



Towards circular fashion: Management strategies promoting circular behaviour along the value chain

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ABSTRACT

The fashion industry is a significant driver of cultural, societal, and economic growth worldwide, but its traditional linear approach has led to negative environmental and social impacts. This study addresses the need to transition towards sustainable and circular practices by exploring the relationship between management strategies and behaviours across the fashion value chain. Through 10 semi-structured interviews with top industry decision-makers, thematic analysis revealed eight core themes, including collaborations, marketing strategies, product-related characteristics, education and awareness, business models, integration of technology, regulations and legislation, and strategic planning. The study provides targeted recommendations for stakeholders to promote a more sustainable and circular behaviour in the fashion industry. For instance, it emphasises strategic partnerships with suppliers, waste management companies, and consumers to minimise waste and promote circularity across the value chain. It urges the adoption of sustainable materials and eco-friendly designs for environmentally conscious consumers and encourages visual storytelling for transparency. Additionally, the study highlights the need for circular business models, recommending on-demand and made-to-measure manufacturing to align production with demand and reduce overproduction. Offering end-of-life strategies such as take-back programs, recycling initiatives, and repair services extends product lifecycles and creates sustainable value. Integrating advanced technologies such as digital IDs improves supply chain transparency and accountability. These actionable recommendations guided the development of a comprehensive framework for the practical application of sustainable and circular practices across the value chain, offering industry practitioners, researchers and policymakers effective strategies for driving impactful change within the fashion industry.

1. Introduction

The fashion industry has evolved into a dynamic force that shapes cultures and societies and drives economic growth worldwide. It helps in generating substantial revenue and providing employment opportunities across the globe. In 2017, the fashion industry provided jobs for a significant segment of the global workforce, surpassing 300 million individuals (Ellen MacArthur Foundation, 2017), and its growth has remained steady ever since. Based on the latest available data, the global apparel market was anticipated to reach \$1.7 trillion by the end of 2023, reflecting an approximately 11.50 % increase from the previous year, consistent with annual growth trends (Smith, 2023). Consequently, the fashion industry's contribution to the global Gross Domestic Product

(GDP) exceeds 2 % (Papamichael et al., 2023b), amounting to nearly \$3000 billion (Papamichael et al., 2023a).

The fashion industry, characterised by its predominantly linear approach, has been associated with numerous negative environmental and social impacts. This linear model, driven by the “take-make-dispose” paradigm, prioritises mass production and consumption, leading to excessive consumption of finite resources, pollution, and excessive waste generation (Ki et al., 2021). According to Niinimäki et al. (2020), the industry is accountable for 8–10 % of the world's carbon emissions, equating to 4 to 5 billion tonnes per year. Additionally, the industry's dyeing and finishing processes alone contribute to approximately 20 % of global water waste, totalling around 190,000 t annually. The industry also generates 92 million tonnes of waste annually. Furthermore, the

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industry's reliance on fast fashion, characterised by its rapid production cycles and inexpensive, disposable garments, has led to numerous negative consequences (Abdelmeguid et al., 2023). Firstly, its emphasis on quick turnover encourages overconsumption and a throwaway culture among consumers (Musova et al., 2021), contributing to massive amounts of textile waste, of which the majority ends up in landfills or incinerated (Camacho-Otero et al., 2019). Every year, the fashion industry loses over \$550 billion in value because of the underutilisation of clothing and insufficient recycling practices (Ellen MacArthur Foundation, 2017). Additionally, fast fashion often leads to the pursuit of cheap materials, and exploitative labour practices and violates human rights along the value chain, with workers in developing countries subjected to poor working conditions, low wages, and long hours (Bose, 2024). Moreover, the constant demand for new trends results in unsustainable resource and energy consumption, further worsening climate change and environmental impact (Moran et al., 2021). These negative impacts underscore the urgent need for more sustainable and circular practices within the industry to reduce its environmental and social footprint.

The urgency for sustainable and circular practices within the fashion industry has become increasingly evident in light of its significant environmental and social impacts. With the rising concerns over resource depletion, pollution, and unethical labour practices, there is a growing consensus that transformative changes are urgently needed. According to Henninger et al. (2016), sustainable practices entail minimising environmental harm throughout the entire lifecycle of fashion products, from sourcing raw materials to manufacturing, distribution, and disposal. Additionally, they involve addressing social considerations to ensure fair wages, labour rights, and safe working conditions (Abbate et al., 2024). Circular practices, on the other hand, advocate for closing the loop by designing products with longevity in mind, promoting reducing, reusing, and recycling waste (Morseletto, 2020; Niinimäki, 2017). Embracing these approaches not only addresses pressing environmental and social challenges but also aligns with global sustainability frameworks such as the United Nations' Sustainable Development Goals (SDGs), particularly SDG12 (Responsible Consumption and Production) (Abdelmeguid et al., 2022; Gabriel and Luque, 2020). These goals provide a roadmap for achieving a more sustainable future. Thus, the shift towards sustainability and circularity is not merely a trend but a fundamental imperative for the future viability of the fashion industry, necessitating collaborative efforts from all stakeholders across the supply chain (Charnley et al., 2024).

The fashion industry incorporates a diverse range of players, such as designers, manufacturers, retailers, consumers, and policymakers, each contributing to its ecosystem (Vehmas et al., 2018). Each stakeholder plays a unique role in shaping the industry's landscape. Designers exhibit creativity with their innovative and adaptable designs, while manufacturers bring these creations to life through skilled craftsmanship and technologies (Lee et al., 2018). Retailers serve as the bridge between producers and consumers, curating and disseminating fashion trends to a wide audience (Burnes and Towers, 2016). They are responsible for showcasing and selling garments, providing consumers with access to the latest styles and trends. Meanwhile, consumers have a significant influence, driving demand and shaping market preferences through their behaviour and purchasing decisions (Karadayi-Usta, 2023). Additionally, policymakers play a regulatory role, passing policies and regulations to ensure industry standards and compliance with health and safety laws and ethical considerations within the fashion industry (Karadayi-Usta, 2023). Together, these diverse players form a dynamic ecosystem that drives the continuous evolution and creativity within the fashion industry, while also engaging in sustainability and circularity efforts to address its environmental and social impacts.

Given the growing interest and urgency surrounding circular economy, various studies have conducted research on different aspects of sustainability and circularity within the fashion industry. For instance, a number of existing research has identified drivers and challenges associated with circular fashion adoption (Abdelmeguid et al., 2022; Hina

et al., 2022; Ostermann et al., 2021). Moreover, Sandberg (2023) examined the orchestration capabilities of a leading Swedish company in circular textile supply chains, while Jia et al. (2020) conducted a literature review to identify sustainable performance drivers, barriers, indicators, and practices. Piller (2023) provided examples of circular innovation in small and medium-sized enterprises (SMEs) in Australia. The study mapped out circular practices of three SMEs and provides a model for circularity in the Australian context grounded in principles of product stewardship and circularity, that can be used as a visual tool in education and understanding. Moreover, Saccani et al. (2023) proposed a circular supply chain orchestration approach to understand responses to circular economy adoption barriers in textile and fashion supply chains. Furthermore, Abbate et al. (2023) investigated how fashion companies are redesigning their value chains to meet sustainability, focusing on upstream and downstream circular business model innovations in the slow fashion sector, while Abbate et al. (2024) reviewed sustainability trends in the fashion industry over the last 20 years, using both systematic literature review and bibliometric analysis. This literature review identified three main research areas including consumer behaviour towards sustainable clothing, initiatives promoting circular economy practices, and challenges related to sustainability across the supply chain. Moreover, a number of recent studies focus on specific circular business approaches within the fashion context such as the application of product-service system (Muylaert et al., 2024), leasing the clothing items (Barletta et al., 2024; Lang and Zhang, 2024), and the reuse of clothing (Hellström and Olsson, 2024). Additionally, Papanicolaou et al. (2024), explored material and energy recovery options in the fashion industry and proposed a framework for transitioning towards a circular economy in the context of material and energy recovery.

However, despite the increasing attention to circular economy, the fashion industry is still far from achieving the full implementation of circular economy practices (García-Quevedo et al., 2020). There is still a significant gap in linking theoretical frameworks with practical implementation strategies (Piller, 2023). Additionally, the management of circular supply chains is still an under-researched topic (Hazen et al., 2020; Sandberg, 2023). Furthermore, Abbate et al. (2024) underlines that existing literature does not adequately assess research advancements and trends on this topic to cater to the needs of various stakeholders within the fashion industry. Therefore, there remains very limited existing research in understanding the linkages between management strategies and behaviour across the value chain in the implementation efforts of sustainability and circularity practices.

The aim of this study is to bridge these gaps by providing comprehensive insights into the management practices and strategies that influence behaviours related to sustainability and circularity along the fashion value chain, as well as by offering practical guidance for industry stakeholders for promoting sustainability and circularity behaviour across all stages of the fashion value chain. This mainly aligns with the objectives of SDG12 to ensure sustainable consumption and production patterns across the fashion value chain. Additionally, this research underlines the need for ongoing updates in the management of circular value chains, as managerial insights and practical implications evolve over time. Therefore, this study not only provides a new direction for research but also advocates for continuous exploration, improvement, and advancement of circularity management strategies within the fashion industry. To achieve these objectives, this study conducted interviews with top management and decision-makers across various stages of the fashion value chain in order to address the following two research questions:

1. What are the key management practices and strategies that promote behaviours related to sustainability and circularity along the fashion value chain?

2. What are the practical implications of these findings for industry stakeholders in promoting sustainability and circularity behaviour?

This paper is organised into 5 sections. Firstly, the introduction provides an overview of the topic and outlines the research aim. Secondly, the literature review explores existing research and theoretical frameworks related to sustainability, circularity, and management strategies within the fashion industry. Thirdly, the methodology section outlines the research approach, data collection methods, and analytical techniques employed in this study, including details on the interviews conducted with top management and decision-makers across the fashion value chain. Fourthly, the findings and discussion section presents the findings of the interviews and explores the key themes in the findings. It also introduces the framework developed to demonstrate the practical implications, derived from these insights, in promoting sustainability and circularity along the fashion value chain. Finally, the conclusion synthesises the main findings of the study, highlights its contributions to the field, illustrates the limitations of the study, and offers recommendations for future research.

2. Literature review

Sustainability and circularity have emerged as critical concepts within the fashion industry, driven by increasing awareness of environmental and social impacts (Liu et al., 2023). Central to this transformation are the business models adopted by industry players, which have considerable influence in shaping sustainable and circular practices (Konietzko et al., 2020). Circular business models integrate the principles of circular economy as guidelines for designing business models to create a closed-loop system and extend the end-of-life of the products by reducing, reusing, and recovering resources to keep them in use for as long as possible (Henry et al., 2020).

According to Dissanayake and Weerasinghe (2021), there are four key strategies for circular fashion business models: (1) resource efficiency, (2) circular design, (3) product life extension, and (4) end-of-life circularity. Firstly, resource efficiency involves using renewable and sustainable raw materials, adopting responsible manufacturing processes, waste minimisation, and reducing water and energy consumption (Dissanayake and Weerasinghe, 2021). However, there are various factors that determine the sustainability of the fashion product such as the type of fibre (Manshoven et al., 2022), and chemicals used for the dyeing and finishing of the textile production (Dainelli et al., 2024; Kumar et al., 2022). Secondly, circular design plays a vital role in achieving circularity in fashion, as the design stage determines over 80 % of the fashion product's environmental impact (Dan et al., 2023). The circular design enables the prolonging of clothing and fashion products lifespan, as well as defines their durability, reparability and recyclability impact all subsequent stages of the lifecycle of garments (Sacani et al., 2023). Thirdly, product life extension emphasises finding ways to prolong the garment's usability and reusability (Gomes et al., 2022). Finally, end-of-life circularity aims to close the resource loop by diverting clothing from landfills, transforming them from waste into valuable resources for other production processes by integrating end-of-life solutions into the value chain to facilitate reuse or recycling (Degenstein et al., 2023). Thus, initiating a continuous cycle of resource utilisation.

There are various management strategies and business initiatives for circular fashion models. For example, take-back programs are offered by businesses or brands to encourage consumers to return used products to be resold as second-hand items or be recycled or refurbished, creating value for fashion brands (Kant Hvass and Pedersen, 2019). Additionally, product-as-a-service involves offering a product in which the provider retains ownership, such as rental services, while consumers pay for its usage (Centobelli et al., 2022; Khitous et al., 2022). This model is associated with benefits like reduced environmental impact, increased competitiveness, and enhanced user value (Monticelli and Costamagna, 2023). Moreover, digitalisation allows the development of other circular

fashion business models such as the sharing platforms that facilitate the exchange and purchase of second-hand clothing items (Henry et al., 2020; Szász et al., 2021). The sharing platforms encourage the collaborative consumption of fashion products and the frequent reuse of fashion products in the short term, thereby helping reduce resource consumption and promote slow fashion (Pal and Gander, 2018). Fashion rental and subscription services also allow consumers to access fashion products temporarily, reducing the need for constant new purchases. Moreover, technological advancements facilitate appropriate end-of-life handling or establish transparency regarding resource availability and sourcing and the manufacturing processes, hence promoting a high level of transparency in external marketing and business communications with consumers and other stakeholders across the value chain (Claxton and Kent, 2020; Henninger et al., 2019; Shrivastava et al., 2021). Furthermore, some brands and designers upcycle fashion products, converting old or discarded textile waste and clothing into new and better-quality fashion pieces with higher environmental value (Park and Lin, 2020).

Regulatory frameworks and industry standards play a crucial role in driving sustainability and circularity efforts, providing guidelines and incentives for businesses to adopt responsible practices (Mizrachi and Tal, 2022). As a result of the challenges arising from implementing sustainable strategies and circular economy practices have urged the EU to release various strategies and action plans (Papamichael et al., 2023b). For instance, to meet The Circular Economy Action Plan, the EU has set targets to achieve radical resource efficiency and establish circular material flow such as the Extended Producer Responsibility (ERP) scheme for textiles (i.e., companies are required to pay fees covering the expenses related to managing the end-of-life of their products) to enhance the utilisation and recycling of textile waste, since textile waste is recognised as a crucial waste component in the value chain, presenting growing possibilities for circular fashion practices (D'Adamo et al., 2022; Papamichael et al., 2022). Moreover, as part of the Circular Economy Action Plan, the European Commission introduced a strategy for Sustainable and Circular Textiles in March 2022, which calls for the implementation of eco-design standards, promoting truly sustainable textiles, halting the destruction of unsold or returned fashion products, introducing digital product passports, as well as addressing microplastic pollution resulting from synthetic fibres used in the fashion industry (European Commission, 2022). However, for circular fashion to be effectively implemented, it is crucial to ensure the coordination of strategies and practices across the value chain (Wiegand and Wynn, 2023).

Therefore, existing literature underscores the significance of integrating sustainability and circularity principles into fashion industry management strategies.

3. Methodology

This research aims to gain comprehensive insights into management practices and action strategies promoting behaviours along the fashion value chain. The research philosophy adopted in this research is interpretivism, hence utilising in-depth semi-structured qualitative interviews with top-level management and decision-makers in the fashion industry to explore the perspectives, motivations, and interpretations of management practices related to circular and sustainable behaviour. Hence, emphasising the subjective nature of human experiences and the importance of understanding social phenomena from the perspective of the individuals involved (Bell et al., 2019). Additionally, the study acknowledges the existing gap in understanding the linkages between management strategies and behaviours across the value chain in the implementation of sustainability and circularity practices. This study seeks to address this gap, embracing an inductive approach that allows inductive approach, allowing the exploration of the topic and the generation of themes, theories, and patterns from the data collected through the length of the theory highlighted in existing literature (Saunders

et al., 2019).

3.1. Data collection

A pilot test was conducted to refine the interview protocol. Feedback from the pilot test was instrumental in streamlining the questions, ensuring clarity, and optimising the effectiveness of the interview process (Clark et al., 2021). Purposive sampling, a non-random technique, was employed to select participants for the interviews strategically based on specific characteristics or criteria relevant to the research objectives (Bryman, 2012). In this case, participants were selected based on their role as top-level management and decision-makers within the fashion industry actively involved in circular economy and sustainability practices. This targeted selection ensures that the data is drawn from individuals with deep industry knowledge and expertise, thereby enhancing the quality and credibility of the insights gathered. Furthermore, a deliberate effort was made to include participants from both developed and developing countries, offering diverse perspectives and holistic understanding of the fashion industry's management strategies promoting circular behaviour along the value chain. Thus, invitations were sent out to 35 potential participants who met the criteria. Although some existing literature suggests that data saturation typically occurs after 20 to 30 interviews (Bryman, 2012; Clark et al., 2021), a systematic review of studies examining sample sizes for saturation in qualitative research has found that data saturation can often be achieved after 9 to 17 interviews (Hennink and Kaiser, 2022). In this study, data saturation was reached after conducting 10 interviews, as no new themes were emerging from the interviews (Foster and Brindley, 2018). Among the interviewees, six were located in developed countries and four were located in developing countries (Table 1).

The interviews were conducted virtually through Teams or Zoom, based on the participants' references. Considering ethical considerations, verbal consent was obtained from each participant, emphasising the voluntary nature of their involvement and the option to withdraw their data during the interview and for a period of up to one week from the interview date. Additionally, the recording of interviews was done with explicit consent. Four of the interviewees chose not to have their interviews recorded. For those who agreed to record, their recordings were anonymised to ensure confidentiality and protect the identity of the participants. The semi-structured interviews consisted of 11 open-ended questions, provided in the supplementary information (S1), designed to explore various aspects of management practices and strategies related to circular and sustainable behaviour along the value chain of the fashion industry. However, flexibility was maintained allowing for the exploration of unanticipated emerging themes and adaptation to the diverse nature of participants' experiences and perspectives. Each interview lasted approximately 1 h. Moreover,

Table 1
Participants' profiles.

Coded Name	Job title	Geographical Location
P1	Founder of a circular economy consultancy company	Developed
P2	Founder of a third-generation sportswear producer.	Developed
P3	Founder of a circular fashion brand.	Developed
P4	Founder of a sustainable and ethical clothing brand.	Developed
P5	Head of operations for clothing & home textiles design and manufacturing company.	Developed
P6	CEO and co-founder of a luxury Circular fashion brand.	Developed
P7	Co-founder of a clothing manufacturer	Developing
P8	CSR Director of a textile manufacturer	Developing
P9	Manager of a textile recycling company	Developing
P10	Founder and CEO of a textile recycling company	Developing

transcription of the recorded interviews was conducted automatically via Zoom and Teams for time efficiency and to maintain accuracy and consistency.

3.2. Data analysis

In adherence to an inductive research approach, thematic analysis was chosen as the method for data analysis. The thematic analysis involves a systematic and flexible process of coding and identifying patterns within qualitative data, allowing themes to emerge from the participant's responses (Braun and Clarke, 2022). It is systematic as it offers a structured and orderly way of data analysis to provide comprehensive descriptions, explanations, and theoretical insights. Following data collection, the thematic analysis process involved six distinct steps adapted from Saunders et al. (2023) (Fig. 1). First, the data familiarisation step allows for a deep understanding of interview transcripts and observations, and to develop summaries and notes. Subsequently, data coding involved systematically labelling segments of data with descriptive codes and a summary of the meanings of codes. Next, drawing on the principles of thematic analysis, initial themes emerged as patterns, repetitions, connections, metaphors, and analogies, as well as similarities and differences within the coded data (Bryman, 2012). These themes were then developed and reviewed for coherence and relevance. Through iterative refinement, themes are clarified, defined, and named to accurately represent the underlying data. Thus, these steps facilitated the interpretation of topics related to management strategies and initiatives within the fashion industry. Finally, the findings and insights are synthesised during the writing-up phase, completing the thematic analysis process.

By employing these methods and approaches, the study enhances the robustness and validity of the data obtained, offering valuable contributions to the understanding of circular practices in the fashion industry.

The methodology used in this study has certain limitations that should be considered when interpreting the results. Firstly, while purposive sampling ensures the inclusion of relevant participants, the sample size and diversity may be limited, potentially restricting the generalisability of the findings (Bell et al., 2019; Bryman, 2012). It may also introduce selection bias, limiting the diversity of perspectives represented in the sample. Secondly, the reliance on qualitative interviews means the data may be subject to participant bias and the influence of their personal experiences, which can introduce subjectivity (Saunders et al., 2019). Finally, the thematic analysis process can be influenced by the researcher's own perspectives, potentially introducing bias in identifying and interpreting themes (Saunders et al., 2023).

4. Findings and discussion

This section presents valuable insights from the qualitative analysis of the semi-structured interviews with key stakeholders across different

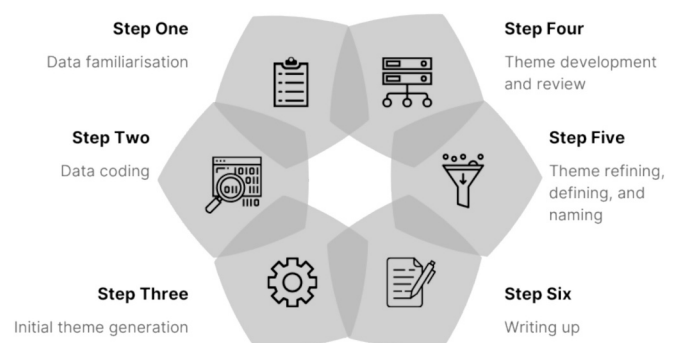


Fig. 1. Six steps of thematic analysis adapted from Saunders et al. (2023).

stages of the fashion value chain. The primary objective is to unveil the management practices and strategic initiatives that influence behaviours related to sustainability and circularity throughout the fashion value chain. The main objective of this chapter unfolds in two parts. Firstly, it aims to explain the thematic findings obtained from the qualitative analysis, thereby emphasising the diverse range of management practices. Secondly, it seeks to demonstrate the practical implications of these findings for management and to illustrate the framework developed to promote circular behaviour along the fashion value chain.

4.1. Themes development

The analysis began by categorising the full interview transcriptions according to specific questions and topics. From these categories, codes

were derived, focusing on important phrases or keywords in the data. These codes were then organised, highlighting the core context of each. Following the steps of the thematic analysis process and through inductive reasoning, eight themes emerged including collaborations, marketing strategies, product-related characteristics, education and awareness, business models, integration of technology, regulations and legislation, and finally, strategic planning (Table 2).

4.1.1. Theme 1: collaborations

Collaboration emerged as a prominent theme in the interviews, aligning with existing literature that emphasises the significance of partnerships and cooperative efforts in promoting sustainability and circularity practices (Abdelmeguid et al., 2022; Del Giudice et al., 2020; Riva et al., 2021). Such collaborations can drive sustainable value

Table 2
Codes and themes.

Codes		Themes
Collaborations Partnerships Communication Feedback Transparency Philanthropy Trust/Authenticity	➔	Collaborations
Showcasing Storytelling Marketing Messaging Transparency Engagement Emotional responsibility Word-of-Mouth	➔	Marketing Strategies
Materials/fabrics Quality Design Uniqueness Price	➔	Product-related characteristics
Awareness Knowledge and information Availability of information Education	➔	Education and Awareness
Closed Loop Circular practices Rewards and incentives Accessibility/Simplicity	➔	Business Models
Innovation Technology Physical or digital product development	➔	Integration of Technology
Governments Regulations Policies Labour Reporting Certifications	➔	Regulations and legislation
Research Long-term Goals Culture Target population Performance measures Environmental metrics	➔	Strategic Planning

creation by fostering efficiency, innovation, and shared goals among companies, suppliers, and other stakeholders (Hansen and Schmitt, 2021; Trevisan et al., 2022).

The interviewees highlighted the importance of collaboration, emphasising the need for seamless integration of the entire process of bringing a product or service from an idea to their final execution. In line with Wang and Juo's (2021) work on the role of collaboration across the value chain in driving efficiency and value creation. Participants highlighted the importance of establishing strong and collaborative relationships with suppliers as foundational to the value chain. For example, one participant highlighted the benefits of partnering with a company that produces disassembly-ready threads. This example offers collaborative and innovative ideas for production and design processes for sustainable value creation in fashion:

“We're collaborating with a company that makes a thread that's meant for disassembly. For example, it's a thread that's made from a material that can be broken down and will just disintegrate and allow the garment to be unhinged. So, it's finding these collaborating partners that are necessary for the components of your final product.” (P6)

Collaborations with recyclers and waste management organisations also emerged as critical for promoting circular economy principles and enabling reverse logistics processes, such as efficient collection, sorting, and repurposing of discarded textiles and garments. This reflects a broader shift towards sustainable business models and practices in response to environmental challenges, as indicated in previous studies (Jia et al., 2020; Sandberg, 2023). Furthermore, engaging consumers is another critical aspect highlighted by the interviews, particularly in addressing the challenges associated with growth at the end of the product lifecycle. As one interviewee noted,

“It's all about growth, growth, and growth without actually thinking how do you manage or handle that growth when it comes at the end of the life cycle. So, in that way, it ends at the consumer because consumers are not involved. You need to get the consumer involved.” (P3)

The systematic literature review by Sudusinghe and Seuring (2022) similarly reports how collaboration can enhance sustainability performance in implementing circular practices within value chains and differentiates between internal operational collaboration and external collaboration with upstream and downstream supply chain players (e.g. suppliers, service providers, recyclers and customers), as well as other external parties (e.g. governments).

Moreover, fashion companies are exploring innovative business strategies to support sustainability and circularity, as evidenced by the interviewees' discussion of collaborative platforms and philanthropic partnerships. By aligning with philanthropic initiatives, companies enhance brand reputation and customer loyalty, which supports the social causes and innovative business strategies mentioned in the literature (Sandberg, 2023). For instance, one interviewee described their approach to supporting micro-businesses and small-scale entrepreneurs:

“That's how we turn purpose into impact and together, sharing that whole sense of community and purpose. We cast that wider net of attracting those customers that share those same values that we do, and then those customers hopefully will become customers for life and our own brand ambassadors” (P6)

While collaboration offered numerous benefits, interview participants acknowledged that building trust and authenticity could be challenging at times. Establishing genuine relationships and ensuring alignment of interests required ongoing effort and commitment from all stakeholders involved. Transparency emerged as a fundamental aspect of collaboration efforts, emphasising the importance of openness, honesty, and accountability in business operations (Abdelmeguid et al., 2022). Interview participants recognised transparency as essential for

building trust, fostering stakeholder engagement, and driving sustainable practices across the value chain. Within this context, the interviewees also emphasised that clear reporting and disclosure practices are necessary for fostering stakeholder engagement and trust. Additionally, communication emerged as a critical enabler of transparency, facilitating the exchange of information, fostering understanding, and building trust among stakeholders, similar to prior research (Henninger et al., 2019; Hina et al., 2022).

4.1.2. Theme 2: marketing strategies

The interviews conducted for this research shed light on the different strategies that companies use for marketing, particularly in the context of promoting transparency and engaging consumers in sustainable and circular practices. Interviewees recognised the power of storytelling in demonstrating their brand values, sustainability initiatives, and commitment to transparency. This approach aligns with existing literature that emphasises the importance of compelling narratives and visual storytelling in communicating the brand mission, attracting consumers, forming emotional connections with their consumers, as well as encouraging the adaption of sustainable production and consumption in the fashion industry (Woodside and Fine, 2019).

By showcasing their ethos of sustainability and circularity efforts through case studies, success stories, and product demonstrations helped to highlight tangible examples of their commitment to sustainable practices. This approach aligns with innovative business models focused on sustainable value creation and delivery (Chamberlin and Boks, 2018; Richardson, 2008). One participant emphasised the importance of storytelling:

“Keeping it real and storytelling for me are the most important things because, for example, I wouldn't throw away my grandmother's rari because there's a story behind it.” (P4)

Organisations recognised the diverse preferences and behaviours of consumers across different generations and demographics. To effectively engage consumers, they implemented tailored marketing strategies across various platforms, including social media, to reach target audiences where they are most active, as suggested in the study of Kant Hvass and Pedersen (2019). By leveraging their websites and different social media platforms, organisations aimed to develop meaningful connections with consumers while promoting sustainable and circular behaviours (Degenstein et al., 2023; Dissanayake and Weerasinghe, 2021). Moreover, the participants highlighted their efforts to raise emotional responses and encourage a sense of responsibility and accountability among consumers for their purchasing decisions. By framing sustainability as a collective responsibility and emphasising the positive impact of individual choices, organisations sought to empower consumers to make environmentally conscious decisions and support circular economy practices. Through emotional messaging and calls to action, they aimed to inspire consumers to embrace sustainability and circularity as core values in their purchasing behaviours consistent with existing research on the importance of consumer engagement for sustainable value (Garcia-Ortega et al., 2023; Henninger et al., 2019).

Despite the efforts to promote sustainability and circularity through marketing, companies face several challenges that hinder their effectiveness in engaging consumers and stakeholders. The interviews conducted for this research revealed several key challenges that organisations encounter in their sustainability marketing efforts. One of the prominent challenges highlighted by interviewees is the prevalence of greenwashing within the industry. Greenwashing involves misleading consumers about the environmental or social benefits of a product or company and has been highlighted in prior research as a barrier to consumer trust and confidence in sustainability initiatives (Piller, 2023). As a result, consumers have become increasingly suspicious of marketing claims related to sustainability, leading to scepticism and distrust towards brands' sustainability initiatives.

Moreover, interview participants acknowledged that some organisations struggle to maintain transparency in their marketing strategies, impacting their credibility and trustworthiness. Existing literature supports these findings, suggesting that the lack of clear and transparent communication can undermine consumer trust (Abdelmeguid et al., 2022; Hina et al., 2022). Furthermore, visibility was highlighted in the interviews as a significant challenge for small to medium enterprises (SMEs) attempting to market their sustainability initiatives. Limited marketing budgets and resources make it difficult for SMEs to compete with larger corporations with greater visibility and brand recognition (Dainelli et al., 2024). Finally, participants highlighted that the costs associated with marketing sustainability initiatives can pose a significant barrier for organisations, particularly smaller businesses, and startups. Developing and implementing comprehensive marketing strategies requires financial resources that may be beyond the means of some companies, reflecting findings in existing literature about the challenges faced by smaller companies in pursuing sustainability goals (García-Quevedo et al., 2020).

4.1.3. Theme 3: product-related characteristics

In the interviews conducted for this research, participants emphasised the importance of various product-related characteristics in shaping consumer perceptions, driving purchasing decisions, and promoting sustainability within the fashion industry. Key aspects highlighted by interviewees include the choice of materials and fabrics, packaging, product quality, design, uniqueness, and pricing strategies.

The choice of materials and fabrics plays a crucial role in sustainable value creation in the fashion industry. Interviewees discussed the environmental and social impact associated with the choice of materials and fabrics used in clothing production. For example, one of the interviewees highlighted that their core expertise lies in sourcing materials, hence fabric selections for their clients are based on unique specifications. This comprehensive process covers a wide range of options, including traditional natural fibres, innovative bio-based synthetics, and NextGen materials. This aligns with existing literature on sustainable value in fashion, which highlights importance of selecting sustainable and eco-friendly materials to reduce pollution, support ethical supply chains and improve resource efficiency (Dissanayake and Perera, 2016; Manshoven et al., 2022). Additionally, interviewees discussed their innovative approach to material development, prioritising circularity as the key driver of their design process. For instance, one of the participants emphasises that by developing proprietary materials and fabrics with circularity at the forefront, they distinguish themselves from competitors, offering a unique value proposition to consumers seeking eco-friendly and socially responsible fashion options. These insights highlight the pivotal role of materials and fabrics in shaping the sustainability profile and competitive advantage of fashion brands today.

Packaging also emerged as another important aspect of the choice of materials, as underscored by prior research (Niero et al., 2017; Stewart et al., 2018). Interview participants discussed the need to minimise packaging waste by using recyclable or biodegradable materials such as seaweed and implementing sustainable packaging solutions to reduce environmental footprint.

These efforts enhance brand sustainability credentials and align with broader shifts towards sustainable value creation in the fashion industry.

The interviews highlighted the critical role of quality and longevity in fashion products, as similarly emphasised by a number of existing literatures (Gomes et al., 2022; Joyner Armstrong et al., 2018; Sandvik and Stubbs, 2019). One interviewee stressed the importance of promoting the production of higher-quality yarns, particularly through the use of premium cotton, to produce durable and long-lasting garments. This emphasis aligns with existing literature on the need for quality over quantity to promote sustainability and reduce textile waste (Bocken et al., 2016; Manshoven et al., 2022). By prioritising product quality, companies can significantly reduce the frequency of disposal and

contribute to overall textile waste reduction (Geissdoerfer et al., 2016).

Stakeholder engagement plays a crucial role in promoting sustainability and circularity within the fashion industry. Participants emphasised the importance of engaging with consumers during the design process, considering their feedback and insights to improve designs and address consumer preferences. This customer-centric approach enhances product desirability and extends garment lifespan, contributing to sustainability efforts (Huynh, 2022). Moreover, interviewees highlighted the transformative impact of engaging with stakeholders during the design process, particularly in terms of experimenting with production and design to foster creativity and drive positive change. This aligns with existing research recognising the pivotal role of the design phase in shaping the environmental impact of products (Dan et al., 2023). For instance, one of the interviewees discussed the utilisation of natural colouring techniques, recognising the inherent variability of nature and the unique qualities it offers. Furthermore, the interviewee highlighted that efforts to incorporate compostable materials such as wooden buckles into design show a commitment to product value retention post-purchase, promoting circularity and waste.

While product quality and design are important considerations for consumers, interviewees acknowledged that price sensitivity remains a significant factor influencing purchasing decisions, as reported by the literature review by Hina et al. (2022). Participants highlighted the challenge of balancing price and quality while striving to offer affordable yet sustainable products without compromising on quality or ethical standards. This reflects the complex relationship between pricing, quality, and consumer expectations across different market segments within the fashion industry. One of the participants shared their strategic decision to lower prices, albeit at the expense of profit margins, drawing a broader consumer base and fostering sustainability awareness, noting:

“I think as soon as I dropped the prices down, unethical buyers also came to me. it was upsetting. But then again, I thought I have to if I want to compete with fast-fashion brands. It's not a proper strategy, but I needed to show people that you can contribute as much and save the planet.”
(P4)

This approach reflects the tension between remaining competitive against fast-fashion brands and communicating the value of sustainability to consumers through accessible pricing. Conversely, another interviewee highlighted their luxury tier perspective in which pricing signals product quality and exclusivity. This strategy emphasises the importance of engaging with high-end consumers who prioritise top-notch quality and unique offerings. By understanding and addressing the needs and expectations of different market segments, fashion brands can tailor their pricing and quality strategies to cater to a diverse range of consumers (Blas Riesgo et al., 2023). These insights underscore the complex relationship between pricing, quality, and consumer expectations across different market segments within the fashion industry.

4.1.4. Theme 4: education and awareness

In the interviews conducted for this research, participants highlighted the critical role of education and awareness in driving circularity practices and fostering a culture of environmental responsibility within the fashion industry. Despite recognising the importance of sustainability and circularity, interviewees emphasised the challenges stemming from a lack of education and awareness among different stakeholders. This lack of education and awareness leads to unsustainable practices and decision-making, hindering the progress towards sustainability goals and prolonging harmful practices across the value chain (Aramendia-Muneta et al., 2022; Jia et al., 2020). However, the interviews underscored that companies are actively addressing these challenges by implementing initiatives to provide stakeholders with knowledge and information, which strengthens sustainable value in the

fashion industry.

Interview participants discussed various initiatives aimed at raising awareness, promoting education, and fostering dialogue around environmental concerns, circularity, and sustainability within the fashion industry. One interviewee emphasised that a significant portion of their role revolves around education in promoting circularity within the fashion industry. By equipping industry stakeholders with the necessary knowledge and tools, such as incorporating circular practices into existing workflows, they aim to broaden awareness and facilitate meaningful action (Abdelmeguid et al., 2023). This approach aligns with sustainable business strategies and innovative models in the fashion industry by focusing on integrating circularity into business practices (Konietzko et al., 2020).

Moreover, interviewees highlighted the value of hosting workshops, seminars, and events for engaging stakeholders, sharing knowledge, and fostering communications around sustainability and circularity. These interactive sessions provided opportunities for education, collaboration, and networking, allowing organisations to connect with stakeholders across the value chain and empower them to adopt more sustainable practices.

Additionally, another participant discussed their current efforts in developing an educational platform tailored for industry professionals. This interviewee also noted a generational divide in consumer preferences:

“Younger generations prefer things that are perhaps more natural, while older generations prefer synthetics. A prime example of this would be sportswear meshes, where younger teams are more likely to go for wool meshes. Whereas older generations are more likely to go for polyester meshes” (P2)

This divide underscores the role of stakeholder engagement in addressing varying levels of awareness and perceptions regarding sustainability and material performance. Another participant mentioned a personal experience highlighting the lack of clarity in recycling practices. They expressed frustration at the absence of proper labelling and education, emphasising the need for top-down awareness initiatives to bridge this gap and drive systemic change. This reflects the importance of a comprehensive approach to consumer education, in promoting sustainable and circular practices (Musova et al., 2021). These insights reinforce existing literature that underlines the importance of comprehensive education and awareness to enable stakeholders to improve their skill sets, as well as to foster sustainable and circular stakeholders' behaviours and drive meaningful change within the fashion industry (Aramendia-Muneta et al., 2022; Dissanayake and Weerasinghe, 2021; Liu et al., 2023). Therefore, fashion companies are leveraging various platforms, such as websites, social media, and educational resources, to provide information and raise awareness about sustainability issues and initiatives (Reike et al., 2023). By making information easily accessible and transparent, organisations aim to promote accountability, transparency, and stakeholder engagement in sustainability efforts, which contributes to sustainable value and innovation in the fashion industry (Hansen and Schmitt, 2021).

4.1.5. Theme 5: business models

In the interviews conducted for this research, participants underscored the critical role of business models in promoting sustainability within the fashion industry. A key emphasis was placed on embracing closed-loop and circular practices, with a focus on reducing, reusing, repairing, and recycling resources throughout the product lifecycle to minimise waste and maximise resource efficiency. These approaches align with the characteristics of circular business models discussed in existing literature (Geissdoerfer et al., 2016; Henry et al., 2020; Konietzko et al., 2020).

Interviewees discussed a range of business models that go beyond traditional linear approaches to production and consumption and offer

alternative ways towards more sustainable and circular practices within the fashion industry. Firstly, some participants are exploring the concept of product-as-a-service, where consumers pay for access to clothing or fashion products rather than owning them (Muylaert et al., 2024). This aligns with existing literature, which suggests that offering customers the option to rent fashion or clothing items or choose a subscription plan for desired items provides a flexible and sustainable alternative to traditional ownership (Barletta et al., 2024; Centobelli et al., 2022). By renting items or opting for a subscription plan for special occasions or everyday wear, consumers can access high-quality products without the commitment of ownership, thereby reducing the demand for new purchases and promoting resource (Khitous et al., 2022). This approach also encourages longevity and incentivises the production of durable and repairable garments (Pal and Gander, 2018).

Secondly, interviewees are selling second-hand products or facilitating peer-to-peer resale platforms allows organisations to extend the lifecycle of products, reduce waste, and provide consumers with affordable and sustainable alternatives to purchasing new items. Existing research underscored that by tapping into the growing market for pre-owned goods, organisations can promote circularity and reduce the environmental footprint of fashion consumption (Henry et al., 2020; Lang and Zhang, 2019; Szász et al., 2021). One of the interviewees noted that consumer demand for sustainable products at lower prices is driving the growth of second-hand opportunities and platforms:

“Consumers are wanting better quality, more sustainable products for a lower price than they're paying now. However, that's just impossible to be quite honest. So, second-hand opportunities and platforms are one answer to that one.” (P5)

Finally, similar to the findings of existing literature (Kant Hvass and Pedersen, 2019; Sudusinghe and Seuring, 2022), participants highlight that they are increasingly offering end-of-life options for their products, such as take-back programs, recycling initiatives, or upcycling services. By providing accessible and convenient ways for consumers to responsibly dispose of their products at the end of their lifecycle, organisations can close the loop on materials and minimise waste generation (Dissanayake and Weerasinghe, 2021; Sacconi et al., 2023). For instance, some interviewees mentioned that customers simply need to notify them if they want their product to be recycled, and the organisation sends them an envelope for easy return.

Building on existing research (Sandberg, 2023), the interviews conducted highlighted that incentivising sustainable behaviours through rewards and incentives can encourage consumers to embrace circular practices and participate in sustainable initiatives. Organisations may offer rewards, discounts, or loyalty programs for returning used products, recycling materials, or engaging in sustainable and circular behaviours.

Despite the potential benefits of these business models, interviewees acknowledged several challenges in their adoption and implementation. For instance, as underlined by existing literature, there exists a gap between consumer attitudes towards sustainability and their actual purchasing behaviours (Abdelmeguid et al., 2023; Blas Riesgo et al., 2023). Consumers may still prioritise convenience, affordability, or fashion trends over sustainability considerations when making purchasing decisions. Achieving widespread adoption of sustainable business models requires significant behavioural change among consumers, businesses, and stakeholders across the fashion value chain (Bertassini et al., 2021; Blas Riesgo et al., 2023).

Moreover, some of the interviewees argued that larger companies may face greater resistance to change due to their established business models, organisational structures, and stakeholder expectations, as suggested by Piller (2023). In a market driven by price, trends, and consumer preferences, organisations must compete not only on product quality and design but also on sustainability credentials. Differentiating themselves from competitors while maintaining profitability can be very

challenging, particularly for smaller companies with limited resources and brand recognition (García-Quevedo et al., 2020). Therefore, companies must carefully balance innovative business models and stakeholder engagement to create sustainable value in the fashion industry.

4.1.6. Theme 6: integration of technology

In the interviews conducted for this research, participants highlighted the significance of the integration of technology in driving innovation and transforming the fashion industry, thereby contributing to sustainable value. One interviewee underlined a compelling area where technology intersects with sustainability, philanthropy, and fashion, forming the four pillars guiding their approach. They discussed how technology facilitates their entire business model, which revolves around made-to-measure and on-demand manufacturing accessible through phones. With customisable design options and 3D simulations, customers can personalise their garments, aligning with business strategy and innovative models discussed in existing literature (Huynh, 2022). The participant noted:

“This all happens in less than a minute, and then it kind of travels through our digital ecosystem, if you will, and goes to the factory where it's there in 45 seconds where it gets made and shipped within two weeks.” (P6)

This business model minimises waste by producing only what is sold and reduces returns, thereby lowering carbon emissions and creating a more environmentally sustainable approach compared to typical retailers. The integration of technology not only enhances efficiency and customisation but also plays a pivotal role in moderating the negative environmental impacts (Abdelmeguid et al., 2023; P. Kumar et al., 2021). The interviewee also discussed incorporating digital IDs into garments to ensure accountability and transparency throughout the supply chain, while also providing consumers with guidance on sustainable end-of-life options. Another interviewee highlighted the use of technology to engage consumers through physical and digital products, which aligns with the growing use of blockchain and RFID technologies to create product digital passports that provide consumers with detailed information about the origins, materials, and production processes of their clothing items (Agrawal et al., 2021; Alves et al., 2022). By leveraging these technologies, companies can track and trace products throughout the supply chain, ensuring greater accountability and transparency in waste management and recycling processes. This approach aligns with the role of stakeholder engagement in achieving sustainability and circularity goals within the fashion industry. The implementation of these innovative technologies represents a significant step towards achieving sustainability and circularity goals within the fashion industry, albeit with ongoing challenges and opportunities for further advancement. For example, one interviewee noted:

“If you mix and match, you are contaminating loads of things. So, this is where the product passport comes in, where basically you know what, so the system will tell you this goes here, you don't need the sorter because it kind of goes automatically. This can go into organic fertiliser. This can be upcycled. This can be recycled. This can have a secondary life. So, this is the key thing because where we are now, we are on the right track, but it's still so much to do.” (P3)

Despite the transformative potential of the integration of technology, there were different opinions among interviewees regarding the impact on workforce skills. Some participants argued that increased automation would reduce the need for traditional training skills, as many tasks would be performed by machines or artificial intelligence. They foresee a future where advanced technologies would facilitate operations and minimise the need for manual labour. Conversely, other interviewees emphasised that advanced technologies would require a more skilled workforce capable of operating, maintaining, and innovating with these new systems. They highlighted the importance of investing in digital knowledge, data analysis, and technological expertise to leverage the

full potential of emerging technologies effectively. In their view, automation would enhance human capabilities rather than replace them, signalling the need for a more technology-proficient and adaptable workforce. This perspective aligns with the emphasis on workforce development and training in the literature on business strategy and innovative models in the fashion industry (Abdelmeguid et al., 2023; Sawe et al., 2021).

4.1.7. Theme 7: regulations and legislation

The interviews conducted for this research emphasised the crucial role of regulations and legislation on management strategies and business operations throughout the fashion industry's value chain, as emphasised in existing literature (Abdelmeguid et al., 2023; Colasante and D'adamo, 2021; Papamichael et al., 2022). Interviewees underscored that regulations serve as vital benchmarks, providing organisations with essential guidelines on various aspects including labour practices, environmental sustainability, and transparency in reporting.

By adhering to regulatory requirements, organisations demonstrate their commitment to corporate, environmental, and social responsibility and accountability, aligning with the concept of sustainable value in the fashion industry (Mizrachi and Tal, 2022). The interviewees highlighted that regulatory compliance is not merely a legal obligation but also a strategic advantage in a competitive market, supporting innovative models and business strategy (Ostermann et al., 2021). By proactively aligning with regulatory requirements and adopting sustainable practices, organisations distinguish themselves as industry leaders committed to ethical standards and environmental responsibility.

The interviews underscored that certifications provided by regulatory entities are instrumental in ensuring compliance and ethical practices across the entire value chain. From sourcing raw materials to manufacturing, distribution, and retailing. These certifications extend to all stakeholders involved in the production process, reducing the risks associated with labour violations, environmental footprint, and supply chain ambiguity, reinforcing their commitment to sustainable and circular business practices (Abbate et al., 2023).

Additionally, participants stressed the necessity for updated legislation to support sustainable practices, citing examples such as EU regulations on synthetics and emerging biobased materials. They viewed the legislation as a facilitator, simplifying communication and guiding sustainable and circular production practices. Moreover, consumers increasingly prioritise brands that demonstrate transparency and social responsibility, making regulatory compliance a key driver of brand reputation and market competitiveness.

Despite the industry's drive towards circularity, the findings of this study show that geopolitical circumstances often constrain their efforts. The interviews highlighted the challenge of navigating global policies and regulations for organisations in developing countries that lack the necessary infrastructure and resources to adhere to circularity and sustainability practices (Abbate et al., 2024). Additionally, some participants argued that larger companies with established systems may encounter difficulties in adapting to evolving regulations, requiring substantial investments in organisational change and compliance measures, as noted in Piller (2023). Conversely, in line with prior research (García-Quevedo et al., 2020), interviewees suggested that small to medium-sized enterprises (SMEs) might also struggle due to their constrained resources, unless sustainability and circularity initiatives are integrated into the business model from the start. Furthermore, inconsistencies in regulations can pose challenges for interpretation and implementation, requiring ongoing efforts to foster clarity and consistency in regulatory frameworks (Abdelmeguid et al., 2022; Tura et al., 2019). Participants expressed a desire for enhanced legislation to support circularity efforts, recognising its potential to benefit businesses and advance sustainability within the fashion industry.

4.1.8. Theme 8: strategic planning

In the interviews conducted for this research, participants

emphasised the critical role of strategic planning in driving sustainable growth and fostering responsible practices across the fashion industry. Strategic planning encompasses research, goal setting, and performance evaluation to ensure alignment with long-term objectives and values. Interviewees emphasised the importance of integrating comprehensive strategic planning approaches that consider economic, social, environmental metrics, and cultural factor, in line with existing literature (Svensson and Funck, 2019; Terra dos Santos et al., 2023).

Interviewees underscored the critical role of research in informing strategic planning processes and decision-making. Research allows organisations to understand market trends, consumer preferences, and emerging opportunities, forming a foundation for realistic and achievable long-term goals. By aligning strategic objectives with research insights, organisations can anticipate future challenges, identify growth opportunities, and position themselves for sustainable and circular success.

Strategic planning also requires balancing financial and social considerations to ensure sustainable growth and positive societal impact. Organisations must allocate resources efficiently, manage risks, and prioritise investments that support long-term sustainability goals (Hazen et al., 2020). For instance, one of the interviewees highlighted that diversifying revenue streams beyond traditional product creation can help organisations to explore new economic strategies. This could navigate the challenges of consumers' varying willingness to pay a circular premium for sustainable products, a challenge highlighted by D'adamo and Lupi (2021).

The participants highlighted that incorporating social factors such as labour rights, community engagement, and ethical sourcing practices is crucial for fostering responsible business practices and building trust with stakeholders, as noted in the study by Abbate et al. (2023). Additionally, considering cultural differences and individual preferences allows organisations to tailor their strategies to engage target demographics effectively, fostering meaningful connections and driving brand loyalty.

Effective strategic planning requires performance evaluation mechanisms that track progress towards sustainability and circularity goals

and assess the impact of initiatives. Interviewees pointed out that sales data, take-back, reprocessing rates, and circulation percentages, as well as snowball and word-of-mouth metrics offer significant insights into consumer engagement, product lifecycle management, and brand reputation within the fashion industry. This aligns with the findings of existing literature (Geissdoerfer et al., 2016; Konietzko et al., 2020), which emphasises the importance of environmental metrics such as energy efficiency, water consumption, raw materials usage, and carbon emissions in monitoring environmental impact, identify areas for improvement, and drive sustainability initiatives.

By incorporating these diverse performance indicators into strategic planning processes, organisations can align their sustainability and circularity goals with their broader business objectives, ensuring holistic and impactful progress towards a more sustainable and circular future for the fashion industry.

4.2. Theoretical implications

The theoretical implications of this study highlight the eight key themes identified in the interviews, which form the foundation of management practices and strategies that promote circular and sustainable behaviour in the fashion industry. These themes encompass collaborations, marketing strategies, product-related characteristics, education and awareness, business models, integration of technology, regulations and legislation, and strategic planning. By integrating these themes, organisations can align with Sustainable Development Goals (SDGs), primarily SDG12 (Responsible Consumption and Production).

The findings from the interviews informed the development of a holistic framework that situates the eight core themes at the centre of the value chain (Fig. 2). This framework underscores the interconnectedness of these themes across all stages of the value chain, emphasising their pivotal role in driving sustainable and circular practices throughout the industry. The framework also demonstrates the different managerial strategies associated with each stage. Ultimately, this study provides a theoretical foundation for implementing sustainable and circular practices in the fashion industry to achieve a more environmentally and

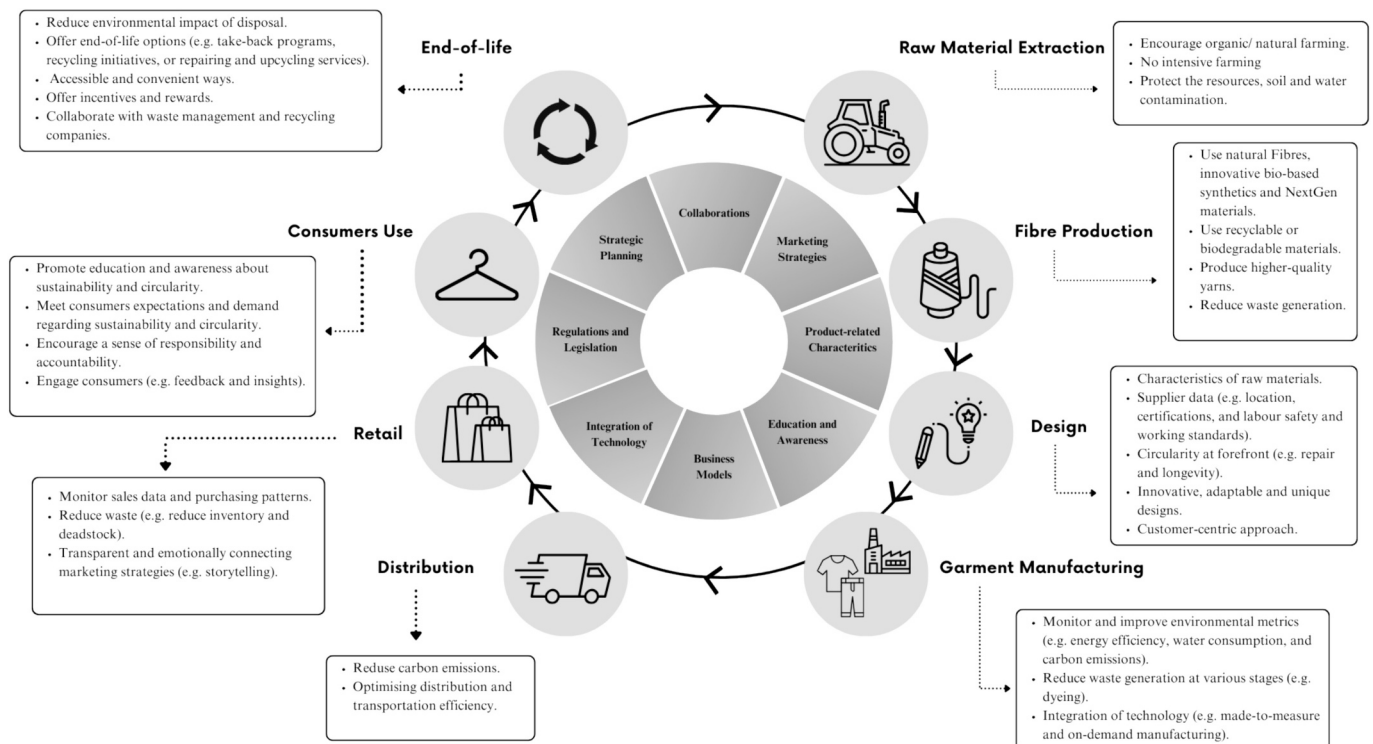


Fig. 2. Managerial implications: framework for promoting circular behaviour along the fashion value chain.

socially responsible industry.

4.3. Practical implications

The practical implications of the study, based on the interview findings, offer specific provide actionable insight for researchers, practitioners, and policymakers aiming to promote sustainability and circularity in the fashion industry:

In the raw material extraction phase, promoting organic and natural farming practices, avoiding intensive farming methods, and safeguarding resources to prevent soil and water contamination emerged as key strategies. These practices support SDG 12 (Responsible Consumption and Production) by reducing environmental pollution and safeguarding natural resources, such as water sources and soil, help moderate the negative impacts of overexploitation and degradation and ensure their availability for future generations. Additionally, by prioritising ecological integrity and resource conservation, these strategies promote a more sustainable and circular approach to raw material extraction, contributing to SDG 15 (Life on Land) overarching goals of protecting and preserving terrestrial ecosystems.

At the fibre production stage, the interviews emphasis was on utilising natural fibres, innovative bio-based synthetics, and NextGen materials, as well as producing recyclable or biodegradable materials and minimising waste generation. This promotes the development of sustainable alternatives to traditional fibres and enhances the potential for material recovery and reintegration into the production cycle, supporting SDG 12 (Responsible Consumption and Production) by implementing circularity principles to minimise waste and maximise resource efficiency.

The design phase is crucial for fostering sustainability and circularity within the fashion industry, as critical decisions made here influence the entire lifecycle of garments. By considering the characteristics of raw materials, designers can choose materials with lower environmental impact, such as organic or recycled fibres, thus promoting sustainability from the outset of the product lifecycle. Designing with circularity in mind involves incorporating features that facilitate repair, reusability, and longevity, ensuring that garments can be kept in circulation for longer periods, thereby aligning with SDG 12 by reducing waste and resource consumption. Additionally, fostering innovative and customer-centric designs encourages the development of products that meet consumer preferences while also aligning with sustainability goals such as SDG 9 (Industry, Innovation, and Infrastructure), driving sustainable innovation, market adoption and positive environmental outcomes throughout the value chain. Furthermore, incorporating supplier data, such as location, certifications, and labour standards, allows designers to make informed decisions that support ethical sourcing and production practices, promoting social responsibility throughout the supply chain.

In garment manufacturing, prioritising sustainability and circularity entails several key practices that contribute to environmental preservation and resource efficiency. By monitoring and enhancing environmental metrics, such as energy efficiency, water consumption, and carbon emissions, manufacturers can minimise their ecological footprint. Additionally, efforts to reduce waste generation throughout the manufacturing process help conserve resources and minimise landfill contributions. Moreover, integrating technology into garment manufacturing processes, such as implementing made-to-measure and on-demand manufacturing systems, enhances efficiency and reduces overproduction, thereby promoting sustainability by matching production levels with actual demand. These practices in garment manufacturing support both SDG 13 (Climate Action) and SDG 12 (Responsible Consumption and Production), by fostering responsible resource management and minimising environmental harm throughout the production process.

In distribution, by reducing carbon emissions and enhancing transportation efficiency associated with distribution processes. Moreover, efficient distribution and transportation practices enable companies to

minimise transportation-related costs, enhance operational efficiency, and improve overall supply chain performance. These practices allow companies to contribute to SDG 13 (Climate Action), aiming to mitigate climate change and minimise their environmental footprint. These practices also help companies reduce energy consumption and resource usage, supporting SDG 12.

In retail, monitoring sales data contribute to a better understanding of consumer preferences and demand patterns, enabling retailers to improve inventory management, optimise production and reduce overstocking. Additionally, implementing transparent and emotionally engaging marketing strategies fosters consumer awareness and engagement regarding sustainability issues, encouraging sustainable choices and responsible consumption practices. Therefore, these approaches support SDG 12 by promoting resource efficiency and minimising waste.

For consumers, promoting education and awareness about sustainability and circularity is crucial for fostering positive change in the fashion industry, aligning with SDG 4 (Quality Education) and SDG 12 (Responsible Consumption and Production). These initiatives enable more informed and sustainable consumption choices and behaviour. Moreover, meeting consumer expectations for sustainable and circular products and practices not only satisfy consumer demand but also encourages brands to prioritise sustainability in their products and services. Fostering a sense of responsibility among consumers empowers them to take ownership of their purchasing decisions and encourages them to support brands that align with their values. Furthermore, engaging consumers through feedback mechanisms allows brands to gather insights and understand consumer preferences, enabling them to tailor their products and practices to better meet sustainability and circularity goals in the fashion industry.

Lastly, in the end-of-life stage, adapting strategies to reduce the environmental impact of disposal is paramount for promoting sustainability and circularity in the fashion industry. By minimising the amount of clothing sent to landfills or incineration, brands can mitigate the environmental harm associated with waste disposal. Offering end-of-life options such as take-back programs, recycling initiatives, or repairing and upcycling services provides consumers with sustainable alternatives to traditional disposal methods, extending the lifespan of garments and reducing the need for new production. Providing accessible and convenient solutions for end-of-life garment disposal makes it easier for consumers to participate in sustainable practices, thereby increasing adoption rates and overall impact. Additionally, providing rewards and incentives to encourage consumer engagement in sustainable and circular behaviour. Furthermore, collaborating with waste management and recycling companies allows brands to leverage expertise and resources to effectively manage end-of-life processes and ensure that materials are recycled or disposed of responsibly. Together, these strategies contribute to are linked to SDG 12 (Responsible Consumption and Production) and SDG 11 (Sustainable Cities and Communities), aiming to close the loop on fashion waste and promote a more sustainable and circular approach to garment lifecycle management.

Despite the valuable insights derived from the interview findings and their comparison to existing literature, as well as the theoretical and practical implications of the study, there are some limitations to consider. Firstly, purposive sampling may introduce selection bias and limit the diversity of perspectives represented in the sample, which may limit the generalisation of the findings. Secondly, the interview findings and implications may be influenced by the current state of the fashion industry and its practices. The rapidly evolving nature of the industry and its trends present a challenge, which requires regular updates of the findings and implications as new and innovative practices and models emerge. Thirdly, the reliance on interviews may introduce potential subjectivity or bias in responses since participants' experiences and interpretations can vary. Fourthly, the eight core themes covered in the study provide a strong foundation but may not cover all factors affecting sustainability and circularity in the fashion industry. Lastly, while the

practical recommendations offer valuable guidance, their applicability may vary across different companies or regions within the industry. Thus, tailoring and adjusting these recommendations to suit specific contexts is essential for effective and successful implementation.

5. Conclusion

This study provided a comprehensive analysis of management practices and strategies shaping sustainability and circularity behaviours throughout the fashion value chain, offering insights and practical guidance for industry stakeholders. The study revealed eight key themes essential for effectively driving circular and sustainable practices in the fashion industry, aligning closely with SDG12, which promotes responsible consumption and production.

Collaboration with suppliers, recyclers, waste management organisations, and consumers enhances efficiency and innovation across the value chain. This approach supports SDG12 by encouraging the efficient use of resources to reduce waste. Leveraging storytelling and visual narratives conveys brand values and sustainability efforts, inspiring environmentally conscious purchasing decisions. Emphasising sustainable materials and fabrics, eco-friendly design and packaging, and product quality and uniqueness aligns with consumer expectations and reduces environmental impact, supporting SDG12's goal of minimising waste and promoting sustainable production. Educational initiatives such as workshops bridge knowledge gaps among stakeholders and foster positive change within the industry. Adopting circular business models such as rental, resale, and take-back programs extends the life-cycle of products and minimises waste, aligning with SDG12's focus on sustainable consumption and production. Integrating advanced technologies such as on-demand manufacturing, customisation, and digital IDs enhances innovation, improves supply chain transparency, and reduces waste. Proactively aligning with regulatory requirements and pursuing certifications demonstrates a commitment to ethical standards and environmental responsibility, strengthening brand reputation and market competitiveness. Comprehensive strategic planning that integrates economic, social, environmental, and cultural metrics allows organisations to balance financial and social considerations while monitoring progress towards sustainability and circularity goals.

By incorporating these strategies throughout the entire value chain—covering raw material extraction, fibre production, design, manufacturing, distribution, retail, and end-of-life stages—companies can advance environmental and social responsibility while driving meaningful progress across the industry. This holistic approach positions the fashion industry for impactful and sustainable success, leading the way towards a more sustainable and circular industry.

Future research should consider several key directions to build upon the findings of this study. Firstly, increasing the sample size and diversity of participants in future studies to enhance the generalisability. Moreover, employing mixed methods approaches that combine qualitative interviews with quantitative data collection can offer a more balanced perspective and reduce potential biases. Additionally, research should stay up to date with emerging trends, technologies, and regulations to capture the latest innovations and challenges. Furthermore, exploring other relevant factors beyond the eight core themes covered in this study, such as cultural and regional variations, can provide to a more holistic understanding of sustainability. Finally, longitudinal studies examining the long-term impacts of sustainable initiatives on consumer behaviour, industry practices, and environmental outcomes can offer valuable insights into the effectiveness of different approaches over time.

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CRedit authorship contribution statement

Aya Abdelmeguid: Writing – review & editing, Writing – original

draft, Formal analysis, Data curation, Conceptualization. **Mohamed Afy-Shararah:** Writing – review & editing, Supervision, Conceptualization. **Konstantinos Salonitis:** Writing – review & editing, Supervision, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

- Abbate, S., Centobelli, P., Cerchione, R., 2023. From fast to slow: an exploratory analysis of circular business models in the Italian apparel industry. *Int. J. Prod. Econ.* <https://doi.org/10.1016/j.ijpe.2023.108824>.
- Abbate, S., Centobelli, P., Cerchione, R., Nadeem, S.P., Riccio, E., 2024. Sustainability trends and gaps in the textile, apparel and fashion industries. In: *Environment, Development and Sustainability*, vol. 26, Issue 2. Springer Science and Business Media B.V., pp. 2837–2864. <https://doi.org/10.1007/s10668-022-02887-2>.
- 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. In: *Sustainable Production and Consumption*, vol. 32, pp. 505–518. <https://doi.org/10.1016/j.spc.2022.05.009>.
- Abdelmeguid, A., Afy-Shararah, M., Salonitis, K., 2023. Mapping of the circular economy implementation challenges in the fashion industry: a fuzzy-TISM analysis. *Circ. Econ. Sustain.* <https://doi.org/10.1007/s43615-023-00296-9>.
- 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. *Comput. Ind. Eng.* 154 <https://doi.org/10.1016/j.cie.2021.107130>.
- 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. In: *Waste Management and Research*, vol. 40, Issue 1. SAGE Publications Ltd., pp. 3–23. <https://doi.org/10.1177/0734242X211052858>.
- Aramendia-Muneta, M.E., Ollo-López, A., Simón-Elorz, K., 2022. Circular fashion: cluster analysis to define advertising strategies. *Sustainability (Switzerland)* 14 (20). <https://doi.org/10.3390/su142013365>.
- Barletta, M., D'Adamo, L., Garza-Reyes, J.A., Gastaldi, M., 2024. Business strategy and innovative models in the fashion industry: clothing leasing as a driver of sustainability. *Bus. Strat. Environ.* <https://doi.org/10.1002/bse.3723>.
- Bell, E., Bryman, A., Harley, B., 2019. *Business Research Methods (Fifth Edition)*. Oxford University Press.
- Bertassini, A.C., Ometto, A.R., Severengiz, S., Gerolamo, M.C., 2021. Circular economy and sustainability: the role of organisational behaviour in the transition journey. *Bus. Strat. Environ.* <https://doi.org/10.1002/bse.2796>.
- Blas Riesgo, S., Codina, M., Sádaba, T., 2023. Does sustainability matter to fashion consumers? Clustering fashion consumers and their purchasing behavior in Spain. *Fashion Pract.* 15 (1), 36–63. <https://doi.org/10.1080/17569370.2022.2051297>.
- Bocken, N.M.P., de Pauw, I., Bakker, C., van der Grinten, B., 2016. Product design and business model strategies for a circular economy. *J. Ind. Prod. Eng.* 33 (5), 308–320. <https://doi.org/10.1080/21681015.2016.1172124>.
- Bose, M.B., 2024. Uncomfortable quilts: textile-based activism in response to Bangladeshi garment factory disasters. *South Asian Hist. Cult.* <https://doi.org/10.1080/19472498.2023.2298624>.
- Braun, V., Clarke, V., 2022. *Thematic Analysis: A Practical Guide*. Sage.
- Bryman, A., 2012. *Social Research Methods (4th Edition)*. Oxford University Press.
- Burnes, B., Towers, N., 2016. Consumers, clothing retailers and production planning and control in the smart city. *Prod. Plan. Control* 27 (6), 490–499. <https://doi.org/10.1080/09537287.2016.1147097>.
- Camacho-Otero, J., Pettersen, I.N., Boks, C., 2019. Consumer engagement in the circular economy: exploring clothes swapping in emerging economies from a social practice perspective. *Sustain. Dev.* 28 (1), 279–293. <https://doi.org/10.1002/sd.2002>.
- Centobelli, P., Abbate, S., Nadeem, S.P., Garza-Reyes, J.A., 2022. Slowing the fast fashion industry: an all-round perspective. *Curr. Opin. Green Sustain. Chem.* 38 <https://doi.org/10.1016/J.COCS.2022.100684>.
- Chamberlin, L., Boks, C., 2018. Marketing approaches for a circular economy: using design frameworks to interpret online communications. *Sustainability (Switzerland)* 10 (6). <https://doi.org/10.3390/su10062070>.
- Charnley, F., Cherrington, R., Mueller, F., Jain, A., Nelson, C., Wendland, S., Ventosa, S., 2024. Retaining product value in post-consumer textiles: how to scale a closed-loop system. *Resour. Conserv. Recycl.* 205, 107542 <https://doi.org/10.1016/j.resconrec.2024.107542>.
- Clark, T., Foster, L., Sloan, L., Bryman, A., 2021. *Bryman's Social Research Methods (Sixth Edition)*. Oxford University Press.

- Claxton, S., Kent, A., 2020. The management of sustainable fashion design strategies: an analysis of the designer's role. *J. Clean. Prod.* 268, 122112 <https://doi.org/10.1016/j.jclepro.2020.122112>.
- Colasante, A., D'adamo, I., 2021. The circular economy and bioeconomy in the fashion sector: emergence of a 'sustainability bias'. *J. Clean. Prod.* 329, 129774 <https://doi.org/10.1016/j.jclepro.2021.129774>.
- D'adamo, I., Lupi, G., 2021. Sustainability Sustainability and Resilience After COVID-19: A Circular Premium in the Fashion Industry. <https://doi.org/10.3390/su13041861>.
- D'Adamo, I., Lupi, G., Morone, P., Settembre-Blundo, D., 2022. Towards the circular economy in the fashion industry: the second-hand market as a best practice of sustainable responsibility for businesses and consumers. *Environ. Sci. Pollut. Res.* 29 (31), 46620–46633. <https://doi.org/10.1007/s11356-022-19255-2>.
- Dainelli, F., Daddi, T., Marrucci, L., 2024. Financial sustainability of circular innovations in SMEs. A case study from the fashion industry in Italy. *J. Clean. Prod.* 451 <https://doi.org/10.1016/j.jclepro.2024.142042>.
- Dan, M.C., Ciorrea, A., Mayer, S., 2023. The refashion circular design strategy — changing the way we design and manufacture clothes. *Des. Stud.* 88, 101205 <https://doi.org/10.1016/j.destud.2023.101205>.
- Degestein, L.M., McQueen, R.H., Krogman, N.T., McNeill, L.S., 2023. Integrating product stewardship into the clothing and textile industry: perspectives of New Zealand stakeholders. *Sustainability (Switzerland)* 15 (5). <https://doi.org/10.3390/su15054250>.
- Del Giudice, M., Chierici, R., Mazzucchelli, A., Fiano, F., 2020. Supply chain management in the era of circular economy: the moderating effect of big data. *Int. J. Logist. Manag.* 32 (2), 337–356. <https://doi.org/10.1108/IJLM-03-2020-0119>.
- Dissanayake, G., Perera, S., 2016. New approaches to sustainable fibres. In: *Sustainable Fibres for Fashion Industry*, vol. 2. Springer, pp. 1–12. <http://www.springer.com/series/13340>.
- Dissanayake, G., Weerasinghe, D., 2021. Towards Circular Economy in Fashion: Review of Strategies, Barriers and Enablers. *Circular Economy and Sustainability*. <https://doi.org/10.1007/s43615-021-00090-5>.
- Ellen MacArthur Foundation, 2017. Fashion and the circular economy. <https://www.ellenmacarthurfoundation.org/explore/fashion-and-the-circular-economy>.
- European Commission, 2022. Communication from the commission to the European Parliament, the council, the European economic and social committee and the Committee of the Regions: EU strategy for sustainable and circular textiles. <https://ec.europa.eu/eurostat>.
- Foster, C., Brindley, C., 2018. Female entrepreneurial networking in the marketing services sector. *Qual. Mark. Res. Int. J.* 21 (2), 182–201.
- Gabriel, M., Luque, M.L.D., 2020. Sustainable development goal 12 and its relationship with the textile industry. In: Gardetti, M.A., Muthu, S.S. (Eds.), *The UN Sustainable Development Goals for the Textile and Fashion Industry*. Textile Science and Clothing Technology. Springer. <http://www.springer.com/series/13111>.
- García-Ortega, B., Galan-Cubillo, J., Llorens-Montes, F.J., de Miguel-Molina, B., 2023. Sufficient consumption as a missing link toward sustainability: the case of fast fashion. *J. Clean. Prod.* 399 <https://doi.org/10.1016/j.jclepro.2023.136678>.
- García-Quevedo, J., Jové-Llopis, E., Martínez-Ros, E., 2020. Barriers to the circular economy in European small and medium-sized firms. *Bus. Strat. Environ.* 29 (6), 2450–2464. <https://doi.org/10.1002/bse.2513>.
- Geissdoerfer, M., Savaget, P., Bocken, N.M.P., Hultink, E.J., 2016. The circular economy e a new sustainability paradigm? *J. Clean. Prod.* <https://doi.org/10.1016/j.jclepro.2016.12.048>.
- Gomes, G.M., Moreira, N., Bouman, T., Ometto, A.R., van der Werff, E., 2022. Towards circular economy for more sustainable apparel consumption: testing the value-belief-norm theory in Brazil and in the Netherlands. *Sustainability (Switzerland)* 14 (2). <https://doi.org/10.3390/su14020618>.
- Hansen, E.G., Schmitt, J.C., 2021. Orchestrating cradle-to-cradle innovation across the value chain: overcoming barriers through innovation communities, collaboration mechanisms, and intermediation. *J. Ind. Ecol.* 25 (3), 627–647. <https://doi.org/10.1111/jiec.13081>.
- Hazen, B.T., Russo, I., Confente, I., Pellathy, D., 2020. Supply chain management for circular economy: conceptual framework and research agenda. *Int. J. Logist. Manag.* 32 (2), 510–537. <https://doi.org/10.1108/IJLM-12-2019-0332>.
- Hellström, D., Olsson, J., 2024. Let's go thrift shopping: exploring circular business model innovation in fashion retail. *Technol. Forecast. Soc. Chang.* 198 <https://doi.org/10.1016/j.techfore.2023.123000>.
- Henninger, C.E., Alevizov, P.J., Oates, C.J., 2016. What is sustainable fashion? *J. Fashion Mark. Manag.* 20 (4), 400–416. <https://doi.org/10.1108/JFMM-07-2015-0052>.
- Henninger, C.E., Bürklin, N., Niinimäki, K., 2019. The clothes swapping phenomenon — when consumers become suppliers. *J. Fashion Mark. Manag.* 23 (3), 327–344. <https://doi.org/10.1108/JFMM-04-2018-0057>.
- Hennink, M., Kaiser, B.N., 2022. Sample sizes for saturation in qualitative research: a systematic review of empirical tests. *Soc Sci Med* 292. <https://doi.org/10.1016/j.socscimed.2021.114523>.
- Henry, M., Bauwens, T., Hekkert, M., Kirchherr, J., 2020. A typology of circular start-ups: analysis of 128 circular business models. *J. Clean. Prod.* 245 <https://doi.org/10.1016/j.jclepro.2019.118528>.
- Hina, M., Chauhan, C., Kaur, P., Kraus, S., Dhir, A., 2022. Drivers and barriers of circular economy business models: where we are now, and where we are heading. *J. Clean. Prod.* 333 <https://doi.org/10.1016/j.jclepro.2021.130049>.
- Huynh, P.H., 2022. Enabling circular business models in the fashion industry: the role of digital innovation. *Int. J. Product. Perform. Manag.* 71 (3), 870–895. <https://doi.org/10.1108/IJPPM-12-2020-0683>.
- Jia, F., Yin, S., Chen, L., Chen, X., 2020. The circular economy in the textile and apparel industry: a systematic literature review. In: *Journal of Cleaner Production*, vol. 259. Elsevier Ltd. <https://doi.org/10.1016/j.jclepro.2020.120728>.
- Joyner Armstrong, C.M., Kang, J., Lang, C., 2018. Clothing style confidence: the development and validation of a multidimensional scale to explore product longevity. *J. Consum. Behav.* 17 (6), 553–568. <https://doi.org/10.1002/cb.1739>.
- Kant Hvass, K., Pedersen, E.R.G., 2019. Toward circular economy of fashion: experiences from a brand's product take-back initiative. *J. Fashion Mark. Manag.* 23 (3), 345–365. <https://doi.org/10.1108/JFMM-04-2018-0059>.
- Karadayi-Usta, S., 2023. A novel neutrosophical approach in stakeholder analysis for sustainable fashion supply chains. *J. Fashion Mark. Manag.* 27 (2), 370–394. <https://doi.org/10.1108/JFMM-03-2022-0044>.
- Khitous, F., Urbinati, A., Verleye, K., 2022. Product-service systems: a customer engagement perspective in the fashion industry. *J. Clean. Prod.* 336 <https://doi.org/10.1016/j.jclepro.2022.130394>.
- Ki, C.W., Park, S., Ha-Brookshire, J.E., 2021. Toward a circular economy: understanding consumers' moral stance on corporations' and individuals' responsibilities in creating a circular fashion economy. *Bus. Strat. Environ.* 30 (2), 1121–1135. <https://doi.org/10.1002/bse.2675>.
- Konietzko, J., Baldassarre, B., Brown, P., Bocken, N., Hultink, E.J., 2020. Circular business model experimentation: demystifying assumptions. *J. Clean. Prod.* 277 <https://doi.org/10.1016/j.jclepro.2020.122596>.
- Kumar, P., Singh, R.K., Kumar, V., 2021. Managing supply chains for sustainable operations in the era of industry 4.0 and circular economy: analysis of barriers. *Resour. Conserv. Recycl.* 164 <https://doi.org/10.1016/j.resconrec.2020.105215>.
- Kumar, L., Kamil, I., Ahmad, M., Naqvi, S.A., Deitch, M.J., Amjad, A.Q., Kumar, A., Basheer, S., Arshad, M., Sassanelli, C., 2022. In-house resource efficiency improvements supplementing the end of pipe treatments in textile SMEs under a circular economy fashion. *Front. Environ. Sci.* 10 <https://doi.org/10.3389/fenvs.2022.1002319>.
- Lang, C., Zhang, R., 2019. Second-hand clothing acquisition: the motivations and barriers to clothing swaps for Chinese consumers. *Sustain. Prod. Consum.* 18, 156–164. <https://doi.org/10.1016/j.spc.2019.02.002>.
- Lang, C., Zhang, R., 2024. Motivators of circular fashion: the antecedents of Chinese consumers' fashion renting intentions. *Sustainability (Switzerland)* 16 (5). <https://doi.org/10.3390/su16052184>.
- Lee, J.H., Ahn, J., Kim, J., 2018. Theoretical competence model of fashion designers in co-designed fashion systems. *Fash. Pract.* 10 (3), 381–404. <https://doi.org/10.1080/17569370.2018.1507150>.
- Liu, C., Bernardoni, J.M., Wang, Z., 2023. Examining generation Z consumer online fashion resale participation and continuance intention through the Lens of consumer perceived value. *Sustainability (Switzerland)* 15 (10). <https://doi.org/10.3390/su15108213>.
- Manshoven, S., Christis, M., Vercalsteren, A., Arnold, M., Lafond, E., Mortensen, L.F., Coscieme, L., 2022. Textiles and the Environment in a Circular Economy the Role of Design in Europe's Circular Economy.
- Mizrachi, M.P., Tal, A., 2022. Regulation for promoting sustainable, fair and circular fashion. *Sustainability (Switzerland)* 14 (1). <https://doi.org/10.3390/su14010502>.
- Monticelli, A., Costamagna, M., 2023. Environmental assessment of the rental business model: a case study for formal wear. *Environ. Dev. Sustain.* 25 (8), 7625–7643. <https://doi.org/10.1007/s10668-022-02363-x>.
- Moran, C.A., Eichelmann, E., Buggy, C.J., 2021. The challenge of "Depeche mode" in the fashion industry—does the industry have the capacity to become sustainable through circular economic principles, a scoping review. In: *Sustainable Environment*, vol. 7, issue 1. Taylor and Francis Ltd. <https://doi.org/10.1080/27658511.2021.1975916>.
- Morseletto, P., 2020. Targets for a circular economy. *Resour. Conserv. Recycl.* 153 <https://doi.org/10.1016/j.resconrec.2019.104553>.
- Musova, Z., Musa, H., Drugdova, J., Lazaroiu, G., Alayasa, J., 2021. Consumer attitudes towards new circular models in the fashion industry. *J. Compet.* 13 (3), 111–128. <https://doi.org/10.7441/joc.2021.03.07>.
- Muylaert, C., Tunn, V.S.C., Maréchal, K., 2024. On the attractiveness of clothing libraries for women: investigating the adoption of product-service systems from a practice-based perspective. *Sustain. Prod. Consum.* 45, 359–370. <https://doi.org/10.1016/j.spc.2024.01.012>.
- Niero, M., Hauschild, M.Z., Hoffmeyer, S.B., Olsen, S.I., 2017. Combining eco-efficiency and eco-effectiveness for continuous loop beverage packaging systems: lessons from the Carlsberg circular community. *J. Ind. Ecol.* 21 (3), 742–753. <https://doi.org/10.1111/jiec.12554>.
- Niinimäki, K., 2017. *Fashion in a circular economy*. In: *Sustainability in Fashion*. Springer International Publishing, pp. 151–169.
- Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., Gwilt, A., 2020. The environmental price of fast fashion. *Nat. Rev. Earth Environ.* 1 (4), 189–200. <https://doi.org/10.1038/s43017-020-0039-9>.
- Ostermann, C.M., Nascimento, L. da S., Steinbruch, F.K., Callegaro-de-Menezes, D., 2021. Drivers to implement the circular economy in born-sustainable business models: a case study in the fashion industry. *Revista de Gestão* 28 (3), 223–240. <https://doi.org/10.1108/rege-03-2020-0017>.
- Pal, R., Gander, J., 2018. Modelling environmental value: an examination of sustainable business models within the fashion industry. *J. Clean. Prod.* 184, 251–263. <https://doi.org/10.1016/j.jclepro.2018.02.001>.
- Papamichael, I., Chatziparaskeva, G., Pedreño, J.N., Voukalli, I., Almendro Candel, M.B., Zorpas, A.A., 2022. Building a new mind set in tomorrow fashion development through circular strategy models in the framework of waste management. In: *Current Opinion in Green and Sustainable Chemistry*, vol. 36. Elsevier B.V. <https://doi.org/10.1016/j.cogsc.2022.100638>.
- Papamichael, I., Chatziparaskeva, G., Voukalli, I., Navarro Pedreño, J., Jeguirim, M., Zorpas, A.A., 2023a. The perception of circular economy in the framework of fashion industry. *Waste Manage. Res.* 41 (2), 251–263. <https://doi.org/10.1177/0734242X221126435>.

- Papamichael, I., Voukkali, I., Loizia, P., Rodriguez-Espinosa, T., Pedreño, J.N., Zorpas, A. A., 2023b. Textile waste in the concept of circularity. *Sustain. Chem. Pharm.* 32, 100993 <https://doi.org/10.1016/j.scp.2023.100993>.
- Papamichael, I., Voukkali, I., Economou, F., Loizia, P., Demetriou, G., Esposito, M., Naddeo, V., Liscio, M.C., Sospiro, P., Zorpas, A.A., 2024. Mobilisation of textile waste to recover high added value products and energy for the transition to circular economy. In: *Environmental Research*, vol. 242. Academic Press Inc. <https://doi.org/10.1016/j.envres.2023.117716>
- Park, H.J., Lin, L.M., 2020. Exploring attitude–behavior gap in sustainable consumption: comparison of recycled and upcycled fashion products. *J. Bus. Res.* 117, 623–628. <https://doi.org/10.1016/j.jbusres.2018.08.025>.
- Piller, L., 2023. Designing for circularity: sustainable pathways for Australian fashion small to medium enterprises. *J. Fashion Mark. Manag.* 27 (2), 287–310. <https://doi.org/10.1108/JFMM-09-2021-0220>.
- Reike, D., Hekkert, M.P., Negro, S.O., 2023. Understanding circular economy transitions: the case of circular textiles. *Bus. Strateg. Environ.* 32 (3), 1032–1058. <https://doi.org/10.1002/bse.3114>.
- Richardson, J., 2008. The business model: an integrative framework for strategy execution. *Strateg. Chang.* 17 (5–6), 133–144. <https://doi.org/10.1002/jsc.821>.
- Riva, F., Magrizos, S., Rubel, M.R.B., 2021. Investigating the link between managers' green knowledge and leadership style, and their firms' environmental performance: the mediation role of green creativity. *Bus. Strateg. Environ.* <https://doi.org/10.1002/bse.2799>.
- Saccani, N., Bressanelli, G., Visintin, F., 2023. Circular supply chain orchestration to overcome circular economy challenges: an empirical investigation in the textile and fashion industries. *Sustain. Prod. Consum.* 35, 469–482. <https://doi.org/10.1016/j.spc.2022.11.020>.
- Sandberg, E., 2023. Orchestration capabilities in circular supply chains of post-consumer used clothes – a case study of a Swedish fashion retailer. *J. Clean. Prod.* 387 <https://doi.org/10.1016/j.jclepro.2023.135935>.
- Sandvik, I.M., Stubbs, W., 2019. Circular fashion supply chain through textile-to-textile recycling. *J. Fashion Mark. Manag.* 23 (3), 366–381. <https://doi.org/10.1108/JFMM-04-2018-0058>.
- Saunders, M., Lewis, P., Thornhill, A., 2019. *Research Methods for Business Students*, 8th edition. Pearson Education.
- Saunders, M., Lewis, P., Thornhill, A., 2023. *Research Methods for Business Students*, Ninth edition. Pearson.
- Sawe, F.B., Kumar, Jose, A., Garza-Reyes, A., Agrawal, R., 2021. Assessing People-driven Factors for Circular Economy Practices in Small and Medium-sized Enterprise Supply Chains: Business Strategies and Environmental Perspectives. <https://doi.org/10.1002/bse.2781>.
- Shrivastava, A., Jain, G., Kamble, S.S., Belhadi, A., 2021. Sustainability through online renting clothing: circular fashion fueled by instagram micro-celebrities. *J. Clean. Prod.* 278 <https://doi.org/10.1016/j.jclepro.2020.123772>.
- Smith, P., 2023, August 31. Global apparel market - statistics & facts. Statista. https://www.statista.com/topics/5091/apparel-market-worldwide/#topicHeader_wapper.
- Stewart, R., Niero, M., Murdock, K., Olsen, S.I., 2018. Exploring the implementation of a circular economy strategy: the case of a closed-loop supply of aluminum beverage cans. *Procedia CIRP* 69, 810–815. <https://doi.org/10.1016/j.procir.2017.11.006>.
- Sudusinghe, J.I., Seuring, S., 2022. Supply chain collaboration and sustainability performance in circular economy: a systematic literature review. *Int. J. Prod. Econ.* 245 <https://doi.org/10.1016/j.ijpe.2021.108402>.
- Svensson, N., Funck, E.K., 2019. Management Control in Circular Economy. Exploring and Theorizing the Adaptation of Management Control to Circular Business Models. <https://doi.org/10.1016/j.jclepro.2019.06.089>.
- Szász, L., Demeter, K., Rácz, B.G., Losonci, D., 2021. Industry 4.0: a review and analysis of contingency and performance effects. *J. Manuf. Technol. Manag.* 32 (3), 667–694. <https://doi.org/10.1108/JMTM-10-2019-0371>.
- Terra dos Santos, L.C., Giannetti, B.F., Agostinho, F., Liu, G., Almeida, C.M.V.B., 2023. A multi-criteria approach to assess interconnections among the environmental, economic, and social dimensions of circular economy. *J. Environ. Manage.* 342 <https://doi.org/10.1016/j.jenvman.2023.118317>.
- Trevisan, A.H., Castro, C.G., Gomes, L.A.V., Mascarenhas, J., 2022. Unlocking the circular ecosystem concept: Evolution, current research, and future directions. In: *Sustainable Production and Consumption*, vol. 29. Elsevier B.V, pp. 286–298. <https://doi.org/10.1016/j.spc.2021.10.020>.
- Tura, N., Hanski, J., Ahola, T., Stähle, M., Piiparinen, S., Valkokari, P., 2019. Unlocking circular business: a framework of barriers and drivers. *J. Clean. Prod.* 212, 90–98. <https://doi.org/10.1016/j.jclepro.2018.11.202>.
- Vehmas, K., Raudaskoski, A., Heikkilä, P., Harlin, A., Mensonen, A., 2018. Consumer attitudes and communication in circular fashion. *J. Fashion Mark. Manag.* 22 (3), 286–300. <https://doi.org/10.1108/JFMM-08-2017-0079>.
- Wang, C.H., Juo, W., 2021. An environmental policy of green intellectual capital: green innovation strategy for performance sustainability. *Bus. Strat. Environ.* <https://doi.org/10.1002/bse.2800>.
- Wiegand, T., Wynn, M., 2023. Sustainability, the circular economy and digitalisation in the German textile and clothing industry. *Sustainability (Switzerland)* 15 (11). <https://doi.org/10.3390/su15119111>.
- Woodside, A.G., Fine, M.B., 2019. Sustainable fashion themes in luxury brand storytelling: the sustainability fashion research grid. *J. Glob. Fashion Market.* 10 (2), 111–128. <https://doi.org/10.1080/20932685.2019.1573699>.

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