Sustainable consumption: Design, innovation and practice, 83–99.

Henninger, C. E., Brydges, T., Le Normand, A., Luo, S., Quijano, L., Wood, J., & Yan, S. (2023). How do companies communicate their 'sustainable' material innovations on company websites?. International Journal of Sustainable Fashion & Textiles, 2(2), 163–188.

Hong, T. (2006). The influence of structural and message features on web site credibility. Journal of the American Society for Information Science and Technology, 57(1), 114–127.

Huizingh, E. K. (2000). The content and design of web sites: an empirical study. Information & management, 37(3), 123–134.

Janssen, C., Vanhamme, J., Lindgreen, A., & Lefebvre, C. (2014). The Catch-22 of responsible luxury: Effects of luxury product characteristics on consumers' perception of fit with corporate social responsibility. Journal of Business Ethics, 119(1), 45–57.

Kim, I., & Kuljis, J. (2010). Applying content analysis to web-based content. Journal of Computing and Information Technology, 18(4), 369–375.

Kim, S., & Ji, Y. (2017). Chinese consumers' expectations of corporate communication on CSR and sustainability. Corporate Social Responsibility and Environmental Management, 24(6), 570–588.

Kong, H. M., Witmaier, A., & Ko, E. (2021). Sustainability and social media communication: How consumers respond to marketing efforts of luxury and non-luxury fashion brands. Journal of Business Research, 131, 640–651.

Kusá, A., & Urmínová, M. (2020). Communication as a part of identity of sustainable subjects in fashion. Journal of Risk and Financial Management, 13(12), 305.

Kunz, J., May, S. and Schmidt, H. J. (2020), 'Sustainable luxury: Current status and perspectives for future research', Business Research, 13:2, pp. 541–601.

Lähtinen, K., Toppinen, A., Suojanen, H., Stern, T., Ranacher, L., Burnard, M., & Kuzman, M. K. (2017). Forest sector sustainability communication in Europe: A systematic literature review on the contents and gaps. Current forestry reports, 3(3), 173–187.

Lannes, B. & Xing, X. (2023). Setting a New Pace for Personal Luxury Growth in China. Bain & Company, 07 Feb, [Online] available at: https://www.bain.com/insights/setting-a-new-pace-for-personal-luxury-growth-in-china/

Larranaga, A. and Valor, C. (2022), "Consumer' categorization of eco-friendly consumer goods: an integrative review and research agenda", Sustainable Production and Consumption, Vol. 34, pp. 518–527.

Liu, C., & Arnett, K. P. (2000). Exploring the factors associated with Web site success in the context of electronic commerce. Information & management, 38(1), 23–33.

Luo, S., Henninger, C. E., Normand, A. L., & Blazquez, M. (2023). Gen Y consumer perceptions of web-based sustainability communications–the case of luxury fashion. Journal of Strategic Marketing, 1–17.

Luo, S., Henninger, C. E., Le Normand, A., & Blazquez, M. (2021). Sustainable what…? The role of corporate websites in communicating material innovations in the luxury fashion industry. Journal of Design, Business & Society, 7(1), 83–103.

McKeown, C., & Shearer, L. (2019). Taking sustainable fashion mainstream: Social media and the institutional celebrity entrepreneur. Journal of Consumer Behaviour, 18(5), 406–414.

McMillan, S. J. (2000). The microscope and the moving target: The challenge of applying content analysis to the World Wide Web. Journalism and Mass Communication Quarterly, 77(1), 80–98.

Newman, S., & Golpalkrishnan, S. (2022). Does Using Video Enabled Communication Positively Impact The Perception Of Effective Communication?. SAM Advanced Management Journal (07497075), 87(4).

Olofsson, L., & Mark-Herbert, C. (2020). Creating shared values by integrating un sustainable development goals in corporate communication—the case of apparel retail. Sustainability, 12(21), 8806.

Osburg, V. S., Davies, I., Yoganathan, V. and McLeay, F. (2021), 'Perspectives, opportunities and tensions in ethical and sustainable luxury: Introduction to the thematic symposium', Journal of Business Ethics, 169:1, pp. 201–10.

Pancer, E., McShane, L. and Noseworthy, T.J. (2017), "Isolated environmental cues and product efficacy penalties: the colour green and eco-labels", Journal of Business Ethics, Vol. 143 No. 1, pp. 159–177,

Park, J., Eom, H. J., & Spence, C. (2022). The effect of perceived scarcity on strengthening the attitude–behavior relation for sustainable luxury products. Journal of Product & Brand Management, 31(3), 469–483.

Sanil, H. S., & Ramakrishnan, S. (2015). Communicating the corporate social responsibility on the company website: A study conducted on WRAP certified apparel manufacturers in India. International Journal of Economics and Financial Issues, 5(1S), 52–56.

SanMiguel, P., Pérez-Bou, S., Sádaba, T., & Mir-Bernal, P. (2021). How to Communicate sustainability: From the Corporate Web to E-Commerce. The Case of the Fashion Industry Sustainability, 13(20), 11,363.

Sauers, J. (2010). 'Is "Sustainable Luxury" A Contradiction-In-Terms', Jezeble 27 September. [Online] Available at: https://jezebel.com/is-sustainable-luxury-a-contradiction-in-terms-5649145

Sekki, S., Kauppinen-Räisänen, H., Kylkilahti, E., & Autio, M. (2023). Packaging journey from retail to home: how the meaning of sustainability for colour transforms. International Journal of Retail & Distribution Management, 51(13), 47–63.

Siano, A., Conte, F., Amabile, S., Vollero, A., & Piciocchi, P. (2016). Communicating sustainability: An operational model for evaluating corporate websites. Sustainability, 8(9), 950.

Strähle, J., Will, C., & Freise, M. (2015). Communication of sustainability at European fashion online shops. International Journal of Economics, Commerce and Management, 3(7), 71–86.

Tagesson, T., Blank, V., Broberg, P., & Collin, S. O. (2009). What explains the extent and content of social and environmental disclosures on corporate websites: a study of social and environmental reporting in Swedish listed corporations. Corporate social responsibility and environmental management, 16(6), 352–364.

Turunen, L. L. M., & Halme, M. (2021). Communicating actionable sustainability information to consumers: The Shades of Green instrument for fashion. Journal of Cleaner Production, 297, 126,605.

Venkatesh, V., Speier-Pero, C., & Schuetz, S. (2022). Why do people shop online? A comprehensive framework of consumers' online shopping intentions and behaviors. Information Technology & People, 35(5), 1590–1620.

Yang, S., Song, Y., & Tong, S. (2017). Sustainable retailing in the fashion industry: A systematic literature review. Sustainability, 9(7), 1266.

22

Sustainability, Technology, and Communication in Retail Management: Challenges and Opportunities in Peru

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22.1 Introduction

Can technology be the path to a future that respects life and the planet? The pandemic has accelerated the digital transformation of consumers who have become savvier in the world of virtual shopping. Digitalization makes it possible to facilitate the organization and monitoring of different processes and reduce costs, but it can also have a negative effect on sustainability objectives. Smart stores tend to consume more energy due to the use of electronic devices such as computers, sensors, and artificial intelligence. This reality is changing, as more and more companies are joining the use of digital technology and contributing to sustainability.

EHI Retail Institute (2021) points out that sustainability in retail plays a fundamental role in optimizing commercial operations and, at the same time,

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benefits the image of a brand in the eyes of customers. There is no doubt that manufacturers, due to their production conditions and the organization of the value chain, have an impact on sustainability objectives, but retailers, which represent the link between manufacturers and consumers, promote consumer awareness through the products they offer and their commercial and design processes.

Retailers can rise to the challenges of sustainable development, and technology is one of the pillars to understand the environmental impact of consumption, to optimize supply chains and customer experience, and to reduce digital emissions and energy consumption (CI&T 2021).

22.2 Sustainability and Fashion Industry

In 2015, the United Nations put forward a roadmap toward 2030 for a more sustainable future comprising 17 goals for civil society, the private sector, and science. This action plan sets out practices that ensure the well-being and balance of the social, economic, and environmental spheres—to meet the needs of the present and not affect future generations (UNSDG 2018).

Based on these objectives, at the Youth Fashion Summit in 2016, seven demands were made of the global fashion industry that must be met by 2030 (Goals, Plans, and Trends in Creating Sustainable Supply Chains 2019). According to the focus of this chapter, the aim is to stop being the most polluting industry in the world and to promote investment in technology and recycling infrastructure to ensure a circular system.

Manufacturers have a direct influence on sustainability objectives through their production conditions and the organization of their value chains. Retailers, on the other hand, are in a unique position to promote sustainability in their product ranges and business processes and foster consumer awareness.

In architectural design, it usually uses Leadership in Energy and Environmental Design (LEED) certification, which provides an "independent verification of the sustainable characteristics of a building, allowing the design, construction, operation and maintenance to be more resource efficient, high performance, healthier and cost effective." Other actions include reusing and recycling the resources used, reducing and changing the type of packaging, and improving communication about sustainability actions where brand values are reinforced (Sustainable Business Logistics and Retailing 2019).

Extract, produce and dispose or reduce, reuse, and recycle. These concepts allow us to understand the meaning of the linear economy and the circular economy. In the first model, raw materials are used only once, waste is generated and discarded, so the environmental footprint and its effects are not considered. On the other hand, the circular economy "keeps resources in use for as long as possible, extracts the maximum value from them, then recovers and regenerates products and materials at the end of each useful life". (Arroyo Morocho 2018)

Fashion companies develop sustainability plans outlining guidelines, commitments, and partnerships to address the current challenges they face. For example, North Face promotes the recycling of garments by offering a discount on the next purchase through the "Clothes the Loop" program, and Eileen Fisher receives damaged or worn branded clothing that is refurbished and sold in its outlet formats (Goals, Plans, and Trends in Creating Sustainable Supply Chains 2019). Lush sells 35% of its products packaging-free, and Adidas has created Futurecraft.Loop, a line of 100% recyclable shoes made from plastic, so at the end of their useful life, they can be melted down and made into new ones (Vadakkepatt et al. 2021).

Technology is also a driver of sustainable development in the circular economy, for example, prAna, Patagonia, Roxy, Adidas, and Timberland use a fiber made from 100% recycled materials called REPREVE® (Sustainable Business Logistics and Retailing 2019). Gabriela Hearst works with the software platform Eon, which assigns digital identities to its products and thus documents where they are in their life cycle. Thanks to EON, with an RFID tag, consumers and recyclers can know their status and location to give them a new chance (EHI Retail Institute e. V. 2021).

Since 2013 H&M has been receiving clothing from any brand that it donates, recycles, or reuses, and for every 22.6 kg of clothing collected, it plants a tree through its partner, One Tree Planted. To this end, it created a smart recycling bin that promotes interaction with the customer through a screen and a scale. To participate in this initiative, the customer donates, the bin automatically weighs the clothes, the screen thanks them and tells them how much they have contributed, and they can see the ranking of clothes collected in US shops. Donors can also share their experiences on social media to motivate others and show that their action makes a difference (EHI Retail Institute e. V. 2021).

The bins are linked to Microsoft Teams, so staff receive notifications via smartwatches or mobile phones when they need to be emptied. Finally, donors can scan a QR code to learn more about the brand's sustainable initiatives.

22.3 Sustainable Smart Stores

The smart store concept is applied in different types of retail stores where face-to-face and online sales channels are merged for hybrid shopping, and contemporary marketing strategies are used (Hwangbo et al. 2017). Likewise, Pantano and Timmermans (2014) introduced the concept of "smart retailing" which refers to the use of technology in retailing to improve the quality of the shopping experience. Along the same lines, sustainable smart stores can be defined as those that add efforts to save energy and minimize carbon emissions to make their operations more efficient and offer better customer service (EHI Retail Institute e. V. 2021).

Some resources implemented to achieve a "wow" experience for customers and optimize processes, reducing costs, are: immersive/immobile systems such as product experience wall, interactive fitting room, smart and social mirrors, and the radio frequency identification (RFID) scheme, which belongs to the Internet of Things (IOT); QR codes, smart shelf, touch screen, mobile systems such as mobile apps or mobile augmented reality (MAR); hybrid systems such as virtual reality (VR) and service robots, and the smart checkout, among others (Riegger et al. 2021; Roy et al. 2017; Willems et al. 2017).

As can be seen, the advance of technology has led to the development of products, services, and tools in search of satisfying the needs of human beings and, in particular, of the fashion industry, allowing it to rely on electronic and robotic devices. Unfortunately, there is also a negative impact on the ecosystem, due to increased energy demands, greenhouse gas emissions, and environmental pollution from the production of artifacts to their improper disposal, so we must aim to reduce the adverse effects.

Fortunately, there are sustainable solutions for the retail industry. The EHI Retail Institute's report (2021) points out that switching from traditional data centers to cloud data centers can be up to 98% more energy efficient. Also, employees from all areas can work together virtually and automate operational processes, which represents greater efficiency and a lower carbon footprint. One notable case is IKEA, which uses Microsoft 365 for its 166,000 employees.

For Starbucks, which serves 100 million customers per week and has 30,000 stores in about 80 countries, this tool is extremely beneficial because it allows connecting all devices with Azure Sphere software through the Internet of Things (IoT) and protects data and equipment, avoiding downtime, repair costs, recovery of information, and, of course, a bad experience for the customer. On the other hand, Signify's LED lighting, a world leader in

the field, allows to manage lighting scenes in different sections of a store, ensuring an attractive customer experience and low consumption for the brand, managing to program the activation of the system according to the establishment's schedule.

Robots do not align with all the SDGs, but they still play an important role in reaching the goal: for example, monitoring healthy air quality by measuring carbon monoxide (Miller 2022). On the other hand, Selfridges has proposed an experimental pop-up store called the "eco-conscious store of the future." It has an ABB 3D printing robot that prints a variety of design objects made from Parley Ocean Plastic, a plastic material derived from marine debris. The aim "is to challenge consumers to think about how the goods they buy are produced and the impact of this production on the environment."

According to KPMG and the China Chain Management Association, the labor budget accounts for 60% of retail store operations, so they are looking to decrease costs and improve operational efficiency and the shopping experience from the transformation to a smart store ("The Future of Retail: Smart Stores" 2020). In these cases, robots can perform certain operations in the store, freeing collaborators to people-oriented roles; for instance, in China, a Huawei store has a robot that allows customers to collect their purchases made online from a dispenser through the FlexBuffer system (Laird 2022).

Amazon says it has reduced its operating costs by 20%, thanks to robots in its warehouses to pick orders. Then, a robot that works through sensors can offer the customer what they are looking for, but an AI-driven robot can even offer product recommendations, such as Pepper who converses with customers, answers their questions, gives instructions, and can even recognize human emotions. In a pilot test at B8ta, a 70% increase in visits was achieved (Mondal 2017).

22.4 Sustainable and Technological Best Practices in Shopping Malls in Lima, Peru

Companies in Peru have increased their interest in sustainability, according to recent studies like the report "Leaders and Business SDGs" conducted by FutureLab, which indicates that more and more Peruvian and international business leaders operating in the country are adopting sustainable practices in their business (Perú 2022). Likewise, Centrum PUCP interviewed 243 companies in Peru, Chile, Ecuador, and Colombia. Among the most relevant results, 76% of the companies affirmed that their interest in sustainability has

increased, surpassing the regional average of 70.8%. Similarly, the importance of sustainability for Peruvian executives increased by almost 16% between before and after the onset of the pandemic. Finally, 75% of companies expect to maintain or increase their budget in this area (Centrum PUCP y Avanza Sostenible 2021).

The following are noteworthy actions framed within the technological approach at the local level in the retail sector, which demonstrate that properly executing the goals set to promote sustainability generates greater economic, social, and environmental value.

Air is one of the most valuable resources on the planet and today it is threatened by high levels of pollution. The Peruvian company Qaira has designed a continuous air quality monitoring system that serves to take rapid action in favor of the environment (*Módulos qHAWAX* 2022). Through static modules called "qhawax," carbon dioxide is measured in the common areas and public spaces of the Jockey Plaza shopping center. "The statistics obtained allow establishing daily results and issuing trends on the behavior of polluting elements, being able to analyze schedules and good, moderate or bad indicators of air quality in the area." The results are shared on screens in real time, seeking to generate environmental awareness (El Comercio 2022) (Fig. 22.1).

Fig. 22.1   Qaira map at CC. Jockey Plaza. Source: Fieldwork (January 2023)

Technology such as interactive storefronts or robots to guide consumers are starting to appear in pilot tests driven by consumer demand for new in-store experiences (Pantano and Vannucci 2019). Kiwibot, a Colombian startup, arrived in Peru at the end of June 2022 to develop a different advertising strategy with semi-autonomous robots. According to a study by Amplified Intelligence, 85% of advertisements such as flyers fail to attract the attention of consumers, so this digital innovation strategy aims to captivate the Lima public and consolidate itself in the local market (*Mercado Negro* 2022).

Nowadays, audio and video communication between two people using computers or cell phones is becoming more and more common. A telepresence robot can be considered an extension of the so-called video calls and in this opportunity it is used as an alternative means to interact with potential customers.

In late 2019 and throughout 2020, a telepresence robot was primarily responsible for guiding visitors at Jockey Plaza in real time, providing information about store locations and facilities within the mall. This tool proved invaluable during the COVID-19 pandemic, when contact between people was restricted. However, to date, this resource has not reappeared in the mall's aisles (America Retail 2019).

One of the most consolidated and leading department stores in Peru is Falabella. Recently, the Chilean company has been recognized in the latest edition of the Dow Jones Sustainability Index (DJSI), the most complete and prestigious list on corporate sustainability. In this way, it joins 11 other major world-renowned firms as the most sustainable in the industry (*Falabella* 2022a, b).

What were the initiatives that drove this achievement? Falabella retail carried out a pioneering action in the sector: the creation of a +Verde Seal, which considers a system for evaluating and rating the environmental, economic, and social performance of its stores. The tool is developed by the Chile Green Building Council and is the only seal worldwide focused on sustainability for retail operations (Pacto Global Red Chile 2022). Falabella also has 34 stores in Chile, Colombia, and Peru that are internationally certified in Leadership in Energy and Environmental Design (LEED) (Horeca 2022). In 2022, the Falabella Retail Omnichannel Distribution Center was inaugurated in San Bernardo, which is considered a milestone in Latin America for its installed capacity and technological sophistication, with a storage capacity of 9 million units, with 60,000 m².

Falabella Retail's Corporate Supply Chain Manager, Juan López, explained that "this expansion has enabled us to increase the installed capacity of the Distribution Center by 50%, leaving enough space to triple the e-commerce capacity in the coming years" (Falabella 2022a, b). The main investment in

technology was the expansion of the Automated Warehouse, adding 132 "Shuttle" robots to the existing 264. Among the innovations, automatic packaging machines and environmentally friendly packaging were installed. It also uses RFID, which allows for more efficient inventory taking and operational processes (Falabella 2022a, b).

At the point of sale, you can find Click & Collect, a robotic solution that facilitates and expedites in-store pickup of products purchased at Falabella. com. In less than 10 seconds it can generate automated deliveries and can handle more than 1000 orders per day in the 14 units (Falabella 2021) (Fig. 22.2).

Falabella also includes the circular economy model, through "Taller F," where it offers customization services for new and used garments and trainers, which can be intervened with prints, embroidery, laser printing, and studs (Falabella 2021) (Fig. 22.3).

There is also the sustainable campaign "Deja Huella" of the Real Plaza shopping centers in Lima, where they create spaces and actions that help recycling and collaborate with the environment by creating spaces for shopping by bicycle and providing adequate parking and everything necessary to be able to use this sustainable means of transport (Fig. 22.4).

Fig. 22.2 Click & Collect Falabella at Jockey Plaza shopping center. (Source*:* Fieldwork (January 2023))
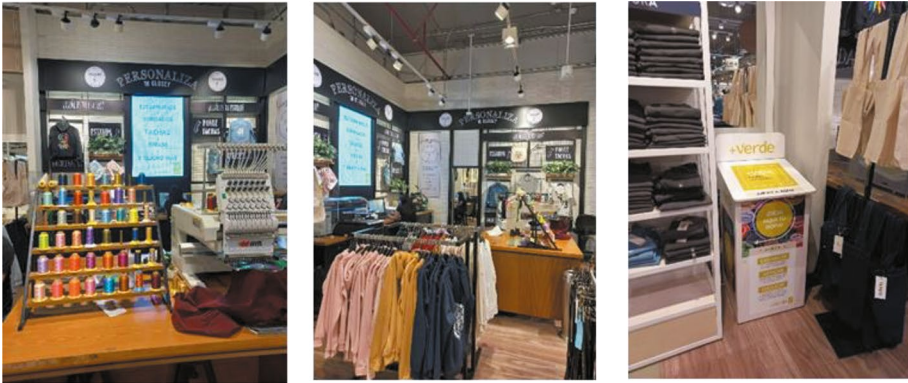
Fig. 22.3 Taller F at Jockey Plaza shopping center. (Source*:* Fieldwork (January 2023))
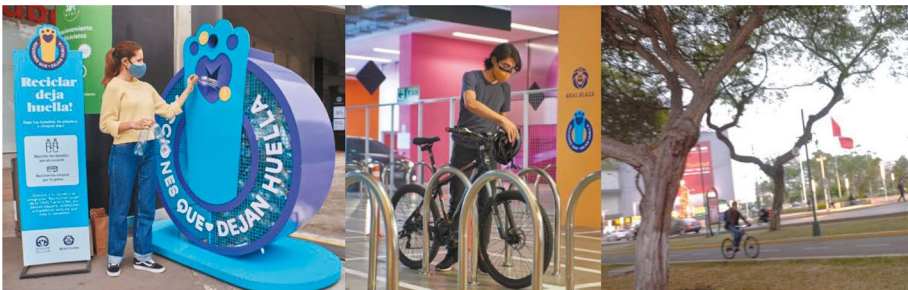
Fig. 22.4 Good practices in mobility and sustainable. (Source: Fieldwork, photograph of the bike path and park in front of the Real Plaza shopping center in Lima (2023))

22.5 Effectively Communicated Corporate Social Responsibility

It is important to know that in Peru there is a marked business interest in aligning itself with all the sustainable issues that can be derived from the economic activities that arise from large multinational retailers to entrepreneurs in the most remote places of our country. There is a consistent focus on the importance of environmental care in all its aspects—social, cultural, economic, and more (Falabella 2020). In light of this, the industry makes considerable efforts to promote its social initiatives, such as enhancing the intelligence of its stores and retailers, all while ensuring that this does not lead to a greater environmental impact. These efforts are aligned with the sustainable development goals set by the United Nations (EHI Retail Institute e. V. 2021).

The use of technology is extremely important to go hand in hand with the sustainable vision. And despite the efforts being made throughout the country, in different ways, both academic and business, there is still a long way to go. Precisely, this is a crucial point in the productive development of a company, since it is assumed that the higher the technology, the higher the business productivity and the higher the profits resulting from the optimization of processes, and the sustainable side is not always being considered (Gwilt 2020).

This leads us to think of the so-called greenwashing where, although the objective is to "pretend to be eco-friendly" (when in reality it is not) to generate a better reputation and increase consumption, there is no barometer or instrument that helps us measure the percentage of greenwashing in companies. Something that is very positive because time would be wasted developing instruments to measure everything that is wrong, instead of building initiatives and measuring the environmental impact in favor of the citizenry.

However, there is a controversy here. If in principle it is considered more constructive to measure and develop instruments that build in favor of the environment, the Swiss company IQAir does not think the same, because it placed us once again in first place in Latin America as the polluting country of America Latina (INFOBAE 2022) which makes this issue especially sensitive since it places us in a position of urgency to present improvements. The present investigation, therefore, raises from that point of urgency, in an imperative way, the practically obligatory nature of retailers and companies in general to seek yes or yes the sustainable side of their actions (or increase those they already have). That is why from Peru we cannot afford to use the previously mentioned greenwashing and, really, we are in search of allies, national and foreign, who carry out their business activities or invest in our country always having their "seal green" very present.

And from the point of view of marketing and communication, as is known, there is a well-known saying in Spanish: "no solo debes ser bueno, si no, parecerlo" ("you don't just have to be good, but look like it"). It is necessary to virilize all these good practices and green actions so that they continue to have an impact not only on citizens but also at the consumer level. Because it is not only about analyzing the business activity and the technology used in it, for example, in the case of retailers and shopping centers, but also about making the consumer understand that when they take an eco-friendly product, they are helping the planet. When the customer is informed of this (and not only about the usefulness, price, and characteristics of the product), the brand makes the consumer want to buy products or acquire services of this type (Mackenzie 2013).

In the images presented as examples of corporate responsibility communication (remember the context of urgency and non-contamination that we have in Peru), we have three levels: basic, intermediate, and advanced. The three photographs were taken in two shopping centers in Lima, Peru—the first two being inside and the third outside (Fig. 22.5).

The first (basic level of communication) has organizational elements (written and graphic), that is, they show us where each element that we are going to discard is placed (but it does not indicate whether it is important or not to do it that way). The second level of communication, intermediate, fulfills the same organizational objective as the previous one, but also makes a call to collaborate with the good maintenance of the planet (which appeals to the most rational but at the same time emotional part of our being). The third and last level of communication, advanced, is subdivided in a composition (with its respective synergy) into two forms of expression: tacit and explicit.

The communication and tacit expression of the third photograph is made up of the exterior location (it acknowledges that the outdoors is the natural environment of everything ecological) together with the white pot and well-kept green planters, practically touching the container. The explicit communication is made up of the structure itself that contains the disposable plastic bottles together with an advertising slogan that explicitly mentions "together

Fig. 22.5 Communication levels in sustainability. (Source: Interior photographs of the Jockey Plaza shopping center, Lima, Peru (2023))

for the environment" which appeals to the sense of belonging, community, and common strength.

In short, a customer will feel happier when buying if they come across communication of corporate and sustainable social responsibility in its advanced form. This is because consumer happiness is not only linked to the satisfaction of needs or their own emotional states, but it has been scientifically proven that consumers are happier when they participate in social or altruistic help (Dutta and Mandal 2021).

22.6 Conclusion and Outlook

Talking about sustainability, technology, and retail is always talking about challenges, but also opportunities. And this is how hundreds of academics and professionals in general have managed to overcome it, who have managed to raise the bar to more favorable scenarios for Peru in terms of improving policies on technology and sustainability. This was detailed by the Oxford Business Group in its Sustainability and Transformation report, which also ranked Peru as one of the three leading countries in economic growth in Latin America despite the pandemic caused by COVID-19, where they even mention the strategies and sustainability management have accelerated (Oxford Business Group 2021).

An example of this is the multinational Starbucks in Lima, which has rapidly accelerated the integration process, at all costs, between sustainability and retail—this time hand in hand with interior design and visual merchandising. As was shown at the beginning of the investigation, the visual in retail is very careful since it is known to have a determining impact on the purchase-sale process within a retailer and on notions of sustainability. Whether indoors or outdoors, in a pup store, measuring air quality, applying the circular economy in different brands or in a smart store, the retail atmosphere creates an oculo-spatial link with the consumer that will open up different alternatives of sustainable consumption.

In the following image, it can be seen, to draw a conclusion, how a brand wants to be perceived as eco-friendly in terms of retail, visual communication, and interior design. Who is close to us to offer us the best of nature, no matter where we are, who we are with, or what activity we do. And since "less is more," no additional slogan or communication is needed to send the message that "the brand takes care of you" and neither does it reflect to understand that just as the brand does, we must also take care of the planet (or surround

ourselves with nature). It's not just decoration, it's sustainability and brand positioning (Fig. 22.6).

Finally, it is important to mention, perhaps, to take into account in other subsequent studies, the proposals for improvement that emerge from this research and that could be addressed by different professionals, not only for Peru, but for Latin America in general, which are grouped into three crucial points:

Generate awareness in society in general where companies, academia, and the city are closely linked and aligned from production to responsible consumption. We are all participating actors; we are not only observers. Becoming aware by itself is not usually useful in isolation, because if it were, it would remain just as a merely informative or rational analysis that is never taken into

Fig. 22.6 Sustainability in retail Starbucks. (Source: Fieldwork, interior photography of the Plaza Lima Sur shopping center, Lima, Peru (2023))

action. It is necessary to be active practitioners, not only participating in change but also becoming generators of sustainable proposals in each of the social realities in which we live (Goals, Plans, and Trends in Creating Sustainable Supply Chains 2019), without waiting for large budgets, great motivators, or others to do so. For this reason, sustainability is useful in retail to the extent that each one of us is a generator of change.

The digital transformation in Peru has made Peruvian society and companies grow by leaps and bounds (Everis 2019). Technology and its synergy with sustainability is not and will not be the same (especially in retail). Therefore, it constitutes a huge opportunity to be exploited by those who want and know how to combine technology and sustainability at the same time. It is no longer a fashion, or a novelty, and yet, Peru is open to receive and embrace technological progress and all the positive components that it brings both inside and outside shopping centers. Is the world ready to bring the best sustainable and technological practices to retail?

References

Arroyo Morocho, F.R. (2018). La Economía Circular Como Factor De Desarrollo Sustentable Del Sector Productivo. *INNOVA Research Journal*, pp.78–98. https://doi.org/10.33890/innova.v3.n12.2018.786

Centrum PUCP y Avanza Sostenible (2021) Proyecciones para una reactivación empresarial sostenible en 2021- análisis Perú, Repositorio PUCP. http://repositorio.pucp.edu.pe/index/handle/123456789/174833 [Accessed 04 November. 2023].

Chile, P. G. R. (ed.) (2022) *Falabella retail crea sello +verde para garantizar criterios de sostenibilidad en sus tiendas*. Available at: https://pactoglobal.cl/falabella-retail-crea-sello-verde-para-garantizar-criterios-de-sostenibilidad-en-sus-tiendas/

CI&T (2021). *3 ways that technology can make retail more sustainable*. [online] CI&T. Available at: https://ciandt.com/uk/en-gb/article/3-ways-technology-can-make-retail-more-sustainable.

Dutta, T. and Mandal, M. K. (eds.) (2021) *Consumer Happiness: Multiple Perspectives*. Singapore: Springer Singapore. https://doi.org/10.1007/978-981-33-6374-8

EHI Retail Institute e. V. (2021) *Sustainable Smart Stores 2021 Digital Sustainability Solutions for the Retail Industry*. Available at: https://info.microsoft.com/rs/157-GQE-382/images/EN-CONTENT-SRGCM4457-SustainableSmartStores.pdf.

El Comercio (2022) "Jockey Plaza: Instalan un completo sistema de monitoreo de calidad del aire," 3 June. Available at: https://elcomercio.pe/economia/jockey-plaza-instalan-un-completo-sistema-de-monitoreo-de-calidad-del-aire-noticia/

Everis (2019) *Transformación Digital en el Perú*. UTEC. Available at: https://www.transformaciondigitalenelperu.com

Falabella (2020) *Reporte Sostenibilidad 2020*. Available at: https://somosfalabella.com/Reporte-Sostenibilidad-2020/

Falabella (2021) *Reporte de sostenibilidad 2021*. Available at: https://www.falabella.com/static/RDF/site/content/falabella-sostenible/pdf/Reporte-de-Sostenibilidad-2021.pdf

"Falabella es reconocida como una de las empresas retail más sostenibles del mundo" (2022a) *Peru Retail*. Available at: https://www.peru-retail.com/falabella-es-reconocida-como-una-de-las-empresas-retail-mas-sostenibles-del-mundo/

"Falabella Retail incrementó en 50% la capacidad de su Centro de Distribución más moderno y sostenible de la región" (2022b) *Somos F. El blog del falabella verde*, 7 . Available at: https://www.somosfalabella.com/mas-sustentable/falabella-retail-incremento-en-50-la-capacidad-de-su-centro-de-distribucion-mas-moderno-y-sostenible-de-la-region/.

Global Fashion Agenda & Boston Consulting Group (2017). 2020 Circular Fashion System Commitment. [pdf] Available at: https://www.copenhagenfashionsummit.com/commitment/

Goals, Plans, and Trends in Creating Sustainable Supply Chains. (2019). *Sustainability and Social Change in Fashion*, pp.183–209. doi: https://doi.org/10.5040/9781501334092.ch-008

Gwilt, A. (2020) Rethinking Fashion Design. *A Practical Guide to Sustainable Fashion*. Bloomsbury Publishing Plc, pp. 0–21. https://doi.org/10.5040/9781350067059.ch-001.

Horeca (2022) "Falabella apuesta a ser la empresa más sostenible del sector retail," *Horeca*, 5. Available at: https://www.horeca.pe/noticia/falabella-apuesta-ser-la-empresa-m%C3%A1s-sostenible-del-sector-retail

Hwangbo, H., Kim, Y. S. and Cha, K. J. (2017) "Use of the smart store for persuasive marketing and immersive customer experiences: A case study of Korean apparel enterprise," *Mobile Information Systems*, 2017, pp. 1–17. https://doi.org/10.1155/2017/4738340

INFOBAE (2022) "Perú entre los países que respiran el peor aire del planeta,". Available at: https://www.infobae.com/america/peru/2022/03/26/peru-entre-los-paises-que-respiran-el-peor-aire-del-planeta/

Laird, K. (2022) "Selfridges highlights the role of robots in retail. 3D printing window display aims to create consumer awareness. Sustainable Plastics," *Sustainable Plastics*, 5 July. Available at: https://www.sustainableplastics.com/news/selfridges-highlights-role-robots-retail

LEED rating system (no date) *Usgbc.org*. Available at: https://www.usgbc.org/leed (Accessed: November 2, 2023).

Mackenzie, D. (2013) "Design, Sustainability and Marketing," *The Handbook of Design for Sustainability*. Bloomsbury Publishing Plc, pp. 168–181. https://doi.org/10.5040/9781474294102.ch-023

"Más líderes empresariales peruanos adoptan prácticas sostenibles en sus negocios" (2022) Perú Retail. Available at: https://www.peru-retail.com/mas-lideres-empresariales-peruanos-adoptan-practicas-sostenibles-en-sus-negocios/

Mercado Negro (2022) "Publicidad con robots: Empresa Colombiana ejecuta piloto en Jockey Plaza," July. Available at: https://www.mercadonegro.pe/marketing/publicidad-con-robots-empresa-colombiana-ejecuta-piloto-en-jockey-plaza/.

Miller, A. (2022) *How Robots Will Help the UN Reach Its Sustainability Goals*, *Earth. org*. Available at: https://earth.org/robots-sustainability-goals/#:~:text=They%20 can%20operate%20more%20efficiently,t%20even%20run%20on%20fuel.

Módulos qHAWAX (2022) *Qaira*. Available at: https://www.qairadrones.com/.

Mondal, T. (2017) "Robots in Retail: Driving Innovation One Aisle at a Time," *WNS: Business* . Available at: https://www.wns.com/perspectives/articles/articlede-tail/627/robots-in-retail-driving-innovation-one-aisle-at-a-time.

Naciones Unidas (2018). La Agenda 2030 y los Objetivos de Desarrollo Sostenible: una Oportunidad para América Latina y el Caribe. (LC/G.2681-P/Rev.3), Santiago.

Oxford Business Group (2021) *Sustentability & Transformation Report*. Available at: https://oxfordbusinessgroup.com/news/report-how-technological-advances-and-sustainability-practices-are-transforming-perus-economy.

Pantano, E. and Timmermans, H. (2014) "What is smart for retailing?," *Procedia environmental sciences*, 22, pp. 101–107. https://doi.org/10.1016/j.proenv.2014.11.010

Pantano, E. and Vannucci, V. (2019) "Who is innovating? An exploratory research of digital technologies diffusion in retail industry," *Journal of retailing and consumer services*, 49, pp. 297–304. https://doi.org/10.1016/j.jretconser.2019.01.019

Peru, P. (2022). Falabella es reconocida como una de las empresas retail más sostenibles del mundo. [online] Perú Retail. Available at: https://www.peru-retail.com/falabella-es-reconocida-como-una-de-las-empresas-retail-mas-sostenibles-del-mundo/ [Accessed 04 January. 2024].

"Perú: robot de 'telepresencia' en centro comercial Jockey Plaza" (2019). America Retail. Available at: https://www.america-retail.com/peru/robot-de-telepresencia-en-centro-comercial-jockey-plaza/.

Riegger, A.-S. *et al.* (2021) "Technology-enabled personalization in retail stores: Understanding drivers and barriers," *Journal of business research*, 123, pp. 140–155. https://doi.org/10.1016/j.jbusres.2020.09.039

Roy, S. K. *et al.* (2017) "Constituents and consequences of smart customer experience in retailing," *Technological forecasting and social change*, 124, pp. 257–270. https://doi.org/10.1016/j.techfore.2016.09.022

"Sostenibilidad: Perú: el 76% de las empresas aumentó su interés en sostenibilidad" (2021). America Retail. Available at: https://www.america-retail.com/sostenibilidad/sostenibilidad-peru-el-76-de-las-empresas-aumento-su-interes-en-sostenibilidad/.

Sustainable Business Logistics and Retailing. (2019). *Sustainability and Social Change in Fashion*, pp.141–160. https://doi.org/10.5040/9781501334092.ch-006

"The Future of Retail: Smart Stores" (2020) *Danavation Technologies*, 9 August. Available at: https://danavation.com/the-future-of-retail-smart-stores/.

Vadakkepatt, G. G. *et al.* (2021). Sustainable retailing, *Journal of retailing*, 97(1), pp. 62–80. https://doi.org/10.2139/ssrn.3714958

Willems, K. *et al.* (2017) "The path-to-purchase is paved with digital opportunities: An inventory of shopper-oriented retail technologies," *Technological forecasting and social change*, 124, pp. 228–242. https://doi.org/10.1016/j.techfore.2016.10.066

23

Product Development, Manufacturing, Retailing and Consumption of Sustainable Fashion

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23.1 Product Development, Manufacturing, Retailing and Consumption of Sustainable Fashion

The lifecycle of clothing commences with the gathering of raw materials through to fabric production, product development, production, retailing, purchase, maintenance and divestment, with sustainability issues arising at each stage. Whilst consumers' retention and maintenance of clothing usually form the longest part of the garment lifecycle, our ability to care for the items is highly influenced by decisions taken by companies at the initial stages of product development. Choices made by designers in terms of materials, colouration, components and design details, for example, have crucial impacts on the durability and longevity of merchandise after its purchase. Describing garments as being sustainable could have a variety of different meanings, e.g., that an item is made by a company with Fair Trade accreditation, is composed of entirely renewable resources or that it is more sustainable than the standard merchandise in a brand's product range, e.g. by incorporating organic fibres. Within this chapter, fashion brands are defined as those firms which predominantly design and market products sold under their own brand name, largely sold via stores or websites belonging to other companies, whereas clothing

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retailers are defined as companies which primarily engage in the distribution of garments to consumers. The terms 'manufacturer' and 'supplier' are often used interchangeably, although suppliers can also refer to intermediaries who provide the service of supplying merchandise to a company, without being directly involved in its manufacture. The key issues which impact upon sustainability in the development, manufacture, selling and consumption of clothing will be explored in this chapter.

23.1.1   Sustainability in Product Development

Product development is a term used in the clothing industry, amongst others, to describe the preparation stage for items prior to their production in mass quantities (i.e. 'in bulk') for resale to customers. Preparing for production involves selecting materials and components, designing garments and ensuring that different garment sizes will be available.

Materials and Components Selection
The amount of material and componentry used within a garment correlates with its impact on the environment, since higher fabric content will generally create higher carbon emissions from fibres and production. The dimensions of various areas of garments, specified by designers, pattern-cutters or garment technologists, affect the fabric usage and consequently the minimisation of wastage of materials. Fabric usage can be calculated for each item of clothing, averaged across the range of garment sizes in which it is manufactured, and generally the lower the fabric consumption, the more sustainable the garment, due to the reduced volume of raw materials consumed. However, other elements also need to be taken into account when assessing the sustainability of a product. For example, a dress could consist of a relatively high amount of fabric due to incorporating a gathered skirt, but if the fabric is recycled polyester, it can be more environmentally sustainable than a less voluminous dress made from new polyester fibres. More sustainable fabrics have been trialled in recent years, such as those made of fibres from mushrooms or pineapples, which would require further development to bring them to a mass market scale of production.

Assessing the sustainability of fabrics can be a complex issue, since their environmental credentials may not always be clear. Furthermore, environmentally sustainable materials may not necessarily be socially sustainable and vice versa, e.g. textile employees may work in poor conditions even if the

fabric is made from organic fibres. Organic cotton is one of the most well-known environmentally sustainable fabrics and whilst it has the advantage of being grown without pesticides and herbicides, this can result in a lower yield of cotton and higher water usage than standard cotton. Verification of the fibres being organic can be obtained from Global Organic Textile Standard (GOTS), which sets standards for textile processing of organic fibres, offering independent certification of suppliers, assessing both ecological and social criteria (GOTS 2023). Products must consist of at least 70% certified organic fibres to be eligible for the GOTS label. Better Cotton Initiative (BCI) accreditation is another option for the approval of sustainable fibres, providing guarantees which address biodiversity and employment conditions, amongst other issues (BCI 2023). Gaining certification for an organisation's levels of sustainability must be paid for and uses resources within the company, which is one of the valid reasons that sustainable garments may be sold at a higher price than other clothing.

Designers can also consider the potential durability of the materials they choose, to increase the quality and longevity of clothing. A key problem with the durability of fabric is pilling, where fibres mount up on its surface to give a highly worn appearance, a particular problem for knitwear and various woven fabrics (Claxton et al. 2017). In the product development phase, selecting fibres which pill less easily can therefore enable garments to remain in use for longer. Many lightweight or open-weave fabrics are lacking in durability and may have a high level of seam slippage, indicating that the seams are likely to break open easily. Companies with high quality standards are likely to test material for strength by applying weight or pressure with machines to check at which point they split and declining to use fabrics in their garments if they don't meet the brand's criteria. Choosing to buy clothes from brands with a good reputation for quality can therefore be a more sustainable choice. However, price will also clearly need to be considered for most consumers and paying more for garments does not always guarantee high quality materials or durability. The complexity of selecting sustainable fabrics is illustrated by considering viscose, wood pulp being a key substance in its manufacture, which sounds reasonably sustainable, yet chemicals are required to break down its cellulose in manufacture that can cause a negative impact on the environment. Similarly, bamboo may be considered a biodegradable and sustainable fibre due to it being a fast-growing plant, but the extent of its sustainability depends on whether it has been processed mechanically or produced with chemicals that may harm the environment (Sanders 2020), which may not be communicated directly to consumers in its labelling or packaging. Consumers therefore have difficult and complex decisions to make when aiming to be

sustainable in their clothing purchases, even when the relevant information is fully available to them, and buying fewer items is a more straightforward way of being sustainable.

Key concerns about the effects on the environment of textile dyeing are water pollution, chemical usage and toxicity, energy consumption, depletion of resources and the management of waste, in addition to numerous potential health risks to textile workers (Saha 2023). In its natural colour state, fabric is usually referred to as being 'greige' before dye is added. When 'eco' ranges of clothing started to be launched into the UK mass market in the 1990s, one of the key design elements was to use neutral shades that minimised the use of dyes. Synthetic dyes tend to be more toxic than those made from natural raw materials. Fabrics are usually dyed in a range of colours, which can be a highly polluting industrial process, resulting in excess liquid sometimes emitted by factories where cloth is produced or treated, thus potentially tainting local rivers with unwanted colour and toxic chemicals. However, pollution regulations differ around the world and the textiles trade does not yet have consistent standards globally. Printing is another mode of applying colouration to clothes that uses chemicals in its application and can therefore also result in an environmental impact.

Garment components, such as buttons, zips and press-studs, are mostly visible to consumers, yet others can be hidden from sight, such as the interfacing and shoulder pads concealed within tailored jackets to confer structure and shape. Both visible and hidden elements of a garment can impact upon its environmental sustainability. When selecting components, designers and product developers can improve a garment's sustainability by considering whether the raw materials from which they are made originate from renewable sources, such as wood, or non-renewable sources which include synthetic fibres derived from fossil fuels. The development of clothing components is often an iterative process, involving component manufacturers responding to demand from design or technology teams within garment manufacturers (or fashion brands), to adapt existing components or to develop new items. Designers or technologists working within any of these stages within the fashion industry can therefore influence the sustainability of componentry by requesting items from their suppliers that have reduced or minimal impact on the environment or on society.

Once selected, the materials and components from which garments are made will need to be purchased by the manufacturer's purchasing department in the right quantities, at viable prices and delivered by appropriate dates. Companies' purchasing staff may therefore also have an influence on the final

choice of materials and play a part in selecting sustainable items. Consequently, it is important for designers, garment technologists, fabric technologists and purchasers employed by manufacturers to gain an understanding of social and environmental sustainability, to inform their decision-making. It is also beneficial for senior managers within the organisation to gain knowledge regarding sustainable actions in the clothing industry, thus enabling them to offer agency and support to their colleagues in this regard (Goworek et al. 2020). Both the selection of materials and the way in which a garment is designed can significantly impact upon the maintenance, longevity and therefore the whole lifespan of a product.

In the 2020s it has become standard practice to incorporate one or more ranges of sustainability-orientated products within a brand or retailer's merchandise. Many brands have taken the approach of offering a small sub-brand of clothes which are more sustainable than their regular products, e.g. Italian brand Emporio Armani's Sustainable Collection. Retailers such as UK-based Reiss take a different approach to sustainability, in that they aim for a more timeless style, without limiting their products to the latest fashion trends, focusing on quality of manufacture, so their garments are likely to achieve a longer lifecycle. COS (Collection of Style) offers a range of sustainability-related strategies, from using sustainable fabrics to taking back used garments in their 'Full Circle' programme, some of which will be sold in their 'Resell' online marketplace (COS 2024). Whilst these approaches are viable at the higher end of the mass market, it can be more challenging to take a wide-ranging sustainability strategy at the cheaper end of the mass market, where low costs are prevalent and when there is more of an emphasis on frequent change for fast fashion, such as in the H&M group (parent company of COS).

Design Features
Garment design offers many opportunities for the incorporation of sustainable features. Minimising the amount of fabric or components can reduce the quantity of raw materials consumed in the making of a garment, as discussed above. Modular styling has also been recommended as being more sustainable, featuring parts which can be removed or adapted, to allow the same garment to acquire different looks (Gwilt and Rissanen 2011). Selecting components that are made of renewable or recyclable resources can also enable a garment to be more sustainable. Designing a classic shape/silhouette and details, rather than highly contemporary fashion features, can allow an item to be worn for longer without becoming outdated, reducing the need to purchase more clothes. However, the garment still needs to be relevant to the

target customer who will wear it, to make it commercially viable to produce. To enable clothes to be wearable for an extended timescale, it is preferable not to solely follow High Street fashion trends and this approach has been termed 'slow fashion' by various authors (e.g. see Gwilt and Rissanen 2011). The meaning of slow fashion can go beyond references to the speed at which it is developed, relating also to smaller scales of production and traditional crafts (Fletcher and Grose 2012). Cataldi et al. (2013:22–23) demonstrated fore-sight in this respect, by stating:

> Slow fashion represents a new future vision for the fashion and textile industry, one where natural resources and labour are highly valued and respected. It aims to slow down the rate at which we withdraw materials from nature and acts to satisfy fundamental human needs. In this movement, the people who design, produce and consume garments are reconsidering the impacts of choosing quantity over quality and redesigning ways to create, consume and relate to fashion.

To trial how garments will look in bulk production, manufacturers produce individual samples to show to clients who have placed orders and to check that they fit on the body effectively. Sample garments may be posted internationally from manufacturers to retailers, thus creating additional carbon emissions from their transportation and it can therefore be beneficial to minimise the number of garment samples produced. After the fit of the garment has been approved by a brand or retailer, usually by trying the clothing on live models in a sample size (typically a size 12 in the UK), the full range of garment sizes (known as grades) to be offered in this style will then be prepared for bulk production. Making the sizing as accurate as possible, resulting in fewer samples being needed prior to approval and making sure all sizes fit well, can help to make garments more sustainable through reduced wastage and ultimately, fewer products being returned at the retailing stage. This calls for highly skilled, well-trained designers and pattern-cutters with sound technical knowledge. Also from a technical perspective, at the product development stage designers and garment technologists are often responsible for specifying the types of thread, stitching and machinery which will later be used in the manufacture of the garments, which can play a significant part in their durability since longer-lasting products can be considered to be more sustainable.

Decisions made at the product development stage, as discussed above, will have a significant impact on the sustainability of garment manufacturing. Additionally, the product development phase itself has sustainability impacts,

which can be minimised by being carefully managed in collaboration between manufacturers and lead firms (i.e. the retailers or fashion brands who are their clients).

23.1.2 Clothing Manufacture

Clothing is usually produced by specialist garment manufacturers, contracted to supply goods to retailers' and brands' specifications and standards. The chain of companies from the producers of raw materials through to fabric manufacturers and processors, proceeding to garment manufacturers and ultimately retailers, is referred to as the supply chain. It is rare for a retailer to own clothing factories, with Zara being a notable exception, producing some of its merchandise at its in-house manufacturing site in La Coruna, Spain. Such companies are referred to as being 'vertical', in that they have ownership of more than one stage in the supply chain, which may be represented as a vertical diagram where one step joins to the next. In addition to considering the sustainability of materials used in the production of clothing, companies need to take into account the environment in which they are manufactured, e.g. minimising the usage of energy for heating, air conditioning, lighting and machinery, whilst maintaining suitable working conditions for employees.

Social sustainability can also be considered within the selection of materials and components for clothing. Amongst the most prominent organisations promoting social sustainability is the Fairtrade Foundation, which is involved in setting social, environmental and economic standards for farmers and companies in the supply chain, certifying products and ingredients that use the Fairtrade mark, partnering with companies that follow core Fairtrade principles, lobbying governments and working directly with farmers and employees, in addition to driving public awareness of Fairtrade (Fairtrade 2023). Clothing with Fairtrade certification is subject to a process that ensures a fair price is paid to workers engaged in its production, leading to improved financial sustainability for the employees.

Other options for accreditation for socially sustainable clothing are available, e.g. Fair Wear, which aims to improve working conditions in the industry and counts Filippa K and Kuyichi amongst its 140 members (Fair Wear 2023). Lead firms in the garment industry can also implement their own socially sustainable policies. For example, several brands fund community projects in the localities where their products are manufactured and online Fairtrade and organic fashion retailer People Tree funds schools for its suppliers' employees' children (People Tree 2023). On the negative side of social

sustainability, clothing operatives in certain factories have been revealed to have been paid well below the minimum wage in various countries, including the UK (Hammer et al. 2015). Modern slavery is another social sustainability issue, defined by Anti-Slavery International (2023) as 'when an individual is exploited by others, for personal or commercial gain. Whether tricked, coerced, or forced, they lose their freedom. This includes but is not limited to human trafficking, forced labour and debt bondage'. Modern slavery is a problem in many areas of the world and has often been linked to child labour and the manufacture of clothing, which has led to relevant legislation being developed. In the UK, the Modern Slavery Act 2015 requires businesses supplying goods and services with an annual financial turnover of £36 million or more to make their own modern slavery statements accessible to the public, e.g. via fashion brands' websites (UK Government 2015). Smaller companies may also voluntarily publish modern slavery statements to explain how they address this issue within their organisation. In the UK manufacturing sector overall, many victims of modern slavery are originally from Eastern European countries and it has been estimated that 18% of potential forced labour victims in the UK are children. This significant social sustainability issue is being addressed by various non-government organisations (NGOs) and activists, such as Labour Behind the Label, Unseen and Justice in Fashion.

The conditions in which clothing manufacture takes place are usually audited by lead firms, using a manual that sets their own standards, to match or exceed legal requirements, conducted either by the lead firm's own in-house garment technologists or outsourced to intermediary firms that supply this service. Such intermediaries are likely to be located in the region where the manufacturer is based, saving the lead company's staff from having to travel to this area. However, the longer the chain of command, the more potential opportunities there could be for errors to arise in assessing the quality of garments and working conditions. Due to fashion ranges being changeable in nature and ordering at short notice being prevalent, production schedules can be unpredictable and therefore factories may sub-contract excess work to other (often smaller) companies to enable garment orders to be completed by the lead firm's delivery deadline. The sub-contractors may often be 'cut, make and trim' (CMT) factories which are not involved in any services beyond product manufacture (such as design and marketing). The CMT system initially developed in the nineteenth century, when excess garment production (i.e. just the making element) could be sub-contracted to people working from home, a process referred to as 'sweating' (Dobbs 1927), hence the contemporary use of the term 'sweatshop'. The CMT system elongates the supply chain and the lead firm may not necessarily be notified about the

sub-contractors, meaning infringements of employment conditions can be hard to detect. By outsourcing responsibility for auditing factories, lead firms may take the risk that the auditors are closer both geographically and socially to the manufacturers than to the lead companies who employ them, leading to the possibility of a more lenient approach to the factories if conditions are borderline or below standard. Auditing may not cover every aspect of the processes within a factory and will only take place at certain times of the year, since it is unlikely to be viable to audit manufacturers constantly, so it gives a snapshot of its performance at a particular time, rather than a full overview. Working hours, payment and health and safety are amongst the key legal and ethical issues to be considered when assessing employment conditions for factory operatives, all of which are aspects of social sustainability.

23.1.3 Clothing Retailing

The retailing phase begins with the delivery of products from manufacturers to retailers. Large-scale retailers are also likely to have been involved in the prior stage of product development, since they may have their own design teams and technologists who participate in garment design in collaboration with the manufacturers of the products. The organised transportation of goods between companies, usually referred to as logistics, can potentially have a high impact on the environment, particularly through the usage of fuel and is therefore a key stage where fashion companies can make impactful decisions about sustainability in the supply chain. Brick-and-mortar retailers also create significant impacts on the environment through their use of energy, fittings and furniture within retail stores. Clothing retailers, brands and manufacturers can use a framework known as the Higg Index, developed by the Sustainable Apparel Coalition (SAC 2023) in order to assess and measure their sustainability strategies, covering such issues as carbon emission, water use and labour conditions. To provide support in achieving and managing social and environmental sustainability within supply chains, lead firms and manufacturers can appoint specialist companies such as Sedex (www.sedex.com) which collate and report data relating to sustainability goals.

Many retailers use their own storage premises (entirely separate from their stores) as a hub from which goods are distributed to their outlets. Formerly known as warehouses, they are now more often referred to as Distribution Centres (DCs), acknowledging the role they play in the efficient and swift distribution of merchandise, rather than being less cost-effective, long-term storage. On the journeys from the factory to the DC and the subsequent trips

from the DC to retail outlets, or directly to users' homes or collection points for online sales, fuel usage can be minimised in order to reduce carbon emissions by using more energy-efficient transport, such as aerodynamic lorries and electric or hybrid vehicles. DCs are usually located centrally in a region or country, close to major road or rail networks, to minimise the distance that the merchandise travels, thus being more cost-efficient, saving time to ensure that garments arrive in stores promptly and being more environmentally sustainable through reducing miles travelled. Like any business premises, the DC itself also has sustainability impacts, particularly the energy required to maintain an appropriate temperature for both employees and garments located in large buildings. Decisions made by fashion businesses regarding the distribution of merchandise from manufacturers to retailers should therefore take into account numerous sustainability-related decisions which can assist in reducing carbon emissions. As fashion consumers we can also be responsible for considering sustainability at the purchase stage of clothing distribution, by evaluating whether purchasing online, using click and collect facilities or a choice of transport options to retail outlets will result in the lowest carbon emissions, a decision that retailers could assist us in by providing the relevant information.

More sustainable business models than the standard retail formats have begun to emerge or have been revived in recent years. For example, clothing libraries are available in Sweden and the Netherlands, where subscribers make a monthly payment to borrow clothes of their choice, which they later return (Boztas 2018). As an alternative sustainable model, the Swedish town of Eskilstuna has launched the ReTuna Återbruksgalleria, a contemporary shopping centre with its entire focus on sustainability, every item sold there (including clothing) being reused, recycled or produced sustainably (Retuna 2023) (Fig. 23.1).

Product rental is an alternative business model that lends itself well to the clothing sector. Traditionally the preserve of wedding attire, rental has been revived as a method of retaining clothing within the circular economy by companies such as My Wardrobe, Hire Street and Loanhood, where consumers hire clothing for a limited amount of time in exchange for a fee. Retailing has traditionally focused on business-to-consumer (B2C) markets and the internet has facilitated wider engagement in consumer-to-consumer (C2C) sales of products, especially since the advent of eBay in 1995. Specialist C2C clothing apps such as Vinted, founded in Lithuania in 2008 and its competitor Depop, launched in the UK in 2011, have reinvigorated the second-hand clothes market, which had previously largely focused on the donation of garments to charity shops or jumble sales.

Fig. 23.1   ReTuna Återbruksgalleria in Eskilstuna, Sweden. (Photo ©Lina Östling)

23.1.4   Clothing Wear and Maintenance

The timescale after purchase is generally the longest stage in the lifecycle of clothing and this is consequently a highly significant time in terms of sustainability impacts. Allwood et al. (2006) identified the importance of this stage in a seminal report produced at the University of Cambridge Institute for Manufacturing, entitled 'Well Dressed: The Present and Future Sustainability of Clothing and Textiles in the United Kingdom', which spearheaded research into sustainable fashion. The ability of consumers to care for their clothes sustainably is influenced by the selection of materials and components as well as design at the product development stage and the quality of garment construction in the manufacturing stage. Laundering takes precedence in terms of the environmental impact of clothing consumption, due to the energy usage involved. In order to reduce energy consumption, consumers have been encouraged to wash clothes at lower temperatures over the last 20 years, with the added incentive of cost reduction. To achieve this, many UK retailers which sell own-label merchandise have used the policy of adding 'if it's not dirty, wash at 30' onto their garment labels to remind and persuade their customers to reduce electricity consumption. Retailers may also collaborate with

washing detergent companies to determine the optimum washing instructions for their merchandise and to offer solutions for stain removal that do not require high temperatures or extended wash cycles. In the garment drying phase, tumble dryers can cause particularly high electricity usage, as opposed to line drying or specialist electric clothing dryers. Consumers can be supplied with information by retailers and other organisations on how to care for clothing more sustainably, to encourage behaviour change resulting in reduced carbon emissions, which may also provide the added benefit of reducing energy costs.

Traditionally, retailers' responsibility for clothing from their stores ended at the point of purchase, with after-purchase policies extending to the legal requirement to take back and refund customers for faulty garments. Since the 2010s an increasing number of retailers and brands have prolonged their responsibility beyond the consumer purchase stage to offer advice and services for the maintenance of products which they have sold. For example, at the time of writing, UK-based outdoor clothing brand Regatta offers advice on its website on how to clean and reproof waterproof clothing (Regatta 2024). Taking this supportive approach further, Scandinavian company Nudie Jeans offer free repair services for their used garments at their stores or by a mobile mending service (Nudie 2023). Similarly, US outdoor wear retailer Patagonia is well known for its sustainability strategies, offering three levels of repair service, firstly by supplying guidance videos on its website for consumers to mend garments themselves. Secondly, the brand can offer customers advice and small-scale repairs at its retail outlets. Thirdly, consumers can send their Patagonia products to repair centres to be fixed by specialists free of charge and returned to their owners (Patagonia 2024). These policies are innovative aspects of the companies' business models in that they are not based purely on profitability or marketing techniques, yet they enhance the values and reputation of the brands. The high level of customer service displayed by these companies indicates the various degrees of extended producer responsibility that can be achieved in the market for longer-lasting clothing, which may influence other firms to adopt such strategies.

Garment repair, repurposing and reuse are also gaining ground in the consumer market. Visible mending is a trend for consumers to repair clothing in an overtly decorative style, rather than in hidden ways, to enhance, rather than detract from a garment's appearance. This technique is particularly suited to knitwear and often makes use of traditional darning skills, leading to an array of books and websites being offered on this topic in recent years (see, for example, Noguchi 2022). Knitwear is prone to pilling and consumers can revive knitted products by removing the small bobbles of fibres that have built

up, using battery-powered pill-removers or special stones. Sewing skills were usually incorporated within the school curriculum in the UK up to the 1980s, but they are no longer so prevalent in secondary education. There is a renewed interest in craft and repair skills which can now be shared more widely and easily online, e.g. on YouTube. Repair cafes have also been instigated, usually on a not-for-profit basis, where people can meet at a pre-arranged location where others can help to fix products in a sociable environment. Overall, retaining garments in use for longer periods via these methods, thus prolonging the time before their disposal and avoiding the need to replace them with new clothing, is one of the most effective ways in which consumers can behave more sustainably, as extending clothing lifetimes by a third on average could reduce its impact on the environment by more than 20% (WRAP 2012).

23.2   Garment Disposal

Disposal is another stage in the garment lifecycle that is highly impactful on the environment. The Waste and Resources Action Programme (WRAP) reveals the scale of the problem, estimating that 336,000 tonnes of clothing are discarded in the UK annually (WRAP 2012). Garments that are disposed of in landfills can further exacerbate the issue through increasing carbon emissions that contribute to climate change. Consumers have established a hierarchy of divestment methods for used clothing, ranging from gifting items to family and friends to selling online, donating to charity, repurposing or recycling, as classified by Birtwistle and Moore (2007).

Whereas traditionally, retailers and brands largely abdicated responsibility for clothing after it had been sold, many lead firms have begun to concern themselves with taking back goods via their stores, which they can then resell online, thus contributing to the circular economy, i.e. ensuring that they are retained in use rather than being discarded, thus minimising the need for new items to be produced. Numerous organisations are supporting the move towards a more circular economy, including not-for-profit charities such as the Ellen Macarthur Foundation, which advocates the elimination of waste and pollution as well as circulating products and materials (Ellen Macarthur Foundation 2023). Consumers' disposal of garments after purchase can be made more sustainable with the support of retailers. For example, retailers H&M and Massimo Dutti locate collection boxes for used clothing near the counters in their stores. Marks and Spencer (M&S) took a step further when it began to collect customers' used clothing in its outlets to donate to the charity Oxfam in exchange for a voucher to spend in M&S. However, such

policies may be open to criticism if they encourage further purchases of new products. Clothing service 'Recomme' offers to improve circularity by providing fashion retailers and brands with facilities to resell, repurpose or recycle used clothing, a system it refers to as 'recommerce' (Recomme 2023). US-based retailer Eileen Fisher takes back garments which had been bought at its stores and utilises visible mending techniques to make them saleable again via its 'Renew' collection (Eileen Fisher 2023). In contrast, certain brands have become notorious for disposing of their unsold products via incineration or landfill, aiming to avoid their brand image becoming diluted through selling their items cheaply (add source re. Burberry and Primark). However, customers' knowledge that the brands are disposing of the goods in such ways that lead to unnecessary carbon emissions is likely to taint their brand values (Fig. 23.2).

Clothing exchanges and upcycling are amongst the options for retaining garments within the circular economy, potentially diverting them from being sent to landfills. Clothing exchanges can be instigated by organisations or consumers, by booking a location, such as a cafe or Students' Union buildings, where attendees bring some of their used clothing which can be donated or swapped for other garments brought to the event. Upcycling refers to reusing clothing in new, creative ways such as piecing together the good quality parts of two worn-out garments to make a new one or using sections of fabric from used garments to create patchwork. Guidance is offered by Recycle Now, national recycling campaign for England and Northern Ireland, including where to recycle items in your postcode area and how to become a 'binfluencer' by recycling correctly and encouraging others to do so (Recycle Now 2023). Repurposing is another viable option for used clothing, e.g. when consumers use it for a different function such as cleaning cloths or stuffing for soft toys. However, whilst many consumers profess that they intend to behave more sustainably, their consumption behaviour may often differ, a paradox which has been explored by various authors which has been termed the 'value-action gap' or the 'attitude-behaviour gap' (e.g. see Blake 1999; Carrington et al. 2010).

23.3   Conclusion

This chapter has illustrated how input throughout the supply chain, in product development, manufacturing, distribution and retailing of garments can impact upon consumers' ability to behave sustainably during the consumption phase. Brands or retailers which achieve a high level of sustainability

Fig. 23.2 Used clothes donation container in Massimo Dutti store. (Photo: Author's own)

throughout their organisations and suppliers can aim for the accolade of 'B Corporation' (B Corp) certification. UK-based Joanie is one of the companies which have achieved this status after undergoing rigorous assessments to ensure that they have met high standards of both environmental and social responsibility (Joanie 2023).

As consumers we also play key roles in terms of the items we choose to buy and the brands from which we buy them, how we purchase, care for and dispose of the products. The easiest ways in which consumers can support the minimising of carbon emissions associated with garment production are to

avoid buying new clothing by minimising the number of purchases they make or to buy pre-worn clothing. To aim for more sustainable brand values, clothing brands and retailers should consider how many resources each garment uses, whether the materials and components are renewable or from a sustainable source and if the item can be disposed of in a sustainable manner. Going beyond the products themselves, fashion-lead firms can consider whether marketing and other business strategies are conducted sustainably.

References

Allwood, J.M., Laursen, S.E., de Rodriguez, C.M., and Bocken, N.M.P. (2006) *Well Dressed? The present and future sustainability of clothing and textiles in the United Kingdom.* Cambridge: Institute for Manufacturing, University of Cambridge. Well dressed? The present and future sustainability of clothing and textiles in the United Kingdom (cam.ac.uk)

Better Cotton Initiative (2023) *Introducing better cotton traceability.* Available online at: The world doesn't just need cotton, it needs Better Cotton.

Birtwistle, G. and Moore, C.M. (2007) 'Fashion clothing—where does it all end up?', *International Journal of Retail and Distribution Management*, 35 (3): 210–216.

Blake, J. (1999) 'Overcoming the Value-Action Gap in Environmental Policy: tensions between national policy and local experience', *Local Environment*, 4 (3): 257–278.

Boztas, S. (2018) 'Check me out: the library where you can borrow clothes instead of books', *The Guardian*, 18th January 2018. Available online at: Check me out: the library where you can borrow clothes instead of books | Business to business | The Guardian

Carrington, M.J., Neville, B.A. and Whitwell, G.J. (2010) 'Why Ethical Consumers Don't Walk Their Talk: Towards a Framework for Understanding the Gap Between the Ethical Purchase Intentions and Actual Buying Behaviour of Ethically Minded Consumers', *Journal of Business Ethics*, 97: 139–158.

Cataldi, C., Dickson, M. and Grover, C. (2013) 'Slow fashion: Tailoring a strategic approach for sustainability', in Gardetti, M.A. and Torres, A.L. (2013) *Sustainability in Fashion and Textiles,* Sheffield: Greenleaf Publishing, pp. 22–46.

Claxton, S., Cooper, T., Goworek, H., Hill, H., Mclaren, A. and Oxborrow, L. (2017) 'Pilling in knitwear – a clothing longevity problem beyond design'. In: C. Bakker and R. Mugge, eds., *PLATE: Product Lifetimes And The Environment: Conference Proceedings of PLATE 2017, Delft, the Netherlands, 8th-10th November 2017.* Research in design series, 9. Amsterdam: IOS Press, pp. 89–93.

COS (2024) *Sustainability at COS*, available online at: Sustainability at COS

Dobbs, S.P. (1927) 'Sweating in the clothing industry', *Economica,* 19: 74–90.

Eileen Fisher (2023) 'Renew—Lightly Used Clothing*', Eileen Fisher,* available online at: EILEEN FISHER Renew – lightly used clothing

Ellen Macarthur Foundation (2023) 'What We Do', *Ellen Macarthur Foundation,* available online at: What we do | Ellen Macarthur Foundation

Fair Wear (2023) Member Brands*, Fair Wear Foundation*, available online at: Member Brands — Fair Wear Foundation

Fairtrade (2023) What is Fairtrade?, *Fairtrade Foundation*, available online at: What is Fairtrade? – Fairtrade Foundation

Fletcher, K. and Grose, L. (2012) *Fashion and Sustainability: Design for Change,* London: Laurence King.

GOTS (2023) *Global Organic Textile Standard and Certification,* GOTS, available online at: Standard and Certification – GOTS (global-standard.org)

Goworek, H., Oxborrow, L., Claxton, S., McLaren, A., Cooper, T. & Hill, H. (2020) 'Managing sustainability in the fashion business: Challenges in product development for clothing longevity in the UK', *Journal of Business Research*, 117(9): 629–641.

Gwilt, A. and Rissanen, T. (2011) *Shaping Sustainable Fashion: Changing the Way we Make and Use Clothes,* London: Routledge.

Hammer, N., Plugor, R. Nolan, P. and Clark, I. (2015) *A New Industry on a Skewed Playing Field: Supply Chain Relations and Working Conditions in UK Garment Manufacturing*, Leicester/London: University of Leicester/CSWEF, Ethical Trading Initiative.

Joanie (2023) 'Joanie B Corp Certification', *Joanie Clothing*, available online at: Joanie B Corp Certification | We Are B Corp Certified | Joanie (joanieclothing.com)

Noguchi, H. (2022) *Creative Mending: Beautiful Darning, Patching and Stitching Techniques,* Tuttle Publishing.

Nudie (2023) 'Where can I get my jeans repaired?', *Nudie Jeans,* available online at: Where can I get my jeans repaired? – Nudie Jeans® | 100% Organic Denim

Patagonia (2024) *Repairs*, available online at: Product Repair & DIY Tutorials - Patagonia

People Tree (2023) 'Our producers', *People Tree,* available online at: About the Producer: Assisi – People Tree

Recomme (2023) 'How Recomme works', *Recomme,* available online at: Recomme

Recycle Now (2023) 'How to Recycle', *Recycle Now,* available online at: Recycle Now

Regatta (2024) *Garment Care*, available online at: https://www.regatta.com/garment-care/

Retuna (2023) 'The stores at ReTuna: Clothing and home textiles', *ReTuna Återbruksgalleria,* available online at: ReTuna's stores – Retuna

SAC (2023) *Our Impact,* Sustainable Apparel Coalition, available online at: Our Impact – Sustainable Apparel Coalition

Saha, S. (2023) 'The toxicity of textile dyes: Unveiling the hidden colours', *Fibre2Fashion*, available online at: The Toxicity of Textile Dyes: Unveiling the Hidden Colours – Fibre2Fashion

Sanders, L. (2020) 'Bamboo: Eco-friendly fabric or environmental disaster?, *Euronews,* available online at: Bamboo: Eco-friendly fabric or environmental disaster? | Euronews

UK Government (2015) *Publish an Annual Modern Slavery Statement,* UK Government, available online at: Publish an annual modern slavery statement – GOV.UK (www.gov.uk)

WRAP (2012) 'Valuing Our Clothes: The cost of UK Fashion', *Waste Resources Action Programme,* WRAP – The Climate Crisis: Act Now

24

I've Got My Eyes on You: An Exploratory Eye Tracking Study of Consumers' Attention to Sustainability-Inspired Labelling on Fashion Hang Tags

Nikolaos Dimitriadis, Elina Ketikidi Gerakis, Matteo Venerucci, and Panayiota Alevizou

24.1 Introduction

The apparel market continues to experience global growth with a revenue amounting to €2tn in 2023 which is predicted to continue in the following years (Statista 2023). This has elicited global discussions related to sustainability in the fashion industry along with research focused on more sustainable business models (Henninger et al. 2021). This increasing interest in a more sustainable fashion future was triggered by a wide array of factors, such as the detrimental global environmental effects of the fashion industry (Cochrane 2019), questionable and unethical labour practices (Taplin 2014) which compound inequalities, social discrimination (Lewis 2019) and a growing consumer preference for more sustainable consumption practices (Lee

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et al. 2020). Brands worldwide have shifted their focus in improving production approaches and/or communicating their commitment to sustainability (Goworek et al. 2020). This activity has produced mixed results ranging from transparent supply and production strategies (Garcia-Torres et al. 2022) to unsubstantiated claims and greenwashing (Ende et al. 2023).

Studies have focused on consumers' perceptions of sustainability labels reporting mixed results in terms of consumer preference, understanding, knowledge, awareness, recognition and engagement. Most studies seem to agree on, the limited time consumers have in hand to engage with claims in a retail setting (Thøgersen 2000; Thøgersen et al. 2012), the high priority of price and quality over other products credentials in decision making (Delmas and Lessem 2017) as well as the limited attention paid to eco labels as opposed to other product attributes (Alevizou 2023). To explain, studies emphasise the importance of sustainability labelling for decision making and at the same time alert to the various 'competing' market signals seeking consumers' attention and preference such as quality, branding and price. In addition, most studies have focused on eco labels and certifications (e.g. the Nordic Swan, Fair Trade or organic certifications) and less on the various additional sustainability signals (e.g. visuals, language, images) thus, neglecting the wider signalling environment and communication process (Alevizou et al. 2018; Lock and Araujo 2020). Finally, eco labelling research has mainly focused on self-reported based methodologies concerning consumers' consideration of eco labelling in purchase decision making (Graham et al. 2012).

To address these gaps this study used eye tracking glasses to explore *consumers' perceptions and visual attention to sustainability labelling* (images, text and logos) and communication on fashion hang tags as only a handful of studies have explored visual attention and consumer choice (Krucien et al. 2017; Song et al. 2019; Li et al. 2016). In the current study the term '*sustainability labels*' is used loosely and as an overarching term to indicate environmental and/or social types of signals sent from companies to the final consumer (Alevizou et al. 2018). This may include visual and other signals on apparel hang tags such as eco labels, nature-inspired images and logos.

24.2   Literature Review

There is evidence that consumers welcome information related to how their favourite brands address global sustainability challenges (Mintel 2021). Indeed, the importance and consumer right to this type of information is consolidated by the United Nations as one of the Sustainable Development

Goals (UN 2023). Yet, communicating sustainability to the final consumer has been a thorny and complex task as the lines between communicating sustainability and greenwashing can be blurry and contested (Alevizou 2021).

Labelling for sustainability in the fashion industry is faced with multiple challenges and research is still in its infancy. Studies continue to highlight consumers' appetite for more sustainable fashion brands (Henninger 2015) but also their confusion with the various sustainability-inspired signals in the market (Evans and Peirson-Smith 2018). The sources of confusion are multiple, complex and contextual. Knowledge has been highlighted in past studies as an important barrier towards more sustainable fashion choices. Morgan and Birtwistle (2009) for instance highlight the importance of consumer information and knowledge related to the fashion supply chain which may be a factor prohibiting proper clothing disposal. Other studies report consumers' emotional reactions towards information related to the effect of the fashion industry on the environment and society. Ritch (2022) records a 'shock' from her interviewees to the information about the impact of cotton production on the environment in Uzbekistan. Scholars also argue that environmental knowledge alone does not always equate to more sustainable behaviours (Alevizou et al. 2015; Heeren et al. 2016). Furthermore, consumers who are environmentally and socially conscious have little knowledge of the impact of their fashion consumption on the environment (Hiller Connell 2010) given the complexity of the fashion supply chain and the industry itself. Finally, a cited cause (see Hill and Lee 2012) for consumer confusion related to the sustainability-inspired signals in the market is greenwashing which is linked to consumer scepticism and cynicism.

However, dealing with greenwashing in the fashion industry has been a challenge given the various forms of sustainability signals. There is growing evidence that companies have become 'creative' with sustainability signals using a variety of forms and types such as visuals, logos and text to showcase their environmental and/or social concerns (Alevizou 2021). As such, more research into visual signalling and visual attention is needed (Gorn et al. 1997; Lyon and Montgomery 2015; Alevizou et al. 2018; Torelli et al. 2020) in order to explore consumers' attention and perceptions of the signals which is the focus of the current study. Finally, most studies on consumers' perception of labelling have been based on self-reported based methodologies (Meyerding and Merz 2018) which are potentially linked to overestimation of the understanding and use of labels (Grunert et al. 2010; Samant and Seo 2016) or with 'socially desirable responding' (Paulhus 2002). Eye-tracking is a technical approach to measuring consumer perception as it allows for the capture and evaluation of consumer visual attention (Graham et al. 2012; Meyerding and

Merz 2018) which is vital when exploring sustainability signals on fashion products given the multiple competing signals on fashion hang tags which are explored in this study.

24.2.1   The Visual System and Attention: Bottom-Up Versus Top-Down Attention

In the realm of cognitive psychology and neuroscience, the human visual system's remarkable ability to perceive, process and make sense of the vast and complex visual environment has long intrigued researchers. At the heart of this phenomenon are two distinct attentional mechanisms: bottom-up and top-down attention (Gazzaniga et al. 2018; Wolfe and Horowitz 2017). These mechanisms work together to help us efficiently process and make sense of the overwhelming amount of visual information in the environment.

Bottom-up attention is driven by the sensory features of the visual stimuli themselves (Vanunu et al. 2021; Leblanc et al. 2020). It's a somewhat automatic and data-driven process that relies on low-level features such as colour, contrast, light, edges and motion. When people encounter a visual scene, their sensory system detects these basic features and highlights salient or distinctive elements. In other words, attention is drawn to things that stand out due to their visual properties (Wang and Klein 2021). This process is often referred to as 'stimulus-driven' or 'data-driven' attention and can be related to Time to First Fixation (TTFF). For instance, if a person is in a crowded room and suddenly someone starts waving their arms, attention will likely be drawn to the movement and the vivid contrast it creates against the background, even if the person was not intentionally looking for it. It is an *outside-in process* since elements from the external environment compete for internal attention.

Top-down attention, on the other hand, is guided by a person's goals, expectations and cognitive processes. It involves higher-level cognitive factors, such as our intentions, memories, and prior knowledge. In top-down attention, our brain's internal processes actively direct our attention to specific parts of the visual scene based on our current task, interests and past experiences (Vanunu et al. 2021; Theeuwes 2018). The top-down attention is often being related to the Total Fixation Duration (TFD). For instance, if someone is at a conference listening to a speaker and their goal is to understand the topic being discussed, their top-down attention will focus on the speaker and the presentation slides, filtering out other distractions. It is an inside-out process since our internal world directs our attention to external elements.

In real-world scenarios, bottom-up and top-down attention mechanisms often work in conjunction. The interplay between these mechanisms helps us efficiently process all the visual information. Bottom-up mechanisms help us quickly notice unexpected or important changes in the environment, while top-down mechanisms allow us to focus on what's relevant to our current goals and cognitive processes (Vanunu et al. 2021). Thus, with TTFF we examine the power of different elements of the external visual environment to successfully compete and capture our attention in a bottom-up, outside-in way, while with TFD we examine the power of our internal states and goals to focus on elements of the external world in a top-down, inside-out way.

24.2.2   Methods and Materials: The Eye Tracking Method

In this study, ten millennial participants were recruited in Athens, Greece, to participate in the study. Ethical approval was gained from one of the author's institution and participants received an information sheet to read before agreeing and signing a participation consent form. Fashion hang tags were collected from a variety of international fashion shops. In this chapter we discuss the findings from two hang tags. The exposure time of each hang tag was five seconds and stimuli rotated randomly between participants.

As participants engage with these stimuli (hang tags), an eye tracking device, integrated into specialised glasses records the precise movements of the eye, including fixations (prolonged gaze on a specific point) and saccades (rapid eye movements between fixations). Only around 8 per cent of the surroundings exposed to our visual field are actually fixated by the eyes and processed in detail (Wedel and Pieters 2008). Since these fixations last for just a few hundred milliseconds, typically between 200 ms and 350 ms, it is important to capture them accurately in marketing research, and this is why marketers are using eye tracking in a wide variety of applications, ranging from labelling and promotions to segmentation and pricing (dos Santos et al. 2015). The granular data generated by the eye tracking method provides a wealth of information about where and how long participants focus their attention, offering valuable insights into their cognitive processing and decision-making. By analysing metrics such as Time to First Fixation (TTFF), Total Fixation Duration as well as gaze heatmaps and gaze plots, researchers can quantitatively measure and understand participants' visual behaviour and cognition (Białowąs and Szyszka 2019).

24.2.3 Eye Tracking Metrics in This Study

The current study explores and describes the fundamental components of designing and conducting an eye tracking experiment focusing primarily on the Time to First Fixation (TTFF) and Total Fixation Duration (TFD) metrics. These two metrics offer valuable information about the timing and duration of visual attention directed towards specific areas of interest within a visual hang tag stimulus. These two eye tracking metrics were measured by Tobii Pro Spark, which is a screen-based eye tracker, capturing gaze data at 60 Hz.

TTFF measures the amount of time it takes for a viewer's gaze to settle on a particular point of interest after being exposed to a visual stimulus. This metric helps understand what elements immediately capture the viewer's attention and whether these elements align with the intended focus points in a design. Total fixation duration (TFD) refers to the cumulative amount of time a viewer's gaze remains fixated on a specific area of interest within a visual stimulus. This metric provides insights into the level of engagement and interest a viewer has in particular aspects of a scene. Longer fixation durations suggest a higher degree of cognitive processing and interest, whereas shorter durations may indicate areas that are less engaging or relevant.

For both the TTFF and the TFD metrics to be calculated, it takes a participant to fixate on an Area Of Interest, (AOI), after entering the general viewing area. AOIs are defined regions within a visual scene that researchers designate for further analysis, as they hold particular significance in the context of the study's objectives. AOIs serve as virtual 'magnifying glasses' that help researchers scrutinise the gaze behaviour within specific portions of a visual stimulus. These regions can be as broad as an entire image or as narrow as a single button on a user interface or a specific word. By segmenting a visual scene into several AOIs, researchers gain a deeper understanding of how individuals interact with different elements, enabling them to measure metrics such as fixation duration, frequency of gaze and time to first fixation within these designated areas, in order to compare and contrast them. For example, researchers are able to identify which specific AOIs in a picture shown on a screen had the longest fixation duration and which had the lowest, and thus infer the different visual performance of these AOIs.

24.2.4   AOIs Analysis in This Study

The main relevant and broad AOI categories identified in the 15 fashion hang tags from international brands and examined in the following two case studies were: eco messages, price, informative messages and brand/logo. Eco messages included any distinct graphic or textual element that was directly signifying this garment as eco-friendly in a prioritised way. Price was a straightforward AOI category referring to price indicated on the tag, alongside other elements. Informative messages included all additional textual support which typically expanded on the main eco-related messaging, usually including explanations and statistics aiming at proving the sustainable nature of the fashion item. Brand/Logo is another straightforward AOI category and it refers to the presence of the company's brand on the tag which is reported as a competing market signal (Alevizou 2023).

24.3   Case Analysis and Discussion of Fashion Hang Tag 1

As demonstrated in Photo 24.1, contrasting the sustainability signal with its visual heatmap, all the distinct elements of the hang tag managed to capture participants' attention. The darker (red) colour on the heatmap indicates stronger attention and it is present on all elements of the hang tag, meaning that this tag allows for its elements to be noticed and processed. Past research

Photo 24.1   Case 1 fashion hang tag and visual heatmap

Table 24.1 Case 1 AOIs analysis

AOI name	TTFF (ms)	TFD (ms)
Hang tag 1—M&S logo	2255.24	619.15
Hang tag 1—Organic cotton logo	1572.03	852.84
Hang tag 1—Organic cotton text	1526.85	980.33
Hang tag 1—Resp. sourced text	1216.67	1136.42

has stressed the importance of visibility of sustainability-related information on product packaging (see Alevizou et al. 2015). Our study shows that design wise the hang tag is efficient in terms of communicating information.

A more detailed view of the different AOIs in Table 24.1 reveals that the text Responsibly Resourced had the lowest TTFF which means that it attracts faster attention than the other elements, regardless of not being the largest or boldest text. This AOI attracted attention in 1216.67 milliseconds, or ms. While the Organic Cotton text was on top of the tag and with larger letters, it was the second fastest to capture attention with 1526.85 ms, followed very closely by the Organic Cotton Logo with 1572.03 ms. The brand logo attracted attention the latest with 2255.24 ms.

Concerning keeping attention, or TFD, a similar pattern can be observed where the Responsibly Sourced Text kept attention the longest with 1136.42 ms of fixation. Second was the Organic Cotton Text with 980.33 ms, followed somewhat closely by the Organic Cotton Logo with 852.84 ms. The AOI with the lowest attention fixation was the brand logo with 619.15 ms.

It has been argued in the past, both from academic sources (see Bayer et al. 2012) and practitioners' experience and advice (see Studio Rubric 2023), that when it comes to font size, larger elements have a bigger effect on attention. Case 1, however, showcases that, in this study, it was not the largest, boldest or top-of-the-page text that performed visually the best. On the contrary, the smaller, secondary text of 'Responsibility Resourced' was the best performing element on this specific label, with the brand logo performing the least in both TTFF, being the latest to attract attention, and in TFD, being the lowest to keep attention.

24.4   Case Analysis and Discussion of Fashion Hang Tag 2

Case 2 heatmap analysis can be seen in Photo 24.2, contrasting the hang tag with its visual aggregated results for the total sample. Although this is a more complex hang tag than in Case 1, since it includes product information such

Photo 24.2   Case 2 Hang tag and visual heatmap

Table 24.2   Case 2 AOIs analysis

AOI name	TTFF (ms)	TFD (ms)
Hang tag 2—BCI logo	1313.44	947.1
Hang tag 2—Price	2378.38	369.2
Hang tag 2—Size	1391.3	919.18
Hang tag 2—'widely recycled' text	1414.13	679.58

as price and size alongside sustainability-inspired messages and logos, almost all different elements manage to attract attention indicated by the heatmap results. Thus, regardless of its increased visual complexity with all competing elements for attention, this hang tag too can be said to be, design-wise, a well-performing one.

The detailed view of the different AOIs on this busy hang tag, which can be seen in Table 24.2, reveals that the BCI Certification had the lowest TTFF score which means that on average it attracted faster the attention of participants. It attracted attention in 1313.44 ms. This was closely followed by the Size, with 1391.3 ms, and then by the Widely Recycled Text with 1414.13 ms. The slowest to attract a first fixation was the Price with 2378.38 ms.

Concerning TFD, or duration of fixation, the BCI certification kept attention marginally higher than the Size, with 947.1 ms for the former versus

919.18 ms for the latter. The third AOI with the longest average total fixation among participants was the 'Widely Recycled' Text with 679.58 ms. Last was the Price with a mere 369.2 ms of average kept attention.

It is worth noting that the black and white arrowed element (The Green Dot) on the top right of the hang tag was completely missed and elicited no fixations.

Comparing the hang tag in Case 2 with that in Case 1, when it comes to AOIs analysis, it can be derived that a busier hang tag attracts a lower duration of fixations in the same exposure time since more elements are competing for our directed attention. A cleaner, simpler hang tag will allow for more time to focus on its different elements and process information more effectively.

Furthermore, the BCI certification performs the best when it comes to both TTFF and TFD, but it is very closely followed by the Size which is generic product information. This can be explained by two possible causes: first, size/fit is a major factor for people when exposed to fashion items and especially clothing, and second, information presented with high contrast tends to be easier noticed and fixated on—Size information is presented on this tag in a differently coloured box.

Concerning the first explanation, the 2017 Global Environmental Research Study, which surveyed 7300 consumers aged between 18 and 60 in the United States, Great Britain, Mexico, India, Italy and China, by Cotton Inc. and Cotton Council International found that, indeed, fit and comfort were on the very top of the criteria for buying clothes (Belgum 2019). So, a comparatively high TFD score can be explained by the goal-oriented visual behaviour of checking intuitively that a piece of cloth can fit. Concerning the next explanation, that can work in conjunction with the first, especially in relation to TTFT, is that, as mentioned earlier, bottom-up, outside-in attention is boosted with contrast. Since this AOI stands out visually from the rest due to the differently coloured and almost centrally located box, the rest being in plain black and white, it is expected to attract attention rather fast.

The Global Environmental Research Study found that price was the second most cited criterion for purchasing clothing, achieving a 90% score of the sample, with sustainability scoring 37% of the sample. In Case 2 though, visual analysis suggests that the BCI Certification, together with its accompanying adjacent text that was considered as a single AOI with the BCI Certification in this test, performed better than both the Size and the Price. This is intriguing. Implicitly, BCI Certification as an eco-related element and information, seem to attract and retain better participants' attention than what global research reports people explicitly prioritise when considering clothing.

This as a result indicates that sustainability information has become a priority for the implicit visual scanning of our attentional systems, both in a bottom-up and a top-down way, without being presented in a heightened contrast and extraordinarily designed manner. At the same time though, the text 'Widely Recycled' did not perform so well being the third in both TTFF and TFD. Examining the heatmap results, it can be seen that most of the visual attention was concentrated on the word 'Widely' rather than on 'Recycled'. This might be a matter of wording. Indeed, recent studies have shown that the complicated, changing and ambiguous wording that consumers need to navigate to understand and connect to sustainably in fashion leads to confusion and even scepticism (see for example, Rich, 2022). Brands should be careful and pretest, especially with neuroscientific methods, different wording and images in order to make sure that information is conveyed effectively and efficiently (Cirovic et al. 2022; Janic et al. 2022).

24.5   Accumulative Statistical Analysis of AOIs

The accumulative data from the eye tracking experiment in this study (Fig. 24.1 and Table 24.3) reveals that, on average, the fastest TTFF has been detected on those AOIs on the tags that we categorised collectively as Informative Messages with approx. 1.62 seconds, whereas the slowest TTFF has been detected on the rather straightforward AOI Price with approx. 2.5 seconds. The second fastest interaction has been noticed on the collective AOI hang tag Eco Messages with approx. 1.63 seconds, and the third fastest
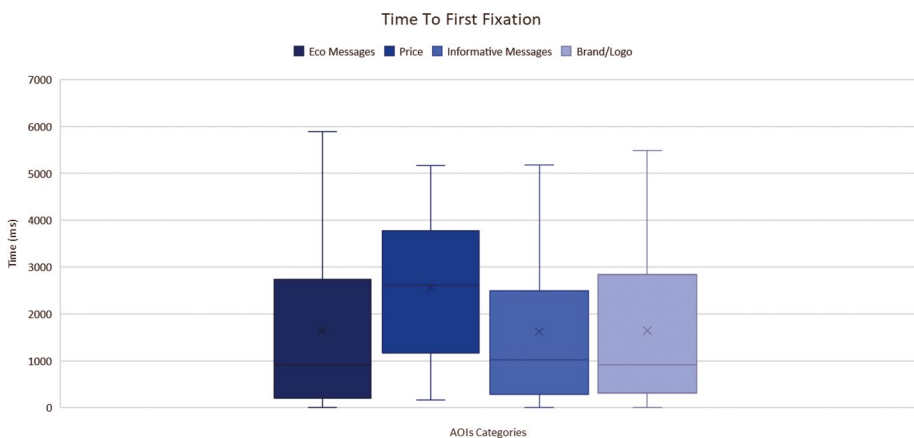
Fig. 24.1   Time to first fixation

Table 24.3 Summary of AOIs—time to first fixation

Groups	Average
Eco messages	1637.651267
Price	2566.250769
Informative messages	1621.8604
Brand/logo	1648.083696
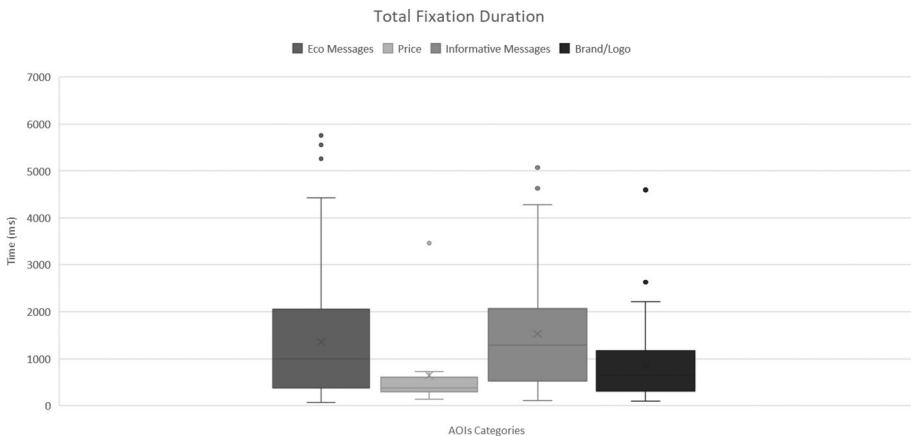
Fig. 24.2 Total fixation duration

interaction was on the straightforward AOI Brand Logo, with approx. 1.64 seconds. Evidently, the Informative Messages AOI attracted overall faster bottom-up visual attention compared to the other AOI categories, especially Price which had the least fast, first interaction.

However, the AOI categories Informative Messages, Eco Messages and Brand/Logo had very similar overall average TTFF with only Price resembling something of an outlier in the dataset.

The eye tracking data on average for TFD for the whole sample (Fig. 24.2 and Table 24.4) revealed that the AOI which had the longest interaction through fixations was Informative Messages, with approx. 1.53 seconds, whereas the AOI category Price had the shortest fixation duration with an average of approx. 0.64 seconds. Eco Messages had the second longest duration with approx. 1.35 seconds, and the third longest duration has been noticed on the AOI category Brand/Logo. This means that the top-down visual attention, which is guided by participants' goals, expectations and cognitive processes, was more focused on the content of the Informative Messages, rather than on Price whenever this was written on the fashion tag too.

Table 24.4 Summary of AOIs—total fixation duration

Groups	Average
Eco messages	1356.8438
Price	649.1415385
Informative messages	1531.318
Brand/logo	851.7823913

Table 24.5 ANOVA—time to first fixation

Source of variation	SS	df	MS	F	P-value	F crit
Between groups	10,778,579,45	3	3592859.818	1.306652065	0.272500024	2.636844544

However, TFD showed a higher degree of variation in the data than TTFF, as this can be seen when comparing visually, Figs. 24.1 and 24.2. Figure 24.2 shows evidently less homogeneity among the four categories than Fig. 24.1 where only Price was shown to be further away from the rather similar group of the other three AOI categories.

ANOVA Test for Statistical Significance of Variance
In order to examine these observed differences in a statistical way, ANOVA test was conducted for the AOI categories. The overall eye tracking data revealed that the average TTFF (Table 24.5) was statistically non-significant, whereas the data from the average TFD was significant (Table 24.6). This means that the bottom-up attention which is the somewhat automatic, inside-out and data-driven process (colour, contrast, edges, motion etc.) was not strong enough. However, the TFD results were significant, which means that results related to the top-down, inside-out attention guided by goals, experiences, expectations and cognitive processes are likely to be stronger.

If the p-value associated with the test is greater than a predetermined significance level (often denoted as α, commonly set at 0.05), then the result is considered statistically non-significant. This means that the data do not provide strong enough evidence to reject the null hypothesis in favour of the alternative hypothesis. It has to be highlighted that a statistically non-significant result doesn't necessarily mean that there is no effect or relationship in reality—it simply means that the observed data do not provide sufficient evidence to conclude that there is a significant effect. This could be due to various factors, such as small sample sizes, high variability, or the true effect size being smaller than what can be reliably detected with the available data.

Table 24.6 ANOVA—total fixation duration

Source of variation	SS	df	MS	F	P-value	F crit
Between groups	19210015.75	3	6403338.583	4.760316397	0.002969245	2.636844544

Thus, the observational insights, discussed above when compared visually in Figs. 24.1 and 24.2, are confirmed by ANOVA analysis, which highlights the fact that in this study, TFD or top-down attention was found to have stronger variation between the AOI categories than TTFF or bottom-up attention.

These results are intriguing as they suggest that participants' attention was more influenced by their willingness (implicitly and/or explicitly) to direct differently their focus on different elements on the hang tag, with additional, more detailed information gaining the most attention time. In order to derive real value and meaning from the tags, participants spent more time on the most textually rich parts of the tags. Although this makes sense, since more text needs more attention time to be read, it is not always guaranteed that people will indeed read a longer text. Furthermore, this AOI category was also the fastest fixated on, which could be considered as a counterintuitive finding. The general expectation would be that shorter, condensed and concentrated messages, and graphical elements, like those included in the AOI categories of Eco Messaging and Brand/Logo, would be fixated faster overall. Indeed, professional advice for copywriting in marketing materials for grabbing attention usually tends towards suggestions for shorter text (Gunelius 2017). Previous studies conducted with eye tracking technology in marketing materials though have already demonstrated that longer text can be an attractor for bottom-up attention when these materials trigger an existing interest in viewers (Pieters and Wedel 2004). Thus, text length is not a showstopper by itself.

Not all explanatory text performed equally well in this study. As seen in Case 2, in order for additional text to perform well in visual attention it needs to avoid being general, ambiguous and too plain. This can lead to confusion, scepticism and even rejection. In eco labelling, a study has found that more information can still help the label being effective but when it is simple and precise (Williams and Hodges 2022).

24.6 Concluding Remarks

In this study we explored consumers' visual attention to fashion hang tags. We presented some interesting results which complement existing studies on consumers' attention to sustainability signals in the fashion industry. Overall, we found that most significant differences in visual behaviour are on how much people focus on identifiable hang tag elements than how fast their eyes identify these elements initially. However, closer examination of specific hang tags showed that wording, position and graphics on the tags do influence the visual performance of intended messages. Our study has important managerial implications as brands using hang tags as communication platforms need to be aware of overloading hang tags. In addition, we join other scholars in highlighting the importance of clear and transparent communication about sustainability. Finally, in our study we found participants' attention focused on eco messages and wording which can be explained by the proliferation of sustainability messages in Greece and in social media. Our study has some limitations in terms of sample size and hang tags quality and source. Future studies can explore Greek fashion hang tags as sustainability-related signals.

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References

Alevizou, J., 2023. Decoding consumers' grocery lists: exploring consumers engagement with sustainability labelling in the food industry. *Research Handbook on Ethical Consumption: Contemporary Research in Responsible and Sustainable Consumer Behaviour*, p.270.

Alevizou, P. J., Oates, C. J., and McDonald, S., 2018. Signaling sustainability: Approaches to on-pack advertising and consumer responses. In American Academy of Advertising. Conference (pp. 74–77). Proceedings (Online).

Alevizou, P., 2021. Getting creative with sustainability communication in the beauty industry: Exploring on-pack practices and consumers' perceptions. In *Creativity and marketing: The fuel for success* (pp. 51–66). Emerald Publishing Limited.

Alevizou, P.J., Oates, C.J. and McDonald, S., 2015. The well (s) of knowledge: The decoding of sustainability claims in the UK and in Greece. *Sustainability*, *7*(7), pp.8729–8747.

Bayer, M., Sommer, W., & Schacht, A. 2012. Font size matters—emotion and attention in cortical responses to written words. *PloS one*, *7*(5), e36042.

Belgum, D. 2019. Survey Finds Sustainability Affects Clothing Purchases. *Apparel News*, URL: https://www.apparelnews.net/news/2019/may/23/survey-finds-sustainability-affects-clothing-purch/: [Accessed 3 December 2023].

Białowąs, S. and Szyszka, A., 2019. Eye-tracking in marketing research. *Managing Economic Innovations–Methods and Instruments*, *1*(69), pp.91–104.

Ćirović, M., Dimitriadis, N., Janić, M., Alevizou, P., & Jovanovic Dimitriadis, N., 2022. More than words: Rethinking sustainability communications through neuroscientific methods. Journal of Consumer Behaviour. https://doi.org/10.1002/cb.2125

Cochrane, L., 2019. "Extinction Rebellion stage funeral at London fashion week finale", The Guardian, available at: https://www.theguardian.com/fashion/2019/sep/17/extinction-rebellionstage-funeral-at-london-fashion-week-finale (accessed 24 March 2021)

Delmas, M.A. and Lessem, N., 2017. Eco-premium or eco-penalty? Eco-labels and quality in the organic wine market. *Business & Society*, *56*(2), pp.318–356.

dos Santos, R. D. O. J., de Oliveira, J. H. C., Rocha, J. B., and Giraldi, J. D. M. E. 2015. Eye tracking in neuromarketing: a research agenda for marketing studies. *International journal of psychological studies*, *7*(1), 32.

Ende, L., Reinhard, M.A. and Göritz, L., 2023. Detecting Greenwashing! The Influence of Product Colour and Product Price on Consumers' Detection Accuracy of Faked Bio-fashion. *Journal of Consumer Policy*, *46*(2), pp.155–189.

Evans, S. and Peirson-Smith, A., 2018. The sustainability word challenge: Exploring consumer interpretations of frequently used words to promote sustainable fashion brand behaviors and imagery. *Journal of Fashion Marketing and Management: An International Journal*, *22*(2), pp.252–269.

Garcia-Torres, S., Rey-Garcia, M., Sáenz, J. and Seuring, S., 2022. Traceability and transparency for sustainable fashion-apparel supply chains. *Journal of Fashion Marketing and Management: An International Journal*, *26*(2), pp.344–364.

Gazzaniga, M., Ivry, R.B. and Mangun, G.R., 2018. *Cognitive neuroscience: fifth international student edition*. WW Norton & Company.

Gorn, G.J., Chattopadhyay, A., Yi, T. and Dahl, D.W., 1997. Effects of color as an executional cue in advertising: They're in the shade. *Management science*, *43*(10), pp.1387–1400.

Goworek, H., Oxborrow, L., Claxton, S., McLaren, A., Cooper, T. and Hill, H., 2020. Managing sustainability in the fashion business: Challenges in product development for clothing longevity in the UK. *Journal of Business Research*, *117*, pp.629–641.

Graham, D.J., Orquin, J.L. and Visschers, V.H., 2012. Eye tracking and nutrition label use: A review of the literature and recommendations for label enhancement. *Food Policy*, *37*(4), pp.378–382.

Grunert, K.G., Fernández-Celemín, L., Wills, J.M., Storcksdieck genannt Bonsmann, S. and Nureeva, L., 2010. Use and understanding of nutrition information on food labels in six European countries. *Journal of public health*, *18*, pp.261–277.

Gunelius, S. 2017. 5 Ways Words Can Destroy Your Marketing Messages (And How to Fix Them). *Entrepreneur*, URL: https://www.entrepreneur.com/growing-a-business/5-ways-words-can-destroy-your-marketing-messages-and-how/298766, [Accessed 3 December 2023].

Heeren, A.J., Singh, A.S., Zwickle, A., Koontz, T.M., Slagle, K.M. and McCreery, A.C., 2016. Is sustainability knowledge half the battle? An examination of sustainability knowledge, attitudes, norms, and efficacy to understand sustainable behaviours. *International Journal of Sustainability in Higher Education*, *17*(5), pp.613–632.

Henninger, C.E., 2015. Traceability the new eco-label in the slow-fashion industry?—consumer perceptions and micro-organisations responses. *Sustainability*, *7*(5), pp.6011–6032.

Henninger, C.E., Brydges, T., Iran, S. and Vladimirova, K., 2021. Collaborative fashion consumption–A synthesis and future research agenda. *Journal of Cleaner Production*, *319*, p.128648.

Hill, J. and Lee, H.H., 2012. Young Generation Y consumers' perceptions of sustainability in the apparel industry. *Journal of Fashion Marketing and Management: An International Journal*, *16*(4), pp.477–491.

Hiller Connell, K.Y. 2010. "Internal and external barriers to eco-conscious apparel acquisition", *International Journal of Consumer Studies*, Vol. 34 No. 1, pp. 279–86.

Janić, M., Ćirović, M., Dimitriadis, N., Jovanović Dimitriadis, N., & Alevizou, P. 2022. Neuroscience and CSR: using EEG for assessing the effectiveness of branded videos related to environmental issues. *Sustainability*, *14*(3), 1347.

Krucien, N., Ryan, M. and Hermens, F., 2017. Visual attention in multi-attributes choices: What can eye-tracking tell us?. *Journal of Economic Behavior & Organization*, *135*, pp.251–267.

Leblanc, H., & Ramirez, S. (2020). Linking social cognition to learning and memory. *Journal of Neuroscience, 40*(46), 8782–8798.

Lee, E.J., Choi, H., Han, J., Kim, D.H., Ko, E. and Kim, K.H., 2020. How to "Nudge" your consumers toward sustainable fashion consumption: An fMRI investigation. *Journal of Business Research*, *117*, pp.642–651.

Lewis, R., 2019. Modest body politics: The commercial and ideological intersect of fat, black, and Muslim in the modest fashion market and media. *Fashion Theory*, *23*(2), pp.243–273.

Li, Q., Huang, Z.J. and Christianson, K., 2016. Visual attention toward tourism photographs with text: An eye-tracking study. *Tourism Management*, *54*, pp.243–258.

Lock, I. and Araujo, T., 2020. Visualizing the triple bottom line: A large-scale automated visual content analysis of European corporations' website and social media images. *Corporate Social Responsibility and Environmental Management*, *27*(6), pp.2631–2641.

Lyon, T.P. and Montgomery, A.W., 2015. The means and end of greenwash. *Organization & Environment*, *28*(2), pp.223–249.

Meyerding, S.G. and Merz, N., 2018. Consumer preferences for organic labels in Germany using the example of apples–Combining choice-based conjoint analysis and eye-tracking measurements. *Journal of cleaner production*, *181*, pp.772–783.

Mintel. 2021. Mintel Global Consumer Trend 2022. London: Mintel.

Morgan, L.R. and Birtwistle, G., 2009. An investigation of young fashion consumers' disposal habits. *International journal of consumer studies*, *33*(2), pp.190–198.

Paulhus, D. L. 2002. Socially desirable responding: The evolution of a construct. In H. I. Braun, D. N. Jackson, & D. E. Wiley (Eds.), *The role of constructs in psychological and educational measurement* (pp. 49–69). Lawrence Erlbaum Associates Publishers.

Pieters, R., and Wedel, M. 2004. Attention capture and transfer in advertising: Brand, pictorial, and text-size effects. *Journal of marketing*, *68*(2), 36–50.

Ritch, E.L., 2022. Consumer interpretations of fashion sustainability terminology communicated through labelling. *Journal of Fashion Marketing and Management: An International Journal*, *26*(5), pp.741–758.

Samant, S.S. and Seo, H.S., 2016. Effects of label understanding level on consumers' visual attention toward sustainability and process-related label claims found on chicken meat products. *Food quality and preference*, *50*, pp.48–56.

Song, L., Lim, Y., Chang, P., Guo, Y., Zhang, M., Wang, X., Yu, X., Lehto, M.R. and Cai, H., 2019. Ecolabel's role in informing sustainable consumption: A naturalistic decision making study using eye tracking glasses. *Journal of cleaner production*, *218*, pp.685–695.

Statista, 2023 Apparel- Worldwide. https://www.statista.com/outlook/cmo/apparel/worldwide. [Accessed August 24]

Studio, R. (2023). Font size matters — why you should design with a larger font, https://www.studiorubric.co/blog/insight/font-size-matters-why-you-should-design-with-alarger-font. Accessed on: Dec 3rd, 2023.

Taplin, I.M. 2014. "Who is to blame?: a re-examination of fast fashion after the 2013 factory disaster in Bangladesh", *Critical Perspectives on International Business*, Vol. 10 No. 1, pp. 72–83, https://doi.org/10.1108/cpoib-09-2013-0035.

Theeuwes, J., 2018. Visual selection: Usually fast and automatic; seldom slow and volitional. *Journal of Cognition*, 1(1), 29.

Thøgersen, J., 2000. Psychological determinants of paying attention to eco-labels in purchase decisions: Model development and multinational validation. *Journal of consumer policy*, *23*(3), pp.285–313.

Thøgersen, J., Jørgensen, A. K., & Sandager, S. (2012). Consumer decision making regarding a "green" everyday product. *Psychology & Marketing, 29*(4), 187–197.

Torelli, R., Balluchi, F. and Lazzini, A., 2020. Greenwashing and environmental communication: Effects on stakeholders' perceptions. *Business strategy and the Environment*, *29*(2), pp.407–421.

United Nations Sustainable Goals, 2023. *Goal 12: Ensure sustainable consumption and production patterns*. Available at: https://www.un.org/sustainabledevelopment/sustainable-consumption-production/ (Accessed: 15 August 2023).

Vanunu, Y., Hotaling, J. M., Le Pelley, M. E., and Newell, B. R. 2021. How top-down and bottom-up attention modulate risky choice. Proceedings of the National Academy of Sciences, 118(39), e2025646118.

Wang, Z., and Klein, R. M. 2021. The bottom-up guidance of attention in reading. *Journal of Experimental Psychology: General*, 150(2), 308–322.

Wedel, M., and Pieters, R. 2008. A review of eye-tracking research in marketing. In N. Malhotra (Ed.), *Review of Marketing Research*, Volume 4 (pp. 123–146). M.E. Sharpe Inc.

Williams, A., & Hodges, N. (2022). Signaling sustainability: Exploring consumer perspectives on communicating apparel sustainability information. *Journal of Sustainable Marketing, 3*(1), 26–40.

Wolfe, J. M., and Horowitz, T. S. 2017. Five factors that guide attention in visual search. *Nature Human Behaviour*, 1(3), 0058.

The Role of Blockchain in Facilitating the Transition to a Circular Economy: A Critical Review of Current Applications in the Fashion Industry

Courtney Chrimes

25.1 Introduction

The textile and clothing industry has witnessed remarkable growth, contributing £1.21 trillion to global revenue in 2022 (Smith 2023), undoubtedly making it one of the largest industries worldwide (Niinimäki et al. 2020). However, this growth has come at a significant environmental cost, evidenced by high water consumption, exploitative use of raw materials, toxic chemical usage, and escalating levels of textile waste and carbon emissions (Alves et al. 2022; Chen 2023). Specifically, the phenomenon of fast fashion has accelerated this environmental impact, with its rapid production and disposal cycles, low-quality materials, and widespread disposal of unsold inventory (Chen 2023; Wang and Zhao 2022), leading some brands to burn unsold "dead stock". Consequently, the textile and clothing industry stands as one of the most polluting in the world (Chen 2023; Coppola et al. 2023; Niinimäki et al. 2020), presenting multifaceted issues for practitioners and scholars alike.

Given the global nature of the clothing and textile industry, multi-tiered supply chain operations have long been criticised for their opacity, often shrouding unethical and unsustainable practices (Bai and Sarkis 2020). As a result, the EU has devised a series of proposed legislative measures to address sustainability and supply chain transparency (SCT) issues within the fashion

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industry. The recent passage of the Corporate Sustainability Reporting Directive (CSRD) in January 2023 represents a significant milestone in this endeavour, as it mandates clothing brands operating within the EU, based on their employee numbers and turnover, to be held accountable for their environmental footprint and the welfare of workers throughout their supply chains (European Commission 2023a). Consequently, Environmental, Social, and Governance (ESG) reporting in supply chains will become an obligatory requirement for these companies (Mintel 2023). Companies will have to apply the new rules for the first time in the 2024 financial year, for reports published in 2025 (European Commission 2023b). Moreover, to meet the Paris Agreement by 2050 and The Circular Economy Action Plan, the EU has further introduced rigorous goals to move towards radical resource efficiency and circular material flows. For instance, the Extended Producer Responsibility (EPR) Scheme for Textiles will mean that producers are responsible for their products along the supply chain and the waste they generate, therefore all textile products must be durable, repairable, and recyclable (Webb 2022; Mintel 2023; European Commission 2023b). Accordingly, fashion brands must pivot their focus towards investment in ESG factors to align with upcoming legislative changes (Mintel 2023). Evidently, the clothing and textile industry is undergoing seismic pressure considering upcoming legislative changes and so, it is important to focus on the opportunities and longer-term cost benefits provided by shifting towards more circular business models (Mintel 2023).

Circular economy (CE) principles have gained academic and practitioner attention as a potential solution to address environmental challenges. Indeed, circularising the current linear value chain, also known as the "take-make-dispose" economy (Blomsma and Brennan 2017, p. 603), by developing principles that seek to add value to materials and products, maximise their life-cycle length, and regenerate them at their end-of-life (Kouhizadeh et al. 2020) offers a solution for a more environmentally responsible fashion industry (Alves et al. 2022). Enhancing traceability and transparency along the supply chain has been recognised as a critical component of sustainable production and consumption patterns (Riemens et al. 2023). The development of Industry 4.0 technology has been proposed as a critical lever for the implementation of the CE concept (Böckel et al. 2021). Industry 4.0 technologies are argued to be fundamental enablers of CE by supporting the management of the flow of goods, allowing automatic position tracking, and optimising waste-to-resource alignment in industrial networks by real-time collection by Big Data for enhanced resource management (Kayikci et al. 2022). Specifically, the European Commission (2020) identified four digital technologies as

essential enablers in the CE transition, namely, artificial intelligence (AI), big data analytics, the Internet of Things (IoT), and blockchain technology (BCT). Interestingly, in a study that investigated the implementation of digital technologies for a CE in the manufacturing sector, Schöggl et al. (2023) revealed that out of the four digital technologies, AI and blockchain applications were sporadic within manufacturing companies across various sectors, highlighting the need for further research concerning the role of BCT in achieving CE principles (Böckel et al. 2021). Additionally, a recent case study by Moretto and Macchion (2022) investigating fashion brands and technology providers highlighted that brands are still evaluating the potential of blockchain and have not yet advanced to full implementation. However, many fashion brands are claiming to use BCT across supply chain operations to enable traceability and access to verifiable data all the way from raw material sourcing to the end consumer, and even further to secondary markets (Rusinek et al. 2018). Hence, this chapter will critically review the current application of BCT within the fashion industry, providing insights into how BCT can be used to achieve CE principles.

Research investigating the application and implementation of BCT in the supply chain is limited to specific industries, such as pharmaceutical, food, construction, plastics, agriculture, forestry, and fishing (see Apte and Petrovsky 2016; Kouhizadeh et al. 2020; Rejeb et al. 2023; Singh et al. 2023; Shamsuzzoha et al. 2023), and so generalising these findings to the fashion industry seems extraneous. In a systematic literature review, Alves et al. (2022) found that there is remarkedly limited use of BCT in the textile and clothing value chain. Existing literature on the intersection between blockchain and the CE in the fashion sector is still in its early stages and remains fragmented (Riemens et al. 2023), which is unsurprising given that the phenomenon of blockchain application has emerged relatively recently, and operational implementations are still limited worldwide (Böckel et al. 2021; Böhmecke-Schwafert et al. 2022). Ahmed and McCarthy (2021) acknowledge that current literature lacks discussion concerning empirical applications and cases of BCT in the fashion industry, highlighting a salient research gap. Consequently, this study seeks to contribute to the fashion management literature by responding to Böckel et al.'s (2021) research call for a more nuanced investigation of the potential benefits and challenges posed by BCT in the context of the CE, particularly within the fashion industry through case study examples.

Research concerning the barriers and enablers to implementing BCT within textile and clothing value chains has been addressed in prior literature (Alves et al. 2022; Chen 2023; Heim et al. 2022; Moretto and Macchion

2022). Yet, further research is needed regarding contemporary applications of blockchain implementation and their contribution to circularity for practitioners and scholars (Ahmed and McCarthy 2021; Shou and Domenech 2022). Indeed, Böckel et al. (2021) found that terminology concerning blockchain and how the technology is currently being leveraged in supply chains is lacking in existing research. Therefore, this study aims to contribute to this emergent research field by shedding light on the role of BCT in the development and facilitation of CE practices within the fashion industry, ultimately advancing sustainable development within the sector. Given that there is still much confusion regarding the practical applications of CE (Rejeb et al. 2023), the implementation of CE principles, which promote supply chain transparency, requires concerted efforts from manufacturers, brands, consumers, and policymakers to achieve a meaningful transition towards sustainability in the textile and clothing industry.

Based on the above research gap, the aim of this chapter is to critically appraise fashion and the current application of BCT across various fashion supply chain operations and delineate how BCT can be leveraged to support the transition towards a circular fashion economy. To meet the aim of the study, the following research questions will be addressed:

RQ1: How are fashion brands currently utilising BCT within their supply chain operations to support CE principles?
RQ2: What specific challenges and opportunities arise at the convergence of BCT and the CE, and how can these be addressed?

The structure of the chapter is as follows: Sect. 2 presents a critical review concerning the CE, specifically focusing on the fashion industry. Section 3 presents a literature review on BCT, investigating the role of blockchain in achieving CE principles. Section 4 provides critical insights concerning fashion brands' current application of BCT across various supply chain operations through case study examples. Section 5 elicits a critical discussion concerning challenges and opportunities that arise at the intersection of BCT and the CE. Finally, Sect. 6 proposes several future research directions and briefly concludes the chapter.

25.2   The Circular Economy: A Fashion Industry Perspective

The CE concept garnered mainstream attention in economic discourse during the 1970s, followed by the development of "Cradle-to-Cradle" design principles in the 1990s (Böckel et al. 2021). Since then, the CE has materialised in management and operational literature, offering a seemingly promising remedy to the inefficiencies and waste inherent in supply chains (Abdelmeguid et al. 2022). Departing from the linear economy's "take-make-dispose" paradigm, a widely accepted definition of CE was proposed by the Ellen MacArthur Foundation (2013, p. 7), characterising it as "an industrial system that is restorative or regenerative by intention and design". This definition replaces the notion of "end-of-life" with restoration, emphasising the transition to renewable energy sources and the elimination of harmful chemicals and waste.

When defining the CE, several disparities exist among scholars concerning CE concepts, definitions, and models. Indeed, Kirchherr et al. (2017) documented a staggering 114 CE definitions, highlighting diverse perspectives in existing literature. Some scholars contend that the CE emphasises the guiding principles of waste reduction, resource conservation, and minimised environmental impact, advocating for the application of the 3Rs—reuse, reduction, and recovery of materials (Böhmecke-Schwafert et al. 2022; Kirchherr et al. 2017). The guiding principles of this paradigm have since expanded within the literature to the 5Rs (Reike et al. 2018), incorporating key aspects, such as Refuse and Rethink, as well as the 9Rs approach, which adds Recover, Repurpose, Remanufacture, and Refurbish (Potting et al. 2017).

More recently, scholars have applied the ReSOLVE framework (Jabbour et al. 2019; Kouhizadeh et al. 2020; Kalmykova et al. 2018), originally developed by the Ellen MacArthur Foundation (MacArthur et al. 2015), as a theoretical lens to ascertain how businesses can effectively implement circular strategies. The ReSOLVE model integrates six guiding principles for transitioning to a circular business paradigm: Regenerate (restoring and enhancing ecosystems affected by industrial happenings), Share (sharing information among supply chain stakeholders), Optimise (reducing non-value-adding activities and maximising resource efficiency through digital technology), Loop (supporting material, energy, and goods reuse and repurposing), Virtualise (leveraging technologies for virtual product design), and Exchange (adopting new technologies and replacing outdated practices) (Kouhizadeh et al. 2020). Dissanayake and Weerasinghe (2021) further devised four strategies emulating the ReSOLVE framework for implementing CE principles

specifically within the fashion industry, which include: resource efficiency (using renewable, regenerative, and non-toxic materials), circular design (prioritising longevity and recycling), product life extension (repair, swapping, and renting), and end-of-life circularity (reusing, reselling, recycling, and remanufacturing). Interestingly, the CE is also suggested to encompass novel business strategies and, importantly, the promotion of new understandings regarding sufficient and slower consumption (Forman and Carvalho 2018). For instance, Ha and Kwon (2016) found that communication strategies emphasising specific pro-environmental behaviours can effectively persuade individuals to adopt more eco-friendly practices and consumption behaviours, all which align with CE principles.

Whilst these approaches offer a conceptual understanding of countering the pitfalls of a linear economy, questions persist about their practical efficacy, leading scholars, and practitioners to question the role of Industry 4.0 technology as a vehicle for implementing and realising circular strategies within the clothing and textile industry (Kouhizadeh et al. 2020). Amidst scholarly discourse, the integration of Industry 4.0 technology is predicted to pave the way for a more circular fashion supply chain (Rajput and Singh 2019). Notably, various fashion companies are actively embracing blockchain as a targeted approach to implement circular economy initiatives. Nevertheless, a critical analysis of current blockchain applications within the fashion industry and its efficacy in upholding CE principles remains enigmatic. Recognising this evident research gap, this chapter will adopt all aforementioned CE principles as the theoretical lens for the study to comprehensively elucidate the current application of blockchain across various fashion supply chain operations.

25.3   Blockchain Technology (BCT)

There is a consensus among scholars that Industry 4.0 technologies offer numerous opportunities for the integration of CE practices within companies (Schöggl et al. 2023). In this context, BCT has garnered particular attention as a pivotal lever for realising various CE principles (Böckel et al. 2021; Kouhizadeh et al. 2020; Rusch et al. 2023; Riemens et al. 2023). Indeed, a crucial component in advancing circular practices within the fashion sector revolves around enhancing traceability and confirming product provenance (Schenten et al. 2019) and so, since its inception in 2008 (Nakamoto 2008), it is unsurprising that BCT has been envisaged to facilitate smarter supply chain operations, primarily due to its potential to ensure transparency. BCT,

defined as a "distributed data structure—a distributed ledger—in which the data is shared on a peer-to-peer network" (Esmaeilian et al. 2020, p. 3), operates without the need for a central authority through communication and data validation protocols among network members. It fundamentally functions as a decentralised distributed system that records transactions and information such as inventory data, digital assets, payments, and business process records on a ledger (Heim and Hopper 2022), which is accessible on a peer-to-peer network. This information accessibility can extend from the origin of the raw materials to the final consumer and even further to secondary markets (Nandi et al. 2021; Rusinek et al. 2018).

It is important to note that various types of blockchains exist, including public blockchains which operate in a permissionless, open manner allowing participation from any interested party (Hileman and Rauchs 2017). This configuration exemplifies authentic decentralisation, guaranteeing that no individual node exerts control over the entire network (Bullón Pérez et al. 2020). In contrast, consortium blockchains represent a closed, private blockchain, featuring nodes endowed with permissioned authority. In these scenarios, data accessibility can span from being publicly accessible to being restricted (Lin and Liao 2017). Nonetheless, a common feature across all blockchains is that they provide stakeholders in the network with copies of the distributed ledger (Swan 2015) whereby data is stored in blocks, sequentially linked to form an immutable ledger. Each block possesses a timestamp and a connection to its preceding block, cementing its integrity once recorded (Nandi et al. 2021). From a supply chain perspective, existing literature has underscored how BCT can enhance transparency, enabling precise inventory management through tracking product lifecycles (Agrawal et al. 2021; Kouhizadeh et al. 2020; Narayan and Tidström 2020). Additionally, BCT has been found to increase operational efficiency through the provision of smart contracts that automate order fulfilment and payments (Nandi et al. 2021), provide authentication by verifying certificates and product claims through end-to-end material tracking and tracing (Ahmed and McCarthy 2021), and even stimulate the development of new business models (Narayan and Tidström 2020). Evidently, the role of BCT in attaining CE principles within the fashion supply chain is pivotal. Yet, despite its promises, the adoption of BCT in the clothing and textile industry remains limited (Alves et al. 2022), with Moretto and Macchion (2022) revealing that companies have yet to fully embrace BCT implementation. Consequently, further investigation is needed.

25.4   The Intersection of Blockchain and the CE: Practical Applications

The subsequent section will critically appraise the current utilisation of BCT within clothing and textile supply chains, with a discerning focus on its contribution in attaining CE principles, directly answering RQ1.

25.4.1   Product Lifecycle Management

As noted in Sect. 3, a defining characteristic of BCT is its ability to enhance transparency through tracking and tracing products across the entire supply chain. Montecchi et al. (2021) adopt Bai and Sarkis' (2020) definition of SCT characterising it as the act of revealing comprehensive and precise information concerning operations and products. This precise information includes product origins, sourcing, manufacturing procedures, costs, and logistical processes. Within existing literature, transparency and traceability are terms frequently used synonymously, given that transparency comprises of concepts such as visibility, traceability, and openness (Montecchi et al. 2021). Nonetheless, traceability is operationalised as the capacity of an organisation to establish and control the full product lifecycle, including every component, material, process, and human resource related to its development (Garcia-Torres et al. 2022). Hence, this definition evidently lends itself to the CE concept. Thus, BCT enables manufacturers to monitor and manage a product's entire lifecycle, whilst collecting necessary data for better design, responsible manufacturing, sale, usage, and end-of-life circularity (Esmaeilian et al. 2020). Various stakeholders in the blockchain can participate in the collection, verification, and contribution of the product's lifecycle data using RFID (radio frequency identification), NFC (near-field communication) microchips, and GPS technologies (Centobelli et al. 2022), which will be discussed in the below case studies.

25.4.2   Practical Case Study Applications

An illustrative example of how BCT is currently being used to manage and monitor product lifecycles can be seen through the collaboration between the Australian fashion brand Nobody Denim and Swedish Tech company FibreTrace. This partnership strives to provide verifiable insights into every facet of a product's journey, right from the obtainment of raw fibres to the

finished retail product. By leveraging BCT, Nobody Denim verifies and authenticates adherence claims to exemplary farming practices, sharing data pertaining to organic composite waste utilisation, extensive utilisation of solar and renewable energy sources, as well as ecosystem regeneration endeavours (Nobody Denim 2023). This commitment to data transparency has led the brand to acquire independent certification as carbon positive (ibid.). Nobody Denim achieves this level of transparency by incorporating scannable luminescent pigments within raw materials at the farming stage. Subsequently, FibreTrace is integrated into cotton during the ginning process. The product is then subjected to scanning at pivotal stages during product development and manufacturing, including spinning, weaving, fabric cutting, manufacturing and delivery whereby data is recorded on the immutable BC. The culminating result is a verified product marked with a QR code, empowering consumers to scan and visualise the entire product journey (FibreTrace 2023).

Similarly, Swedish Tech company PaperTale has partnered with fashion brands such as Gina Tricot, enabling the tracking and tracing of products right from cotton production to the final stages of delivery (PaperTale 2023). An NFC tag is attached to each product within the collection which can be scanned by end-users via an app, also developed by PaperTale, on their smartphone (Benstead et al. 2022). This grants users full access to the product's entire journey across the supply chain. Indeed, by using the mobile app, users can visualise the environmental impact and waste generation at each stage and even meet the garment manufacturers—all of which have been verified by BCT. A significant attribute of this approach resides in PaperTale's pioneering BCT which not only quantifies but also substantiates the exact environmental impact of each garment (including chemical, water and carbon usage) (PaperTale 2023). However, it is important to note that presently, the scope of the app is confined solely to tracing product journeys from manufacturing to consumer, underscoring the necessity for further progress both upstream—tracing back to the fibre's origin—and downstream, encompassing effective waste management (Chrimes and Heim 2024).

Lastly, global fashion brand, Zara is also actively harnessing BCT to enhance the transparency and traceability of products and processes within its SC. In its pursuit of an intensified digitalisation strategy, Zara uses RFID to amplify real-time visibility and data exchange throughout its entire supply chain (Chen 2023), allowing Zara to optimise and streamline operational processes. By leveraging RFID technology, Zara can meticulously track and trace crucial attributes, such as the provenance of materials and the type of energy employed throughout the production cycle of fashion items (Croom et al. 2009). Evidently, this capability aligns with the contemporary drive

among retailers and manufacturers to curtail energy consumption, transition to sustainable renewable energy sources, and judiciously utilise raw materials harnessed from ecologically sound resources (Nayak et al. 2022). However, given that Zara has a vertically integrated supply chain, some may question whether this approach can be easily adopted by more complex supply chains.

The above case studies exemplify the proficient application of BCT in realising CE principles. These CE principles include waste reduction (e.g. energy, chemical, carbon, and water), ecosystem regeneration, optimisation of data transparency throughout the SC, and encouragement of sustainable consumption behaviours among end-users via product data visualisation (QR codes) (Saberi et al. 2019). Hence, the application of BCT can enable brands to adhere to core principles of the CE: reduction, regeneration, visualisation, and optimisation (Böhmecke-Schwafert et al. 2022; Dissanayake and Weerasinghe 2021; Kouhizadeh et al. 2020). Nonetheless, it is apparent from the above case studies that the current application of BCT to enhance traceability and transparency is limited to exclusive product collections/blockchain pilots, implying that complete integration across all product lines is yet to be realised.

25.4.3   End-of-Life Circularity: Closing the Loop

A notable limitation of the case studies discussed above is their exclusive focus on tracing product lifecycles predominantly from manufacturing to delivery, often neglecting downstream processes, particularly end-of-life product waste management (Chrimes and Heim 2024). However, a recent survey investigating UK consumers' attitudes towards sustainable fashion found that one-third of consumers expressed a desire for retailers to incorporate labels or information aids outlining instructions on how to recycle items at end of use (Mintel 2023), underscoring the need for greater information provision regarding accurate disposal or recycling of garments. While numerous retailers offer recycling drop-off points and in-store/take-back initiatives, most clothing items cannot be readily recycled or remanufactured into new clothing due to the presence of blending fibres. Nonetheless, BCT can help elevate this issue by providing precise information about fibre composition, thereby enabling effective recycling instructions, and reducing the amount of textile waste (Mintel 2023). For instance, Huynh (2021) investigated digital circular business models in the fashion sector and revealed that the BC-based supply chain model could support recycling approaches, thereby facilitating the CE transition. Hence, by adopting this approach fashion brands can achieve end-of-life circularity through the remanufacturing and recycling of products.

25.4.3.1 Practical Case Study Applications

Several fashion brands, including but not limited to, Gabriela Hearst, PANGAIA, Chloe, Mulberry, and Net-a-Porter have established partnerships with start-up company Eon. Eon, which provides a digital foundation for tracking product lifecycles, has created digital product IDs for these fashion brands and certain product collections (Heim et al. 2022). Similar to the examples discussed in Sect. 25.4.2, each garment is equipped with a QR code functioning as a digital product passport. When scanned, users gain access to a wealth of product information, including care instructions, nearby repair facilities, fibre composition, manufacturing origins, and any sustainability certifications (Mintel 2023; Heim et al. 2022). The pivotal feature lies in the QR code and cloud-hosted digital twin, essentially a virtual replica of products in the physical world, which provides real-time insights into the product's material composition, along with comprehensive details on dyeing, fibre makeup, production, and distribution (Nguyen 2021). This approach diverges from the norm since many fashion brands traditionally cease to view a product as an asset once it's sold. However, considering emerging EPR legislation—a mandate that holds companies accountable for products' end-of-life management—fashion brands must be attuned to the journey of the product post-sale. PANGAIA, for instance, has embraced Eon's Circular Product Data Protocol to facilitate recycling and sorting partners' access to all essential data needed to identify and manage products from one lifecycle to the next (Eon 2023). In doing so, PANGAIA can achieve end-of-life circularity on selected products. However, it is important to note, that while PANGAIA has initiated the adoption of digital passports, this implementation has yet to include all product categories.

Eon is not the only tech company engaged in partnerships with fashion brands. For example, New York B Corp's, Another Tomorrow's digital product IDs, powered by software firm Evrythng is working with well-established brands, including LVMH, Kering, Vestiaire Collective, and Levi Strauss & Co, facilitating brand engagement with products beyond the point of sale (Webb 2022). In anticipation of the forthcoming EU legislation concerning Digital Product Passports (European Commission 2023c), collaborations with tech companies like Eon and Evrythng are essential for brands aiming to align with regulation and transition towards more CE models. Hence, BCT provides end-users with invaluable information on how to recycle the used product back through the brand's preferred channels. This, in turn, enables products to be remanufactured and reintroduced as new products, effectively

closing the loop. By leveraging BCT in this manner, brands can effectively achieve CE principles including recycling, remanufacturing, and reusing used products, as well as ensuring the seamless circulation of products back into the value chain.

25.5 Product Lifecycle Extension

Within the clothing and textile industry, a notable shift towards more sustainable business models is unfolding with a focus on extending the lifespan of clothing items (Shou and Domenech 2022). Consequently, environmentally conscious consumers are embracing collaborative fashion consumption (CFC) (Iran and Schrader 2017). This consumption trend involves novel approaches to ownership attainment, including swapping, second-hand purchases, and diversified usage options such as sharing and renting (Charnley et al. 2022). However, the adoption of CFC practices is often accompanied by apprehensions surrounding counterfeiting risks, product authenticity, hygiene concerns, and compromised quality (Charnley et al. 2022). Addressing these concerns, academics have highlighted the necessity for an evidenced-based system that enhances transparency regarding product origin, manufacturing stages, sales, and the complete history ownership and use (Jain et al. 2021). Consequently, BCT emerges as a potential solution to promote product life extension by alleviating existing barriers associated with the reselling, swapping, and reusing of second-hand clothing (Shou and Domenech 2022). Through BCT, the history and provenance of items can be corroborated, as all pertinent information about each item and its previous ownership are securely stored digitally (Mintel 2023).

25.5.1 Practical Case Study Applications

A notable example of how BCT can be used to facilitate CE strategies such as product lifespan extension is evidenced by the luxury fashion brand BLK DNM, which has recently been acquired by blockchain innovator, ChromaWay. This strategic partnership involves embedding digital IDs into each BLK DNM garment, effectively creating a comprehensive and verified record of the garment's history, including previous owners, events, and places worn, repairs, and alterations, enabling the item to accrue emotional and monetary value over time (Lei 2023). Thus, the information provides valuable

insights concerning the product's journey post-sales, as opposed to other digital passports that track the product from raw material to delivery. Hence, consumers can share this information with prospective second-hand consumers to verify the quality and history of the product. Interestingly, BLK DNM rewards responsible consumption behaviours (i.e. resale and second-hand purchase of its products) by providing consumers with digital tickets for entry to exclusive events and granting access to voting rights within digital communities such as BLK DNM Society (Lei 2023). This is an example of how BCT can be used to also incentivise sustainable behaviours and reward participants for extending product lifecycles. Hence, this application of BCT not only serves to authenticate the product's history but also enables it to become a sentimental item that can passed onto others who are also keen to contribute to the item's story.

Luxury fashion faces particular challenges regarding second-hand consumption, especially due to concerns about counterfeit products (de Boissieu et al. 2021). In response, LVMH, the world's prominent luxury fashion conglomerate, introduced The Aura Blockchain Consortium in April 2021 (LVMH 2023). This consortium represents the first-ever blockchain-based platform in the luxury fashion domain, explicitly designed to combat the risks associated with counterfeiting (Danziger 2021). LVMH leverages the Aura Blockchain Consortium to foster stronger connections with its clientele, granting them the capability to verify the authenticity of coveted luxury items. This assurance is underpinned by comprehensive traceability of the entire product lifecycle, encompassing crucial aspects such as material provenance, origin validation, and initial production stages. Specific digital tokens are employed to facilitate access to this extensive information (Danziger 2021). Hence, the consortium blockchain provides users with unprecedented access to the complete history of a product (Chen 2023), guaranteeing product authentication within resale and renting communities.

Consequently, it is apparent from the examples above that BCT can facilitate CE initiatives, such as product lifespan extension by providing verifiable data concerning prior ownership, provenance and history of the product (Jain et al. 2022; Babich and Hilary 2020) thereby mitigating concerns pertaining to second-hand clothing. Specifically, BLK DNM's unique approach of incentivising consumers to take part in sustainable consumption behaviours by granting exclusive access to events and brand communities is an example of how brands are rethinking their communication strategies by the promotion of new understandings regarding sufficient consumption (Forman and

Carvalho 2018), which also aligns with CE principles. However, setting up a blockchain-enabled second-hand retail system requires participation and agreement from all supply chain stakeholders (Jain et al. 2022), which may prove challenging, especially across multi-tiered fashion supply chain. Moreover, BLK DNM has only recently been acquired by ChromaWay and so what remains unknown is whether this acquisition will be a long-term success.

25.6   Opportunities and Limitations

This section appraises the specific opportunities and challenges associated with the current application of BTC by fashion brands, with a focus on the importance of addressing these issues to achieve future success in achieving CE strategies (RQ2). Supported by several case study examples, it is apparent that BCT provides several opportunities for fashion brands namely, enabling transparency and traceability within complex supply chains, effectively overseeing product lifecycles, implementing circular practices at the end of product life and prolonging product longevity). These findings corroborate existing research (Agrawal et al. 2021; Böhmecke-Schwafert et al. 2022; Charnley et al. 2022; Chen 2023; Huynh 2021; Kouhizadeh et al. 2020; Venkatesh et al. 2020), while introducing novel insights from the perspective of the fashion industry. Table 25.1 offers a summary of the current applications of BCT in the fashion industry, highlighting the potential it holds in realising CE strategies.

It is apparent from Table 25.1 that BCT serves as an opportunity for fashion brands to achieve several CE principles. However, as evidenced through the case studies, the integration of BCT throughout the entire fashion supply chain remains a challenge. Indeed, to date, many retailers have opted for partial implementation, placing exclusive focus on tracing product lifecycles predominantly from manufacturing to delivery, often neglecting downstream processes, particularly end-of-life product waste management (Chrimes and Heim 2024). Prior literature argues that partial implementation is due to the economic challenges, organisational culture (e.g. hesitancy to share data) and inadequacy of technical expertise (Kayikci et al. 2022; Heim et al. 2022). Indeed, it is clear from the case studies that several fashion brands have limited their efforts to pilot studies, leveraging BCT across selected product collections (e.g., PANAGIA x Eon), emphasising the existing challenge of achieving full scale implementation of BCT across the supply chain.

Table 25.1 Current applications of BCT and CE opportunities

Capabilities	Opportunities	CE principles
Product lifecycle management	BCT can provide unparalleled transparency creating an immutable and permanent record of each stage of a garment's lifecycle from raw material and production to distribution and end-of-life Brands can streamline processes, reduce chemical and water waste and ensure better resource allocation as well as minimising counterfeiting concerns	The ability to track and trace products and processes throughout the entire supply chain aligns with CE principles: **Reduction**, **Regeneration**, **Visualisation**, and **Optimisation**
End-of-life circularity	BCT can help consumers to make informed decisions regarding how to recycle the product back through the brand's preferred channels at end-of-use This enables brands to reintroduce remanufactured products into their collections, facilitating closed-loop recycling systems	By leveraging BCT in this manner, brands can effectively achieve CE principles including **recycling, remanufacturing, recovering,** and **reusing** used products, ensuring the seamless circulation of products back into the system
Product lifecycle extension	BCT proves invaluable for second-hand business models, as it discloses verifiable data concerning the entire history of the products Lifecyle (Jain et al. 2022; Babich and Hilary 2020), corroborating authenticity and provenance	BCT can help brands and consumers to enact CE principles, focusing on **reselling** and **repurposing** products, as well as encouraging more responsible buying behaviour through incentivisation

Interestingly, a consistent trend emerges across most of the discussed case studies, revealing a pronounced reliance on collaborative efforts with start-up tech firms (e.g. EON, PaperTale, FibreTrace). This emphasises the pivotal role that collaboration plays in navigating the intricate and scalable deployment of BCT. This reliance on outsourcing technical expertise suggests a current deficiency in the digital skill sets within fashion organisations. Furthermore, to effectively implement BCT, all stakeholders in the supply chain must be accepting and open to share data transparently. Yet, achieving this integration is highly challenging given the diverse tiers and numerous stakeholders involved in the textile and clothing supply chain globally. Indeed, Shou and Domenech (2022) identified a dozen stakeholder groups, including raw material producers, manufactures and distributors, retail, consumer re-sale channels, and recyclers. The intricate nature of these groups, combined with

disparities in technical readiness and willingness to share data present significant hurdles. This challenge offers a potential reasoning regarding the prevalence of BCT pilot studies among the case discussed in this chapter, highlighting the need for concerted efforts from manufacturers, brands, consumers, and policymakers to achieve a meaningful implementation on a global scale.

While the case studies present promising opportunities, the use of BCT in achieving CE principles may be unfeasible for certain industries (e.g. fast fashion markets), given the rapid market pace and vast expanse of the global supply chain. It is worth noting that most case study examples explored in this chapter pertain to luxury brands that generally possess greater financial resources, with some luxury brands creating their own blockchains (e.g. LVMH). Indeed, the only fast-fashion case study discussed in this chapter is Zara which has a vertically integrated supply chain, making it a unique case. The case studies present promising opportunities, the use of BCT to achieve CE principles may not be achievable for different industries (e.g. fast fashion market) given the fast pace of market and vastness of supply chain operations globally. Indeed, most case study examples explored in this chapter were luxury brands, which have higher financial capabilities.

25.7 Conclusion, Limitations, Future Research

The clothing and textile industry is evidently facing notable pressures due to projected changes in EU legislation, including initiatives like the EPR Scheme for Textiles and the recent passage of the Corporate Sustainability Reporting Directive (CSRD). Therefore, fashion companies must direct their efforts towards transitioning and adopting CE principles (Mintel 2023). Consequently, this chapter responds to Böckel et al.'s (2021) research call by offering a nuanced investigation of the potential benefits and obstacles posed by BCT and its potential in achieving CE principles within the fashion domain (RQ1). Indeed, through the critical appraisal of several case studies, this chapter discerns three principal pathways through which BCT can help fashion companies achieve CE principles, namely: (1) Efficient Product Lifecycle Management, (2) Attainment of End-of-life Circularity, and (3) Enabling Product Life Extension—all congruent with the overarching CE concept. This chapter further identifies opportunities and challenges associated with the implementation of BCT within fashion supply chains (RQ2),

thereby advancing knowledge within the fashion management literature. Indeed, despite the promising opportunities provided by BCT, challenges remain pertaining to technical competencies and expertise within fashion companies, financial resources, collaboration, and willingness to share data with stakeholders, all of which appear to prevent the scalable implantation of BCT within the textile and clothing industry. Hence, it is imperative for fashion companies to not only collaborate with "like-minded" stakeholders within the supply chain, but also to cultivate partnerships with tech companies—non-fashion firms that share the same values and best practices in pursuit of circular approaches. Consequently, this chapter injects fresh perspectives into the fashion management literature by shedding light on the contemporary applications of BCT and its contribution to facilitating circularity within the fashion industry, addressing a salient research gap (Ahmed and McCarthy 2021; Shou and Domenech 2022). Notably, this chapter synthesises several CE frameworks (e.g. 3Rs, 5Rs, 9Rs, ReSOLVE, and CE strategies) offering an in-depth investigation of the CE in the context of the fashion industry, which has not been undertaken within existing literature, adding rich theoretical grounding for the study.

This study is not without its limitations. Firstly, the chapter's scope is limited in its investigation of blockchain applications within the fashion industry, highlighting the need for further investigations regarding the role of BCT in fostering CE principles across alternative sectors. Moreover, given the relatively recent adoption of BCT in the fashion realm, the chapter adopts a conceptual approach, drawing upon a restricted pool of case study examples. This underscores the necessity for subsequent empirical research, possibly through in-depth qualitative interviews with companies evidenced in this chapter, thereby yielding first-hand empirical insights. This chapter focuses exclusively on environmental sustainability through the theoretical lens of the CE, thereby prompting future research to delve into the utilisation of BCT for enhancing social sustainability aspects, such as workers' rights within the fashion industry. Notably, drawn from the BLK DNM case study, there emerges an evident opportunity for fashion brands to involve consumers in the extension of product life cycles (e.g., reusing, recycling, and repurposing products) facilitated by incentives and exclusive community access. To explore this opportunity further, future research should investigate the impact of incentives in driving consumer engagement in circular consumption practices.

References

Abdelmeguid, A., Afy-Shararah, M. & Salonitis, K. (2022). 'Investigating the challenges of applying the principles of the circular economy in the fashion industry: A systematic review', *Sustainable Production and Consumption*, 32, pp. 505–518.

Agrawal, T.K., Kumar, V., Pal, R., Wang, L. & Chen, Y. (2021). 'Blockchain-based framework for supply chain traceability: A case example of textile and clothing industry', *Computers & Industrial Engineering*, 154, p. 107130.

Ahmed, W.A. & MacCarthy, B.L. (2021). 'Blockchain-enabled supply chain traceability in the textile and apparel supply chain: A case study of the fiber producer, Lenzing', *Sustainability*, 13(19), p.10496. https://doi.org/10.3390/su131910496

Alves, L., Ferreira Cruz, E., Lopes, S.I., Faria, P.M. & Rosado da Cruz, A.M. (2022). 'Towards circular economy in the textiles and clothing value chain through blockchain technology and IoT: A review', *Waste Management & Research*, 40(1), pp. 3–23.

Apte, S. & Petrovsky, N. (2016). 'Will blockchain technology revolutionize excipient supply chain management?', *Journal of Excipients and Food Chemicals*, 7(3), pp. 76–78.

Babich, V. & Hilary, G. (2020). 'OM Forum—Distributed ledgers and operations: What operations management researchers should know about blockchain technology', *Manufacturing & Service Operations Management*, 22(2), pp. 223–240.

Bai, C., & Sarkis, J. (2020). 'A supply chain transparency and sustainability technology appraisal model for blockchain technology', *International Journal of Production Research*, 58(7), pp. 2142–2162.

Benstead, A.V., Mwesiumo, D., Moradlou, H. & Boffelli, A. (2022). 'Entering the world behind the clothes that we wear: practical applications of blockchain technology', *Production Planning & Control*, pp. 1–18.

Blomsma, F., & Brennan, G. (2017). 'The emergence of circular economy: a new framing around prolonging resource productivity', *Journal of Industrial Ecology*, 21(3), pp. 603–614.

Böckel, A., Nuzum, A.K. & Weissbrod, I. (2021). 'Blockchain for the circular economy: analysis of the research-practice gap', *Sustainable Production and Consumption*, 25, pp. 525–539.

Böhmecke-Schwafert, M., Wehinger, M. & Teigland, R. (2022). 'Blockchain for the circular economy: Theorizing blockchain's role in the transition to a circular economy through an empirical investigation', *Business Strategy and the Environment*, 31(8), pp. 3786–3801.

Bullón Pérez, J.J., Queiruga-Dios, A., Gayoso Martínez, V. & Martín del Rey, Á. (2020). 'Traceability of ready-to-wear clothing through blockchain technology', *Sustainability*, 12(18), p. 7491.

Centobelli, P., Cerchione, R., Del Vecchio, P., Oropallo, E. & Secundo, G. (2022). 'Blockchain technology for bridging trust, traceability and transparency in circular supply chain', *Information & Management*, 59(7), p. 103508

Charnley, F., Knecht, F., Muenkel, H., Pletosu, D., Rickard, V., Sambonet, C., Schneider, M. & Zhang, C. (2022). 'Can digital technologies increase consumer acceptance of circular business models? The case of second-hand fashion', *Sustainability*, 14(8), p. 4589.

Chen, Y. (2023). 'How blockchain adoption affects supply chain sustainability in the fashion industry: a systematic review and case studies', *International Transactions in Operational Research*. Early Cite: https://doi.org/10.1111/itor.13273

Chrimes, C. & Heim, H. (2024). The Fashion Product Passport: In Search of the "Killer App". In: *Fashion and Environmental Sustainability: Entrepreneurship, Innovation and Technology*. Berlin, Boston: De Gruyter, pp. 149–168.

Coppola, C., Vollero, A. & Siano, A. (2023). 'Developing dynamic capabilities for the circular economy in the textile and clothing industry in Italy: A natural-resource-based view', *Business Strategy and the Environment*. Early Cite: https://doi.org/10.1002/bse.3394

Croom, S., Barani, S., Belanger, D., Lyons, T. & Murakami, J. (2009). Sustainable supply chain management–an exploration of current practice. In *European Operation Management Association (EurOMA) Conference*, June.

Danziger, P.N. (2021). LVMH, Cartier And Prada Partner To Fight Counterfeits, Invite Other Luxury Brands To Join. *Forbes*. Available: https://www.forbes.com/sites/pamdanziger/2021/04/22/lvmh-cartier-and-prada-partner-to-fight-counterfeits-and-invite-other-luxury-brands-to-join/ [Last Accessed: 14.08.23].

de Boissieu, E., Kondrateva, G., Baudier, P. & Ammi, C. (2021). 'The use of blockchain in the luxury industry: supply chains and the traceability of goods', *Journal of Enterprise Information Management*, 34(5), pp. 1318–1338.

Dissanayake, D.G.K. & Weerasinghe, D. (2021). 'Towards circular economy in fashion: Review of strategies, barriers, and enablers', *Circular Economy and Sustainability*, pp. 1–21.

EON. (2023). Digital Product Passports. Available: https://www.eon.xyz/digital-product-passports [Last Accessed: 11.08.23].

Esmaeilian, B., Sarkis, J., Lewis, K. & Behdad, S. (2020). 'Blockchain for the future of sustainable supply chain management in Industry 4.0', *Resources, Conservation and Recycling*, 163, p. 105064.

European Commission (2023c). Digital Product Passports. Available: https://hadea.ec.europa.eu/calls-proposals/digital-product-passport_en [Last Accessed: 14.08.23].

European Commission. (2020). A new circular economy action plan for a cleaner and more competitive Europe. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*. Available https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en [Last Accessed: 07.08.23].

European Commission. (2023a). Corporate Sustainability Reporting. Available: https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en [Last accessed: 10.08.23].

European Commission. (2023b). Circular economy for textiles: taking responsibility to reduce, reuse and recycle textile waste and boosting markets for used textiles. Available: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3635 [Last Accessed: 07.08.23].

FibreTrace. (2023). https://www.fibretrace.io/

Forman, G.S. & Carvalho, C. (2018). Design of sustainable textiles through biological systems and materials–innovative narratives within the circular economy. In: Montagna, G. & Carvalho, C. (eds) *Textiles, identity, and innovation: Design the future*, pp. 373–378. Taylor and Francis Group: London.

Garcia-Torres, S., Rey-Garcia, M., Sáenz, J. & Seuring, S. (2022). 'Traceability and transparency for sustainable fashion-apparel supply chains', *Journal of Fashion Marketing and Management: An International Journal*, 26(2), pp. 344–364.

Ha, S. & Kwon, S. (2016). 'Spillover from past recycling to green apparel shopping behaviour: the role of environmental concern and anticipated guilt', *Fashion and Textiles*, 3, pp. 1–14.

Heim, H. & Hopper, C. (2022). 'Dress code: the digital transformation of the circular fashion supply chain', *International Journal of Fashion Design, Technology and Education*, 15(2), pp. 233–244.

Heim, H., Chrimes, C. & Green, C., (2022). DIGITAL HESITANCY: Examining the Organisational Mindset Required for the Adoption of Digitalised Textile Supply Chain Transparency. In: *Blockchain Technologies in the Textile and Fashion Industry* (pp. 47–80). Singapore: Springer Nature Singapore.

Hileman, G. & Rauchs, M. (2017). 2017 global blockchain benchmarking study. *Available at SSRN 3040224*.

Huynh, P.H. (2021). 'Enabling circular business models in the fashion industry: The role of digital innovation', *International Journal of Productivity and Performance Management*, 71(3), pp. 870–895.

Iran, S. & Schrader, U. (2017). 'Collaborative fashion consumption and its environmental effects', *Journal of Fashion Marketing and Management: An International Journal*, 21(4), pp. 468–482.

Jabbour, C.J.C., de Sousa Jabbour, A.B.L., Sarkis, J. & Godinho Filho, M. (2019). 'Unlocking the circular economy through new business models based on large-scale data: an integrative framework and research agenda', *Technological Forecasting and Social Change*, 144, pp. 546–552.

Jain, G., Kamble, S.S., Ndubisi, N.O., Shrivastava, A., Belhadi, A. & Venkatesh, M. (2022). 'Antecedents of Blockchain-Enabled E-commerce Platforms (BEEP) adoption by customers–A study of second-hand small and medium apparel retailers', *Journal of Business Research*, 149, pp. 576–588.

Jain, G., Paul, J. & Shrivastava, A. (2021). 'Hyper-personalization, co-creation, digital clienteling and transformation', *Journal of Business Research*, 124, pp. 12–23.

Kalmykova, Y., Sadagopan, M. & Rosado, L. (2018). 'Circular economy–From review of theories and practices to development of implementation tools', *Resources, Conservation and Recycling*, 135, pp. 190–201.

Kayikci, Y., Kazancoglu, Y., Gozacan-Chase, N., Lafci, C. & Batista, L. (2022). 'Assessing smart circular supply chain readiness and maturity level of small and medium-sized enterprises', *Journal of Business Research*, 149, pp. 375–392.

Kirchherr, J., Reike, D. & Hekkert, M. (2017). 'Conceptualizing the circular economy: An analysis of 114 definitions', *Resources, Conservation and Recycling*, 127, pp. 221–232.

Kouhizadeh, M., Zhu, Q. & Sarkis, J. (2020). 'Blockchain and the circular economy: potential tensions and critical reflections from practice', *Production Planning & Control*, 31(11–12), pp. 950–966.

Lei, A. (2023). BLK DNM To Unveil FW23 Collection Powered By Blockchain Technology. *Forbes.* Available: https://www.forbes.com/sites/angela-lei/2023/06/15/blk-dnm-to-unveil-fw23-collection-powered-by-blockchain-technology/ [Last Accessed: 11.08.23].

Lin, I.C. & Liao, T.C. (2017). 'A survey of blockchain security issues and challenges', *International Journal Network Security,* 19(5), pp. 653–659.

LVMH. (2023). LVMH partners with other major luxury companies on Aura, the first global luxury blockchain. *LVMH.* Available: https://www.lvmh.com/news-documents/news/lvmh-partners-with-other-major-luxury-companies-on-aura-the-first-global-luxury-blockchain/ [Last Accessed: 14.08.23].

MacArthur, E. (2013). 'Towards the circular economy', *Journal of Industrial Ecology*, 2(1), pp. 23–44.

MacArthur, E., Zumwinkel, K. & Stuchtey, M.R. (2015). Growth within a circular economy vision for a competitive Europe. *Ellen MacArthur Foundation*.

Mintel, (2023). Executive Summary: Fashion and Sustainability, UK 2023. *Mintel.* Available: https://store.mintel.com/report/uk-fashion-sustainability-market-report-2023 [Last Accessed: 07.08.23]

Montecchi, M., Plangger, K. & West, D.C. (2021). 'Supply chain transparency: A bibliometric review and research agenda', *International Journal of Production Economics*, 238, p. 108152.

Moretto, A. & Macchion, L. (2022). 'Drivers, barriers and supply chain variables influencing the adoption of the blockchain to support traceability along fashion supply chains', *Operations Management Research*, 15(3–4), pp. 1470–1489.

Nakamoto, S. (2008). Bitcoin: A peer-to-peer electronic cash system. *Decentralized business review*.

Nandi, S., Sarkis, J., Hervani, A.A. & Helms, M.M. (2021). 'Redesigning supply chains using blockchain-enabled circular economy and COVID-19 experiences', *Sustainable Production and Consumption*, 27, pp. 10–22.

Narayan, R. & Tidström, A. (2020). 'Tokenizing coopetition in a blockchain for a transition to circular economy', *Journal of Cleaner Production*, 263, p. 121437.

Nayak, R., George, M., Haq, I.U. & Pham, H.C. (2022). 'Sustainability benefits of RFID technology in Vietnamese fashion supply chain', *Cleaner Logistics and Supply Chain*, 5, p. 100086.

Nguyen, A. (2021). Carbon Labels, Digital Passports and Traceability Tags – Clothing Labels' New Normal. *Forbes*. Available: https://www.forbes.com/sites/amyn-guyen/2021/06/07/carbon-labels-digital-passports-and-traceability-tags%2D%2Dclothing-labels-new-normal/ [Accessed: 11.08.23].

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T. & Gwilt, A. (2020). 'The environmental price of fast fashion', *Nature Reviews Earth & Environment*, 1(4), pp. 189–200.

Nobody Denim. (2023). FibreTrace X Nobody Denim. available: https://nobo-dydenim.com/pages/fibretrace

PaperTale. (2023). Success Stories: Gina Tricot. https://papertale.org/success-stories/

Potting, J., Hekkert, M., Worrell, E., & Hanemaaijer, A. (2017). 'Circular economy: Measuring innovation in the product chain'. PBL Publishers.

Rajput, S. & Singh, S.P. (2019). 'Connecting circular economy and industry 4.0', *International Journal of Information Management*, 49, pp. 98–113.

Reike, D., Vermeulen, W.J. & Witjes, S. (2018). 'The circular economy: new or refurbished as CE 3.0?—exploring controversies in the conceptualization of the circular economy through a focus on history and resource value retention options', *Resources, Conservation and Recycling*, 135, pp. 246–264.

Rejeb, A., Appolloni, A., Rejeb, K., Treiblmaier, H., Iranmanesh, M. & Keogh, J.G., (2023). The role of blockchain technology in the transition toward the circular economy: Findings from a systematic literature review', *Resources, Conservation & Recycling Advances,* p. 200126.

Riemens, J., Lemieux, A.A., Lassagne, M., & Lamouri, S. (2023). 'Apprehending traceability implementation in support of sustainable value chains: A novel analysis framework for the fashion industry', *Journal of Cleaner Production*, 414, p. 137501.

Rusch, M., Schöggl, J.P. & Baumgartner, R.J. (2023). 'Application of digital technologies for sustainable product management in a circular economy: A review', *Business Strategy and the Environment*, 32(3), pp. 1159–1174

Rusinek, M.J., Zhang, H. & Radziwill, N. (2018). 'Blockchain for a Traceable, Circular Textile Supply Chain: A Requirements Approach', *Software Quality Professional*, 21(1).

Saberi, S., Kouhizadeh, M., Sarkis, J. & Shen, L. (2019). 'Blockchain technology and its relationships to sustainable supply chain management', *International Journal of Production Research*, 57(7), pp. 2117–2135.

Schenten, J., Führ, M., Kleihauer, S. & Schönborn, J. (2019). 'Traceability as driver for more sustainable chemistry in the global textile supply chains', *Current Opinion in Green and Sustainable Chemistry*, 19, pp. 87–93.

Schöggl, J.P., Rusch, M., Stumpf, L. & Baumgartner, R.J. (2023). 'Implementation of digital technologies for a circular economy and sustainability management in the manufacturing sector', *Sustainable Production and Consumption*, 35, pp. 401–420.

Shamsuzzoha, A., Marttila, J. & Helo, P. (2023). 'Blockchain-enabled traceability system for the sustainable seafood industry', *Technology Analysis & Strategic Management*, pp. 1–15.

Shou, M. & Domenech, T. (2022). 'Integrating LCA and blockchain technology to promote circular fashion–A case study of leather handbags', *Journal of Cleaner Production*, 373, p. 133557.

Singh, A.K., Kumar, V.P., Dehdasht, G., Mohandes, S.R., Manu, P. & Rahimian, F.P. (2023). 'Investigating the barriers to the adoption of blockchain technology in sustainable construction projects', *Journal of Cleaner Production*, 403, p. 136840.

Smith, P. (2023). Global apparel market – statistics & facts. *Statista.* Available: https://www.statista.com/topics/5091/apparel-market-worldwide/#topicOverview [Last Accessed: 08.08.23].

Swan, M., 2015. *Blockchain: Blueprint for a new economy*. O'Reilly Media, Inc.

Venkatesh, V.G., Kang, K., Wang, B., Zhong, R.Y. & Zhang, A. (2020). 'System architecture for blockchain based transparency of supply chain social sustainability', *Robotics and Computer-Integrated Manufacturing, 63,* p. 101896.

Wang, M. & Zhao, L. (2022). 'Disposable or reusable? Packaging strategy and pricing decision for fresh food considering environmental policies', *International Transactions in Operational Research*. Early Cite: https://doi.org/10.1111/itor.13182

Webb, B. (2022). Digital IDs: A Game-Changer For Fashion? *Vogue Business.* Available: https://www.google.com/search?q=Digital+IDs%3A+A+game-changer+for+fashion%3F&oq=Digital+IDs%3A+A+game-changer+for+fashion%3F&aqs=chrome..69i57j69i60.338j0j4&sourceid=chrome&ie=UTF-8 [Last Accessed: 11.08.23].

26

The Virtual Life of Textile Innovations: Exploring Visual Haptics Potentials That Shape Multisensory User Experience

Ruxandra Lupu and Margherita Tufarelli

26.1 Introduction

The shift towards sustainable fashion is slow and complex (Fletcher 2018). To accelerate its sustainable transition, the textile industry needs to alter both production and consumption models. In this context, new material innovations produced from organic waste (e.g. oranges, pineapples, grapes etc.) provide an interesting alternative to traditional ways of conceiving fashion. However, the market uptake of these materials remains limited. In this chapter we address the role of designers and materials archives or libraries in the adoption and integration of sustainable textile innovations in the fashion and textile industry. By materials archives or libraries, we refer to those online repositories of digitised textile resources that are either part of museums, fashion institutes or other specialised bodies. With digital culture, archives have extended their field of application, inhabiting different disciplinary, community and professional spaces (Gilliand et al. 2021), becoming a useful tool for design choices in fashion and textile collections (Melchior and Svensson 2014; Almond 2020).

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More specifically, in our research we look at how online experiences of textile innovations can facilitate their uptake and integration in designers' practices and enhance online collections. Ideating more robust strategies that democratise access to materials archives, and encourage the use of textile innovations, is not only fitting the current digital trend, but is also necessary for shifting unsustainable production models towards more responsible and customised approaches.

Designers play a critical role in driving the market uptake of sustainable textile innovations in the fashion industry (Fletcher and Grose 2012). However, their access to new textiles remains limited to the few materials libraries (online versions of digitised archives of materials) which enable the consultation of latest material innovations. Materials libraries are materials banks, whose role is to raise awareness of new and sustainable materials, to enable users to identify new deployments of existing materials, as well as to drive design innovation through creativity (Finsa 2022). There are less than ten materials libraries in Europe, which poses a barrier for designers in terms of accessibility. While some of them do offer online consultation of their collections, these experiences prove to be many times superficial as they do not engage the entire sensorium. This is because virtual access comes with many limitations in terms of getting a sense of how textiles really feel (Igoe 2020; Jones 2018).

The sense of touch has been fundamental in fashion designers' work and being able to see only very rough pictures of textiles does not encourage designers to engage in further explorations of these materials. The online experience offered by materials archives and online repositories has been therefore very limited in this sense. Although haptic technologies such as new software that enables users to get a sense of how different surfaces feel to touch (Costes et al. 2020), already exist, they are very expensive and only partly reliable for offering a comprehensive tactile experience. In contrast to the hype around such technologies—either haptic software or exoskeletons, i.e. robotic prosthetics enabling us to feel shapes without touching them—the concept of haptic visuality has been little explored in fashion (Ornati and Kabaska 2022).

In this chapter we investigate the potential of haptic visuality—the sensation of touching things just by looking at them—to create meaningful interactions for the online experience of sustainable textile innovations, to facilitate multisensory experience and thus encourage a better understanding and engagement with these new materials. Haptic visuality enables us to envisage different possibilities for presenting sustainable textiles online, compared to existing practices. To the purpose of this study we draw on haptic visuality strategies from filmmaking, where haptic cinema has been already largely

theorised (Barker 2009). We will provide more conceptualisation of these strategies in the next chapter. For now, it suffices to explain that such strategies can be deployed in relation to the way we display information about sustainable textile innovations online.

The research methodology draws on an action-research framework (McNiff 2013), which involves designers in the exploitation of haptic visuality strategies. The study is divided into two phases. In the first step we drew on technically driven strategies from haptic film to roll out an experimental fabric hand test with twelve fashion designers. Fabric hand tests are commonly deployed in textile research to evaluate physiological properties of materials (Ahirwar and Behera 2022). The process included a linguistic exploration of textile properties as well as the recording of the physical manipulation processes for seven tactile properties belonging to four sustainable textile innovations. We attached a micro-camera to designers' hands to explore how visuality can enhance tactile sensations during manipulation. The camera recorded the exact movements that designers performed during the process of exploring the tactile properties of materials. This first phase resulted in the creation of a video archive that mapped in a microscopic way the movements performed by designers while exploring different textile properties. The second stage drew on semantic strategies from haptic film (Peterson 2010). Semantic strategies are less connected to the technical side of video production and more related to the metaphorical way in which video conveys multisensorial information. In doing so, we collaborated with three selected designers on a process that tested how haptic video could enhance design processes. This second, more creative approach to haptic visuality produced three novel design concepts that integrated principles of haptic visuality at different stages of the design process.

This chapter is divided into three core sections. The first section contextualises haptic film approaches applied to fashion. The second details the methodology which draws on this perspective. The results section presents the main findings of the two-stage research process. In doing so, it highlights how one phase informed the next one and the core insights that were obtained regarding the potential of using haptic visuality principles to drive the way in which designers adopt new textile innovations. The conclusion section highlights the main findings of the study. These indicate that haptic textile properties of sustainable innovations can be largely introduced through visual strategies. However, the complexity of the human sensorium makes it impossible to create a universal taxonomy for haptic textile experiences that builds on cinematic haptics. To this purpose, we need to go beyond a technocratic approach of haptic visuality. Creative processes that build on semantic haptics

for example can provide fruitful ways to design meaningful virtual experiences for the exploration of sustainable textile innovations. The closing section also provides indications about further exploitation possibilities for semantic haptics and the impact it could have on a mainstream adoption of textile innovations by contemporary designers.

26.2 Materials and Methods

26.2.1 Research Context

This study is driven by the contemporary debate about creating a sustainable fashion future (Foust and Gwilt 2017; Gwilt and Rissanen 2018). In doing so, it is informed by three interconnected research strands: the fashion context shaped by the digital turn (Mechan 2020), designers' role within this context and more specifically in relation to the adoption of textile innovations, and the possibilities offered by haptic film strategies to enhance the experience of textile innovations in the digital sphere and to encourage their use.

Digitalisation has had an unprecedented impact on the fashion industry, expanding the field of creative possibilities for designers in the virtual domain. Textile archives, which are repositories of historical textile collections, are a good example of how the digital can provide designers with new ideas and opportunities by reinterpreting the past (Almond 2020; Melchior and Svensson 2014). In fact, digital access to historical textile collections has historically served as a rich source of inspiration for designers, encouraging them to explore traditional textile techniques, materials and motifs, and reinterpret them in contemporary and sustainable ways. Building on the archive model and bridging this gap in information about new material possibilities, materials libraries have emerged. Materials libraries, hosting textile collections, are specialised facilities that house a curated collection of textiles and related materials for the purpose of research, education and creative exploration. These libraries are typically curated and managed by institutions such as universities, research institutions, museums or private organisations, and they serve as valuable resources for professionals in fields such as fashion, textile design, interior design and other related disciplines. The digital services offered by these libraries provide an opportunity for designers to experiment with virtual prototyping, 3D design and digital textile printing, reducing the need for physical samples and minimising material waste in the design

process. Access to these online repositories can thus encourage sustainable design practices and foster innovation in the field of textiles and fashion.

The role of designers has become a particularly important one in the context of the digital turn (Press and Cooper 2017). Using various strategies such as eco-design, upcycling, material innovation, and Cradle to Cradle design, designers can incorporate sustainable textile innovations into their design processes and create more sustainable fashion products. Despite the challenges surrounding the adoption of textile innovations—such as the higher costs associated with sustainable textile innovations compared to conventional textiles, the lack of standardised certifications and labelling for sustainable textiles, limited awareness and understanding among consumers about sustainable textiles, and the resistance to change from traditional practices and systems—designers are increasingly encouraged to use textile innovations in their work. For example, the information offered by materials libraries is varied, fostering the exploration of their collections by designers. Designers can find out about the technical qualities of materials and see digitised samples. The online experience thus becomes an important component of the entire documentation process about new materials. With the increasing possibilities offered by the digital, online archives continue to diversify and broaden their approach to designing the online experience for their users. From this perspective, we can consider contemporary digital textile archives as true experimental laboratories that inspire and facilitate textile innovation and design, promoting sustainability. However, despite the rich sources of inspiration offered by materials archives and other digital repositories, getting a sense of how these new materials feel like, remains problematic in a virtual world.

This poses an important challenge for designers, as being able to touch materials is one of the most important experiences in the design process. Tactility is hard to convey online mainly because manipulation is a process that involves many senses. The phenomenological complexity of tactility calls for a multidisciplinary approach that draws on disciplines such as psychology, neuroscience, cognitive studies, phenomenology and computer science and engineering. Haptics is the specific science building on this mix of disciplines and dealing with tactile perception. As a rich and multidisciplinary area of study, haptics represents the science and technology of transmitting and understanding information through touch.

We can attribute to the study haptics both a scientific and artistic layer. The scientific aspect relies on the analysis of biological receptors, testing methods that use perceptual studies and the analysis of signal processing and programming. The artistic component instead, uses scientific knowledge to enable the induction of feelings through bodily sensations. This double layering suggests

that haptics not only provides objective information, but also invokes sensations (Eid and Osman 2015), fostering a complex research context that links cognition and emotion to the context of interaction (Hertenstein et al. 2009). The technical component of haptics is fundamental inside textile research, as evidenced by studies that deploy fabric hand tests. This line of research uses sensory analysis to better measure and understand subjective tactile experience. The complexity of the human sensorium involving the sense of touch renders this form of tests complex, with more experimental forms being set up. The artistic component of haptics, on the other hand, is important in the film and media sector, where it has circulated in relation to narrative styles and cinematic effects. The idea of haptic film (Marks and Polan 2000; Barker 2009; Bruno 2008) looks at how vision itself can become 'tactile'. Using this strategy, filmmakers have tried to stimulate specific senses in viewers through the use of blurs, manipulation of grain, mixing of different formats (film/video), slow motion, over- and underexposed images, scratches on the film reel, blurred images, extreme close-up scenes and other effects. Fashion film has not explicitly used haptic visual strategies as part of its approach. Yet in a more recent period, fashion film has been transitioning from the purely commercial and promotional aspect to the experimental and artistic exploration of the invisible qualities of materials. This direction creates new possibilities to experiment with film strategies to create immersive fashion experiences. The technological and creative ways of thinking about haptics in fashion have directly informed the methodology of this study, which we discuss in the following section.

26.2.2   Methodology

Action-research represents the overarching framework of this mixed-method study. The action-oriented perspective provides a suitable context for reflecting on the main research question—what are the possibilities and relevance of using haptic film strategies to render the online experience of sustainable textile innovations more immersive. This led us to consider two types of haptic film strategies that are in line with the two layers of haptics (technical/creative) discussed in the section above: cinematic haptics and semantic haptics.

Cinematic haptics follows a technical investigation of the potential of the audio-visual medium to induce sensations. To this purpose it operates through technical elements (cinematic effects) such as camera movement, camera position, lightning, etc. The deployment of camera effects renders the image 'incomplete' and drives viewers to contribute to its completion by activating

their senses. For example, image blurs combined with specific camera movements can activate different sensations (e.g. unease). This process reveals a physicality of the film material that goes beyond a purely instrumental use, e.g. deploying the camera as our nose, mouth or fingertips. Examples of cinematic strategies deployed for haptic purposes are among other: blurs, use of grain, mixing of different formats (film/video), slow motion, over- and underexposure, scratches of the film, unclear images, extreme close-up scenes.

Semantic haptics on the other hand operates on a more abstract, almost metaphorical level of meaning-making. This is linked to the connotative level of images, where what happens in the scenes fosters the meaning that we assign to images. The connotative meaning in film is a result of an associative process, i.e. certain non-explicit aspects presented in the film become suggestive and foster a personal decoding of the images. The process is linked to how memory operates—it triggers patterns and induces related sensory reactions. In doing so, this process finds interesting links to the idea that we rely much on our memory to decode tactile experiences.

While cinematic haptics looks at how images are created (filmic effects), semantic haptics looks at what is being transmitted at the level of action (plot/storytelling). This double perspective generated a mixed method approach for the study, which combined experimental fabric hand tests with creative workshops. For the study we selected four textile innovations: Cotton fibre coated with cork (Cork-a-tex), cactus and orange peel leather (Ohoskin), recycled cactus leather, and recycled wool (Manteco). We worked with these materials and involved twelve designers (ten design students and two professional designers) from Italy and Romania. Participants were fully informed about the nature and objectives of the study before giving voluntary and informed consent. Confidentiality was maintained by anonymizing participant data, and the researchers took measures to ensure the participants' privacy during data collection and analysis.

The seven material properties of these textiles that designers had to assess included both surface qualities (texture, temperature) and depth properties (weight, resistance, rigidity, density and thickness). The methodology unfolded in two stages: an experimental fabric hand-testing stage (including a linguistic test) that builds on theories of cinematic haptics and integrates a micro-camera to explore the tactile experiences of designers while manipulating the textile innovations; and a workshop with three selected designers that builds on theories of semantic haptics to exploit the potential of integrating the audio-visual recordings resulting from the tests into an online user experience.

During the first phase—experimental fabric hand tests—we incorporated a micro-camera into the process. The camera enabled us to record the movements performed by designers while manipulating textile innovations and assessing the seven textile properties. Designers had to perform two stages/types of movements. In the first stage a micro-camera was attached to the hand of the designers. During the second stage, designers held the micro-camera with their fingers and simulated the way in which their eyes moved to uncover the properties of the textiles. We collected a total of 366 recordings of 20 seconds in length each. We analysed the video archive using two criteria: camera shot and camera movement. Each video was rated based on the established film taxonomy for camera shot and camera movement. Using statistical analysis, we then determined the most frequent values for each of the seven textile properties in each of the two stages of the process. In parallel we conducted five interviews with fashion designers and textile experts with practices in the physical as well as phygital fashion world. These interviews enabled us to better assess the contemporary needs of designers when it comes to digital representation of textiles.

In the second phase of the project—creative workshops—we worked with three designers (one jewellery designer, one virtual fashion designer and one textile digitisation researcher) to further exploit the potential of the generated audio-visual archive. Creative workshops were organised as individual sessions with each designer, where we explained the project, presented the haptic strategies approach and explored the video archive. We then gave each designer three weeks to develop their concept; we stayed in touch with designers throughout this period to support the development of projects. Each designer could freely choose how to work with the physical and digital materials to create design concepts that investigated haptic visuality in relation to the four sustainable textile innovations. This process generated three design concepts: one physical product (a brooch and a conceptual video), one phygital product (a virtual rendering of a piece of garment using the textures from the video archive) and one digital concept (video installation representing a sort of mosaic of collective feeling). The concepts were showcased in the frame of the Milan Design Week 2023. We also conducted interviews with the three designers to better understand how they used the audio-visual (AV) archive and which aspects thereof could be further exploited.

The results of the first phase directly informed the second stage of the project. The results of the fabric hand tests showed that due to statistical representativity, we cannot speak about a generally valid taxonomy for the haptic representation of sustainable textile innovations using video. However, results of these tests and the five interviews we conducted with designers indicated

there is much potential for haptic film strategies to be further explored through a metaphorical approach. We exploited this potential in the second stage of the study where the audio-visual archive was transformed by designers into a real creative laboratory that sparks imagination and fosters the generation of new design concepts. In the next chapter we present in detail the results of the study.

26.3 Results

26.3.1 Fabric Hand Test

This section presents the results of the prototyping phase related to the fabric hand tests. As mentioned above, the experiment involved selecting four samples of sustainable fabrics with different characteristics to explore haptic visualisation potentials in the fabrics as thoroughly as possible (Fig. 26.1).

The test consisted of two phases: a qualitative-quantitative analysis where selected designers were asked to describe, first using keywords (descriptive terms) and then deploying quantitative measures (Likert scale 1–5), the properties of the examined fabrics (surface properties: texture/temperature; depth properties: weight/strength/stiffness/density/thickness); the second stage used micro-cameras to evaluate how the recognition of tactile textile properties can be documented based on filmic strategies (camera movement/angle/framing).

The first step was carried out in two parts: in the first, we recorded the information obtainable through exclusive visual perception, therefore through the observation of the fabrics, and the second was by adding a second sensory channel, that of touch. The aim was to record any differences in perception

Cork-coated cotton (Cork-a-tex)	Cactus/organge peel leather (Ohoskin)	Recycled cactus	Recycled wool (Manteco)

Fig. 26.1 Sustainable textile innovation samples

and subsequent evaluation between the exclusively visual and tactile experience to understand, on the one hand, the adequate reliability of vision. On the other, to explore the role of linguistics as a metadata system for textile archives.

The second stage incorporated a micro camera that allowed to record the movements performed by designers. The two phases/types of movement that designers were asked to perform generated recordings that were then analysed using the taxonomy established for framing and camera movement. Using statistical analysis, we extracted the most frequent values for each of the seven recorded textile properties for every step.

26.3.1.1   Results of the Qualitative-Quantitative Assessment

Figure 26.2 offers an overview of the most common words deployed by designers to describe textile properties. The linguistic analysis highlighted the use of a more extensive and varied vocabulary deployed by designers to describe surface properties of fabrics than for depth properties. This denotes an ease of transmission of sensations and, therefore, a better evaluation of the former. Consequently, the visual strategies that induce these properties are also easier to define. We have identified the predominance of the word 'medium' in assessing depth properties (except thickness); this can denote a confused conceptualization and a lack of possibility to express the real sensations behind these experiences. Generally, the designers used a richer vocabulary to describe tactile sensations than purely visual ones, confirming the loss

Fig. 26.2   Most frequent words used to describe tactile properties

of information by translating tactile into visual perception. For hard-to-distinguish properties (stiffness, density, strength), the vocabulary varied less between visual and tactile experiences. These are vague and difficult to describe linguistically.

Overall, vision proved to be reliable and sufficient for the description of properties. No substantial differences were recorded in quantitative assessment between tactile and visual exploration. Most subjects, although sector experts, encountered difficulties in assigning keywords to properties, which was further strengthened by the need to compare qualities with experience. We also retrieved a frequent use of metaphors to make up for the lack of descriptors. The difference between the visual and tactile sensations emerged during the tests as very significant, mainly for the depth properties. This is probably due to the type of materials chosen for the tests; in fact, these are little-known and less used materials, which can visually recall other well-known materials. For example, Cork-a-tex can recall a rigid cotton canvas or denim, Ohoskin and cactus leather are valid substitutes for leather also in visual terms animal or imitation leather of plastic origin. This result underlines the absence of 'mnemonic patterns', which usually guide users' visual experiences, which has a strong inhibitory effect on visual assessment. Furthermore, a transversal difficulty was found among all subjects describing the visual and tactile sensations in words, indicating that the use of vocabulary is very intimate/personal, and creative. Although there is no taxonomy or rule for the linguistic evaluation of properties, it would be interesting—in future developments—to visualise the connections between linguistic models belonging to different designers.

26.3.1.2 Results of the Fabric Hand Tests

Although recurrences were found in the type of movements performed by designers while exploring the tactile properties of fabrics (Fig. 26.3), the manipulation of materials depended a lot on the personal and sensorial sensibility of the designer. Seemingly, imperceptible differences create a range of motions that film taxonomies fail to distinguish. Camera shot (position of the camera concerning the filmed object) and camera movement were the two key indicators for mapping tactile film strategies; the camera angle was not relevant in this case as a film strategy, as this was a proximity test, and all participants used the same camera angle.

However, light emerged as an important factor influencing the perception of the tactile qualities of fabrics. Light and colours have demonstrated to

Phase 1   Phase 2

Fig. 26.3   Fabric hand tests

significantly impact the visual evaluation of some parameters, such as temperature and weight. How light makes a surface appear to our eyes is fundamental as it allows the transmission of specific sensations. Light creates atmosphere and is essential for conveying tactile qualities (depth and surface properties). Due to the setup of the tests, we could not allow participants to control the lighting, which represents a shortcoming of the study.

Although statistical analysis revealed recurrences and patterns for reading tactile qualities of textile innovations based on filmic strategies, the situation is much more nuanced. As a result, we can only partially create rules for reading these patterns, as slight inflexions in the designer's sensibilities deviate from generally accepted filmic norms. The attempt to provide a taxonomy becomes instead a guiding element, supporting various entities (designers, archives etc.) to expand their strategies to design a virtual experience of textile innovations.

In conclusion, statistical analysis revealed several differences between the tactile and visual tests. Results were identical for five of the assessed textile properties, except for thickness and density (for these two values the microcamera tended to be more active during the visual test than for the tactile test where it was more static). The most frequent way of representing tactile properties through video is by using a close-up position of the camera. For surface properties (texture, temperature) broader camera movements (e.g. pan/whip pan) have been registered, while for depth properties no camera movement was registered (e.g. static). This indicates that surface properties need better coverage and more contact (including visual contact) to be assessed, compared to depth properties. However, although the mapping of depth properties reveal that a static camera position is sufficient for visual haptic exploration, a closer analysis reveals that slight variations include movements of the textile materials themselves (e.g. textile appears as if being slightly zoomed in on, through the movement of the hands performing a pulling movement to assess the resistance of the textile). Specific depth properties like density and

thickness are not signposted by a static camera movement anymore but introduced either through pans or tilts (active movements).

There is a slight difference between the use of filmic strategies for surface properties and for depth properties. The results for surface properties tend to be more homogenous compared to results for depth properties. This indicates that surface properties can be more easily grasped using specific visual representations, while depth properties need to be experienced on a more personal level and are therefore harder to represent visually. There were also slight differences registered between the two stages of manipulation in terms of camera movement. For the tactile phase (1st phase) combined movements (mixing more than one filmic strategy—camera movements) were more often (38.6%) than for the visual phase (2nd phase) (32.6%). This indicates that actual physical manipulation is much more fine-grained and complex than the simple eye movement trying to unveil the haptic properties of textiles.

Slight differences were registered also between the two stages of manipulation in terms of camera angle. For the assessment of depth properties more extreme close-up positions were recorded than for surface properties. This explains the need for the eye/hand to get 'closer' to the textile to grasp the more complex phenomena of the depth properties. Also, more extreme close ups were registered during the second testing phase (visual phase), indicating that the eye needs to make up for the loss of information that takes place when there is no physical contact with the textile.

26.3.2   Creative Workshops

The creative workshops generated three experimental results (Fig. 26.4):

1. *DigiTuRe* (Digital Textures Couture): A rendered video of a virtual garment that transforms screenshots from the video archive into texture.
2. *Visual Data Grids*: An immersive video representing a data visualisation model that maps the tactile perceptions of designers.
3. *Dune*: A brooch consisting of two brass layers that contain the piece of folded bio leather (Ohoskin) and whose borders are covered in washed white sand, accompanied by an artistic video presenting the concept of the project (including images from the archive).

Although designers approached projects in different ways, all of them used the video archive as a basis for their creation process. Moreover, for all designers the digital representation of tactility plays an important part in their
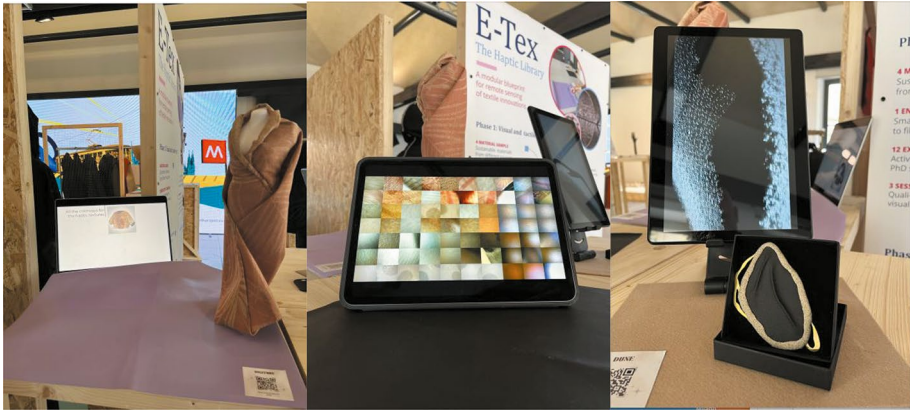
Fig. 26.4 From left to right: DigiTuRe, Visual Data Grids and Dune

creative process—for some, the digital restores the sensorial nature of tactile gestures, while for others it mirrors the memory of physical tactility. The overall impression about the inclusion of the video archive in designers' creative process was positive. Participants described the process as being interesting and fun—the archive offered alternatives to the digital representation of tactile properties of fabrics and opened new creative opportunities—but also challenging and unusual—the archive offered endless creative possibilities to designers and represented also a less common way of starting the creation process. As such, the archive was perceived in multiple ways—as a source of inspiration, a process of documentation (accumulation of knowledge) and as an instinctive guide. The creative process was not self-evident, in the sense that the centrality of the video archive in the creative process was not a common practice for designers. However, the suggestive way in which the videos were created facilitated the materialisation of creative ideas. One of the designers explains that 'the digital medium expanded the design experience, by materialising ideas and images in my (the designer's) mind'. Designers appreciated that the archive could be further exploited both for design and sales/marketing purposes related to designers' work. They also appreciated the utility of the archive for digital archives and repositories, based on the capacity of the videos to reveal more about the properties of textiles compared to existing technical sheets used by repositories. Therefore, designers agreed on the importance of the further extension of the video archive both through the addition of new textile innovation samples and other non-textile materials, and through the continuing experimentation with new design concepts that use the archive as a source of inspiration.

To conclude, the semantic exploitation of haptic visuality strategies uncovered a variety of possibilities for the use of the video archive (data visualisation, virtual textures, inspirational design objects). Although very different in nature, the three developed concepts all exploited the audio-visual material as a way to expand the sensorium, to gain more freedom in the creative process. In doing so, videos operated as a sort of extension of the designers' imagination capacity. The archive became a reference point throughout the creative process, guiding it and offering designers a different perspective on their process. Designers identified different suitable contexts for the further exploitation of the archive: design & sale purposes (designers) and enriching digital experience (repositories/archives). The uniqueness of this way of designing resides in the possibility to push the boundaries of creation processes, as well as to gain more freedom in the experimentation with new materials and processes.

26.4   Conclusion

The strength of this study lies in the combination of linguistic, perceptual and creative approaches to explore haptic properties of textile innovations. Together, these methods highlight the potential of haptic film strategies to be exploited as a lens and starting point for creating new user experiences and ways to design, using sustainable textile innovations. The drawbacks of the study, on the other hand, reside in the small sample size for tests (twelve designers and four textiles) and the technical limitations (no lightning manipulation), which were determined by the nature and extent of the project. Despite these limitations, the results of the study speak to both archives and textile experts working with textile innovations, as well as to designers adopting such materials in their design work. The following three key findings can be important for these groups.

First, the use of metaphor helps in understanding and in the ability to structure thoughts (Gibbs 2008); metaphorical expressions are mostly explored in non-verbal domains through the transfer of meaning from one domain to another. During our tests, this happened, where designers used metaphors to help them generate new ideas, solve problems and stimulate creativity (Casakin 2007). This shows how metaphors are central to setting the frame in which we will make sense of a problem (Schon 1979) when one does not have the linguistic or sensory tools to describe it in any other way. Indeed, when describing the tactile qualities of fabrics, language is more than a system of thought but involves sensations, memory and imagination. This

can have a profound impact on the way we reorganise our textile archiving system and future project developments in general. However, the power of metaphorical language remains to be explored further by examining ways to visualise links between vocabularies belonging to different users, cultures and geographical areas.

Secondly, the taxonomy resulting from the experimental hand study can provide guidelines on how to integrate existing strategies for presenting textile innovations online. It does not aim to provide a generally valid system for classification but rather an aid to convey the tactile properties of textiles in an online environment, to be adapted based on the context in which it is applied.

Finally, the metaphorical/creative approach to exploring visual haptic strategies is more fruitful and feasible compared to the technical one, as it generates further exploitation possibilities. Nevertheless, we should also note that without a technical exploitation of haptic visuality strategies (the creation of the video archive), the creative approach would not be possible. It is therefore imperative to continue to enhance and expand the AV archive, while also continuing to expose designers and artists to the created AV material, through which they can expand their own practices. This is a fundamental part of encouraging the adoption of sustainable textile innovations in designers' work.

References

Almond, K. (2020). Disrupting the Fashion Archive: The Serendipity of Manufacturing Mistakes. *Fashion Practice*, *12*(1), 78–101.

Ahirwar, Meenakshi, and B. K. Behera. 2022 "Development of hemp-blended cotton fabrics and analysis on handle behavior, low-stress mechanical and aesthetic properties." *The Journal of the Textile Institute* 113.5: 934–942.

Barker, J. M. 2009. *The tactile eye: Touch and the cinematic experience*. Univ of California Press.

Bruno, G. 2008. Yes, It's about Time: A Virtual' Letter to Sally Potter from Giuliana Bruno. *journal of visual culture*, *7*(1), 27–40.

Casakin, Hernan P. 2007 "Factors of metaphors in design problem-solving: Implications for design creativity." *International journal of design* 1.2: 21–33.

Costes, A., Danieau, F., Argelaguet, F., Guillotel, P. and Lécuyer, A., 2020. Towards haptic images: A survey on touchscreen-based surface haptics. *IEEE Transactions on Haptics*, *13*(3), pp.530–541.

Press, M. and Cooper, R., 2017. *The design experience: the role of design and designers in the twenty-first century*. Routledge.

Eid, Mohamad A., and Hussein Al Osman. 2015 "Affective haptics: Current research and future directions." *IEEE Access* 4: 26–40.

Fletcher, K. 2018. Sustainable Fashion and Textiles: Design Journeys. Routledge.

Finsa (2022). Connections: What is a materials library? https://www.connectionsby-finsa.com/what-is-a-materials-library/?lang=en, accessed on 19/07/2023

Fletcher, K., & Grose, L. 2012. *Fashion & sustainability: Design for change*. Laurence King Publishing.

Foust, D., & Gwilt, A. (2017). Fashioning sustainability: A review of sustainability discourse in the fashion design field. Sustainability, 9(12), 2264.

Gibbs Jr, Raymond W., 2008 ed. *The Cambridge handbook of metaphor and thought*. Cambridge University Press.

Gilliland, A. J., Lau, A. J., & McKemmish, S. (2021). Pluralizing the archive. *Archives for Maintaining Community and Society in the Digital Age*, 61–70.

Gwilt, A., & Rissanen, T. 2018. Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes. Routledge.

Hertenstein, Matthew J., Holmes, Rachel, McCulloghm Margareth and Keltner, Dacher. 2009 "The communication of emotion via touch." *Emotion* 9.4: 566.

Igoe, E. 2020. Where surface meets depth: virtuality in textile and material design. In Y. Lee (Ed.), *Surface Apparition: The Immateriality of Modern Surface* (pp. 77–90). Bloomsbury Publishing Company

Jones, L. A. 2018. Haptics. The MIT Press.

Marks, Laura U., and Dana Polan. 2000 *The skin of the film: Intercultural cinema, embodiment, and the senses*. Duke University Press.

McNiff, J. 2013. *Action research: Principles and practice*. Routledge.

Mechan, J. 2020. Phygital Phenomenon as a Fashion Concept. In *Digital Fashion Innovation (DFI) e-Symposium, Manchester Metropolitan University*.

Melchior, M. R., & Svensson, B. (Eds.). (2014). *Fashion and museums: Theory and practice*. A&C Black.

Ornati, M., & Kalbaska, N. 2022. Looking for haptics. Touch digitalization business strategies in luxury and fashion during COVID-19 and beyond. *Digital Business*, *2*(2), 100035

Peterson, B., 2010. Fabric in film and film as fabric: Maya Deren's Meshes of the Afternoon. *Textile*, *8*(2), pp.226–241.

Schön, Donald A. 1979 "Generative metaphor: A perspective on problem-setting in social policy." *Metaphor and thought* 2: 137–163.

27

Snapping Sustainability: How Snapchat Encourages Saudi Women in Sustainable Entrepreneurship

Sarah Omar Zakour

27.1 Introduction

As social media has been a part of people's daily lives, Saudi Arabia is no exception and Snapchat is one of the most important one for women (Alayis et al. 2018). Also, social media is important in the substantiality context, for example, sustainable brands use both visual and textual information to deliver sustainable messages to their followers with the aim of enhancing customer engagement (Zhao et al. 2022). Sustainability is now an essential aim for businesses, governments, and nonprofit organizations (ibid) including Sustainable fashion entrepreneurship. Sustainable entrepreneurship is an essential and a protagonist way in protecting the environment, economy, and society. This ensures employment opportunities, solves environmental problems, and facilitates social and economic development.

The current book chapter is focusing on Snapchat. Snapchat is an American social media platform that lets users upload photos, videos, and text. One of Snapchat's special features is the fact that these photos, videos, and text messages are only visible for a short period before they permanently disappear. To explain, users can take and send "Snaps" to friends, family, or strangers, which are visible for only a few seconds (minimum 1 second) (Vaterlaus et al. 2016).

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In 2023, Snapchat had 21.15 million users in Saudi Arabia, accounting for 57.7% of the population (Kemp 2023).

An interesting fact is that Snapchat is used by Saudi women, who intend to set up their sustainable fashion business. Yet, what is unknown is why this may be the case, which is explored within this chapter. Accordingly, this chapter explores the benefits and drawbacks of Snapchat by focusing on how it influences these potential sustainable fashion entrepreneurs.

27.2   Why Are Saudi Females Attracted to Snapchat?

Before exploring why Snapchat is so attractive to Saudi women, who are setting up their sustainable (fashion) entrepreneurial venture, it is crucial to understand the pull of Snapchat for these Saudi females. Thus, it is important to firstly investigate the reasons behind their (Saudi females) prevalent use of platforms like Snapchat.

Snapchat, similar to some other social media platforms, offers individuals an opportunity to connect and interact with family, friends, and like-minded people, by further exceeding geographic boundaries. Utz et al. (2015: 143) identified the top three motivations for both Snapchat and Facebook as "distraction and procrastination"; "keeping in touch with friends and family"; and "seeing what people are up to." In other words, Snapchat is used not only to interact with loved ones who are physically separated from one another, but also as a way to offer information. Mehta (2021) considers Snapchat as an innovative way to provide information, which means that Snapchat is helps as an information fountain in various fields, including sustainability. That would be very beneficial especially in countries where women may not move freely, or talk to suppliers and other related activities that involve men due to the traditions (Zamberi Ahmad 2011). Traditionally, Saudi Arabia has imposed strict gender segregation and conservative cultural norms that hinder women's freedom of movement and participation in many activities including economic activities. Despite traditional cultural norms, recent advances and reforms have improved gender equality and women's engagement in various aspects of Saudi society, including the economy (Vision 2030 2016). However, change is slow, and some conservatives resist. Thus, social media platforms including Snapchat empower Saudi women, by allowing them to express their opinions, increase engagement, discover opportunities, enhance their participation in civil society, bring social change, assist them in taking charge of their

lives, setting their own goals, developing skills, gaining trust, and engaging in decision-making (Gangwani et al. 2021).

In conclusion, Snapchat acts as an information source for Saudi women, allowing them to be in contact with others, gain access a wide range of information, and discovering themes such as sustainability. It is critical in offering knowledge and opportunity to women who may have previously had limited access to such resources. In spite of this, it remains unclear how Snapchat can encourage Saudi women to start sustainable businesses through its role as an information and interaction source.

27.3   Methodology

In the present study, the researcher explores the subjective meanings of the beliefs, knowledge, and experiences in line with the Snapchat influence on beliefs of Saudi women to understand and interpret them. The research utilizes qualitative semi-structured interviews with a purposive sample (judgmental sample). The sample includes 5 Saudi females' potential entrepreneur (PE), as explained in Table 27.1, as this book chapter is part of a larger project that includes 24 potential nascent entrepreneurs. Current chapter explores Snapchat's influence on the potential entrepreneur; its findings center on five potential entrepreneurs wanting to start a sustainable business. The criterion of the current research is as following: This chapter is restricted to the geographical region of Saudi Arabia and Saudi women nationality. Therefore, the first criteria for choosing Saudi women are based on the official definition of entrepreneurial intention adopted from literature which is an individual who has a conscious plan to start a business—sustainable—in the next several years (exclusion criteria, e.g., hesitates or is unsure to start a business). Also, women

Table 27.1 Participants of the current study

Potential entrepreneur (age)	Marital status and children
PE1 (40)	Married
	Three children
PE2 (50)	Widow
	Mother of five adults
PE3 (32)	Married
	Three children
PE4(28)	Married
	Three children
PE5 (38)	Married
	Two children

who already are using social media especially Snapchat. The data analysis was done inductively using thematic analysis, which is appropriate and consistent with the philosophical and methodological approaches relevant to this research study. The findings of the thematic analysis providing surprising insights. More details on the finding section.

27.4 Key Findings

27.4.1 Advantages of Using Snapchat in the Context of Sustainable Entrepreneurship

According to the current study some advantages are addressed by several women entrepreneurs who intend to start sustainable business, the first advantage is:

27.4.1.1 The Ability to Spread Trends Knowledge About Sustainability and Sustainable Business

Snapchat is very responsive to trends, which suddenly appear and disappear. Snapchat's algorithm filters and personalizes content in Discover and Spotlight (Snapchat 2023). The platform enhances content by personalizing it to align with the user's preferences, making it more interesting and relevant (ibid). Snapchat's algorithms aim to present material which fits with that user's unique interests and preferences by analyzing a user's activities, such as the sort of content they interact with, the accounts they follow, and their viewing patterns, which may at times be relevant to updates on business trends and ideas. This can be important for a woman in a conservative society as it increases her limited channels to receive information in field that she interests in—that is to say, the amount of information she has access to, which might be relevant to sustainable business ideas, would otherwise be very limited. In this regards, PE 1 stated that Snapchat keeps her up to date on business.

> *I spend on social media specially Snapchat about 6 hours a day and to keep up with what's going on in the world, as well as to watch some accounts in Snapchat that provides updates and trends in business especially anything related to fashion and to sustainable business, this platform makes me prefer to start a sustainable business.*

PE1 clearly makes very intensive use of Snapchat. It is a useful tool for her to keep in contact with the globe and gain knowledge about updates and

trends in field that she is interested in like business and fashion. That is also beneficial for learning about buzzwords and concepts produced in other countries (e.g., sustainability and unsustainable business). In other word, this platform has the potential to inspire and encourage Saudi women to explore updated opportunities and sustainable business ideas as it seems to be easy to watch every day content and people in this regards. For instance, PE1 had an inspiration every time she interacted with information about sustainable business, fashion, and sustainability, whether it was through posts, stories, or interactive conversations. She was inspired and emboldened by the good feels and general excitement of the Snapchat community. This is significant for Saudi women to allow them a greater chance for interaction and communication; as mentioned before, Saudi women are segregated from men and had less interaction with the outside words in the past, which has changed only more recently. In other words, platforms like Snapchat allow Saudi women to communicate with the outside world and thereby explore their interests, enabling them to start their own sustainable business. As previously stated, social media plays a significant part in the transformation in Saudi Arabia's cultural environment as recently women are obtaining more rights, including the ability to work in the economic sector.

PE5 also mentioned "*Snapchat's real-time updates provide Saudi women with the knowledge they require to start on sustainable business journeys and that attract me to start sustainable business.*"

Social media, particularly Snapchat, significantly influenced PE5's perception of the path toward sustainable business. The platform's real-time information and supportive community influence her with the belief that starting a sustainable business was achievable.

From the interviews, it was evident that the participants were very passionate when discussing their experiences with social media, and they seemed to genuinely enjoy it. When they use Snapchat, they are really inspired and that gives them motivation to start sustainable businesses including fashion businesses. It is clear that the social media platform—Snapchat—does encourage those women by prompting positive attitudes toward sustainable business.

27.4.1.2   The Ability of Distribution of Visual Short Videos/Posts of Business

The visual nature of Snapchat allows for distribution of short, interesting videos as mentioned by some of the participants of the study. In this chapter, Snapchat's "visual nature" refers to its nature in that the platform promotes

visual material like photos and videos over textual updates. The primary function of Snapchat is visual communication; users may send each other brief, interesting snaps and pictures. it is easy to digest and may not necessarily have to be in the spoken language.

Snapchat has features that allow users to create and receive short videos/posts showcasing their products, advice, or information about sustainably and sustainable business. These videos/posts are rapidly distributed and reach a wide audience, thus attracting the interest of some Saudi women and motivate them toward sustainable business. For example, PE4 states that visual elements increase engagement with the content of the posts because she wants to view more short brief videos/posts. As she mentioned that

PE4 "*Snapchat is extremely visual platform, which make me want to see more about what people post. It offers quick and brief videos, which also prompt me to watch more sustainability and sustainable business-related videos and become more conscious of the field and making starting sustainable business very attractive to me*."

Snapchat has gained popularity among female potential entrepreneurs due to their visual and engaging nature. The visual and engaging nature of these platforms can have a positive motivation toward sustainable entrepreneurship, prompting them to look for more short videos, which increase their awareness sustainability and sustainable entrepreneurship.

PE3 "*Information about sustainability and sustainable business such as how to start a sustainable business offered by Snapchat short posts/videos simplifies the idea for me. Video after video really interested me to start a business in this way. I also became knowledgeable about sustainability and sustainable business before even I start.*"

Through short videos and postings, Snapchat simplifies the difficult idea of sustainability, making it accessible to PE3 and motivating her to create sustainable businesses in the future. Its visual, along with real-life stories, assists users in learning and interacting with sustainability and sustainable businesses in an engaging way. In addition, she illustrates that what sustainability means may vary from person to person; thus, Snapchat provides her with knowledge as an opportunity for her and others to determine what sustainability and sustainable business mean for them. The concept of sustainability has a strong connection with environmental issues, and sustainable business attempts to decrease environmental issues such as minimizing waste and saving energy, as well as employing eco-friendly materials such as organic cotton in the sustainable fashion business. However, this term covers a wider range of ideas and initiatives aimed at generating a better, more stable environment for present

and future generations. Snapchat—regarding to PE3—facilitates those ideas for her and makes her knowledgeable in this domain.

PE2 also said "*I saw posts and video by people in Snapchat about Tricks how you have sustainable business knowledge in interesting way.*"

Short posts/videos on Snapchat that include practical tips, suggestions, and real examples are more effective in attracting Saudi women to sustainable entrepreneurship because they can more easily see how the knowledge can be applied in their own lives. Entrepreneurial knowledge has a significant effect on business involvement via social media (Abd Majid et al. 2020). The novel finding of this study implies that the knowledge that is produced by the short visual videos had positive impact on people's view of sustainable business. The findings of Al-Kwifi et al. (2020) suggested that knowledge about establishing a business was the most important element influencing their motivation to start a business.

Nowadays with the social media revolution, a great deal of information is available regarding sustainable business. Short videos can effectively provide information to women about entrepreneurship, which enables them to learn more about several aspects thereof, such as marketing, finance, and operations, and to gain a better knowledge from these videos of how to launch and manage a sustainable business. When PE2 said "*Video after video really interested me to start a business in this way. I also become knowledgeable about business.*" thus, higher exposure on these social media platforms is associated with better entrepreneurial perceptions (Barrera-Verdugo and Villarroel-Villarroel 2022).

Moreover, Participants PE2, PE3,PE4 probably found Snapchat's visual nature intriguing due to the ease with which short, engaging presents may be shared on the platform. This kind of presentation works well in today's fast-paced environment, when people's attention spans may be short. In addition, all of those who responded were mothers and their preference for short snaps fit the time constraints of their daily life. Because mothers typically have a lot to do and little spare time, they may find the short, informative videos available on Snapchat to be a simpler and more affordable way to keep educated and engaged throughout the day.

Women are becoming more knowledgeable of sustainable business through short videos and posts, which can have a positive influence on their attitudes regarding starting such enterprise. Short videos can be accessed at any time and from anywhere, making them easy to access by women with societal restrictions, which also empowers them to chase their potential for greater economic independence. However, there are still some drawbacks of using Snapchat in the context of sustainable entrepreneurship.

27.4.2   Drawbacks of Using Snapchat in the Context of Sustainable Entrepreneurship

27.4.2.1   Limited Audience Reach and Quick Disappear

While Snapchat excels in building niche communities, reaching a broader audience can be challenging. Also, the short videos that disappear in seconds may not always deliver the appropriate amount of information to fully understand the Sustainability and Sustainable business topic.

PE2 stated that "*Social media helped me become a sustainable entrepreneur. Its reach and connectivity are unsurpassed, and I found a flourishing sustainability community on Snapchat. However, it's essential to acknowledge the unique nature of this platform, where short videos disappear quickly. While this feature fosters a sense of urgency and authenticity, it can be challenging when conveying a comprehensive message about sustainability. Sustainability is a complex topic that requires more extended discussions and education.*".

Sustainable business requires a multifaceted strategy that takes into account the protection of the environment, social responsibility, and economic viability. Since these elements are linked and complex, sustainability is a complicated issue. While short videos or posts are recognized for their ability to capture people's attention, they may be limited in the range of knowledge they can deliver, often focusing on only one type of sustainability.

27.5   Conclusion

Through this book chapter, the researcher delved into benefits and drawbacks of the influence that social media, particularly Snapchat, holds in the realm of sustainable business. The data for this study is drawn from a Ph.D. research project that is currently collecting data. The key contribution is Snapchat platforms' ability to present or show trends that leads to greater availability of updated information in sustainability and sustainable business including fashion, which can further influence positively the attitude toward sustainable entrepreneurship. In other words, Snapchat is not only a platform for connecting with friends but a tool for information exchange. Another important contribution is Snapchat's capability of distribution of visual short videos/ posts of business and the ability to spread trends knowledge about sustainability and sustainable business. That influences Saudi women's interest in

starting sustainable businesses. One drawback has been addressed through this book chapter which is Snapchat has limited audience reach and quick disappear. The findings have been fascinating, opening up new and interesting perspectives. However, the current chapter's limitation is that it is based on a small sample size. There needs to be more time and effort put into looking into and investigating these discoveries. This is a call for more research and study in the future.

References

Abd Majid, N., Zainol, F.A., Afthanorhan, A., Yusoff, A.S.M., Abd Rahim, B.H., Ismail, N.A., Zakaria, R., Arifin, R.M., Adnan, W.I.W., Jaafar, F.W. and Wahab, N.A. 2020. What triggers entrepreneurial intention among young generation? the impact of social media. In *Journal of Physics: Conference Series, 1529*(4), pp.1–13.

Al-Kwifi, O.S., Tien Khoa, T., Ongsakul, V. and Ahmed, Z.U., 2020. Determinants of female entrepreneurship success across Saudi Arabia. *Journal of Transnational management*, *25*(1), pp.3–29.

Alayis, M.M.H., Abdelwahed, N.A.A. and Atteya, N., 2018. Impact of Social Networking Sites' use on Entrepreneurial Intention Among Undergraduate Business Students: The Case Of Saudi Arabia. International Journal of Entrepreneurship, 22(4), pp.1–18.

Barrera-Verdugo, G. and Villarroel-Villarroel, A., 2022. Evaluating the relationship between social media use frequency and entrepreneurial perceptions and attitudes among students. *Heliyon*, 8(4).

Gangwani, S., Alruwaili, N. and Safar, S.A., 2021. Social Media Usage and Female Empowerment In Saudi Arabia. *Academy of Strategic Management Journal*, 20(4), pp.1–8.

Kemp, S. (2023). *Digital 2023: Saudi Arabia*. [online] DataReportal—Global Digital Insights. Available at: https://datareportal.com/reports/digital-2023-saudi-arabia

Mehta, S., Porada, K. and McFadden, V., 2021. Did you get my snap? Snapchat as a health education tool for hospitalized adolescents. *Journal of Adolescent Health*, *68*(2), pp.411–413.

Snapchat (2023) *Snapchat support*. Available at: https://help.snapchat.com/hc/en-us (Accessed: 25 September 2023).

Utz, S., Muscanell, N. and Khalid, C., 2015. Snapchat elicits more jealousy than Facebook: A comparison of Snapchat and Facebook use. *Cyberpsychology, Behavior, and Social Networking*, *18*(3), pp.141–146.

Vaterlaus, J. M. *et al.* (2016) '"snapchat is more personal": An exploratory study on Snapchat behaviors and young adult interpersonal relationships', *Computers in Human Behavior*, 62, pp. 594–601. https://doi.org/10.1016/j.chb.2016.04.029.

Zamberi Ahmad, S., 2011. Evidence of the characteristics of women entrepreneurs in the Kingdom of Saudi Arabia: An empirical investigation. *International journal of gender and entrepreneurship*, *3*(2), pp.123–143.

Zhao, L., Lee, S.H., Li, M. and Sun, P., 2022. The use of social media to promote sustainable fashion and benefit communications: a data-mining approach. *Sustainability*, *14*(3), p.1178.

Index