

REVIEW ARTICLE



WILEY

Mapping sustainable options in the fashion industry: A systematic literature review and a future research agenda

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Abstract

The fashion industry accounts for large impacts on the environment and social welfare, both on the consumers' and companies' sides. This study systematically reviews the literature on sustainable consumption in the fashion industry, clarifying sustainable fashion's meaning. Existing sustainable fashion solutions are investigated from consumers' behavior perspective and classified into three consumption phases, that is, (pre-)purchase, use, and post-use. 187 articles are included, and twenty-six sustainable solutions are identified across the consumption phases. These include techniques, features, services, and behaviors able to increase garment sustainability by mitigating negative impacts and ensuring product circularity by recycling and/or reusing at the product's end of life, representing promising strategies for fostering a transition toward sustainable fashion consumption practices. An innovative and comprehensive framework of sustainable fashion solutions is developed. Future research agenda and a sustainable offering inventory for marketers are provided.

KEYWORDS

fashion industry, literature review, product life cycle, sustainable consumption, sustainable fashion, sustainable solutions

1 | INTRODUCTION

This introduction is divided into four subsections. Section 1.1 concerns the environmental impact of the fashion industry and the link between sustainable fashion and Sustainable Development Goals (SDGs) proposed by the United Nations (UN). Section 1.2 introduces the sustainable fashion concept and presents its definitions according to the existing literature. Section 1.3 highlights the gap in the literature and presents the research question. Finally, Section 1.4 deals with the contributions and the structure of the paper.

1.1 | Environmental impact of the fashion industry and implications for sustainable development

The fashion industry is receiving increasing attention from a sustainability perspective due to the large environmental and social impacts it sparks. Indeed, most fashion firms operate through low-cost mass production, selling products at cheap prices following the newest trends, and encouraging consumers to buy more than they need, generating negative environmental and social externalities (Dissanayake & Sinha, 2015; Luoma et al., 2022; Ramkumar et al., 2021). Further, these negative impacts are manifold and

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distributed along the value chain (Majumdar et al., 2020; McKinsey and Global Fashion Agenda, 2020; Pedersen & Andersen, 2015). The clothing production stage is responsible for most of the total impact. These impacts are caused by the high water and energy consumption for fiber production and treatment, as well as the use of harmful chemical agents (e.g., during the dyeing processes), together with the social impacts relating to worker exploitation and child labor (Ki et al., 2020; Mazotto et al., 2021; Pal & Gander, 2018). The use and disposal phases also account for significant impacts, mainly in terms of high energy consumption and microfibers release during clothing maintenance (e.g., laundry), as well as high pressure on landfills due to the enormous quantity of garments disposed of and the improper disposal (e.g., Liu et al., 2021; Paço et al., 2021; Rehman et al., 2024). Therefore, since the sustainability goals are linked to the improvement of both environmental and social performance (Rahman et al., 2022), in this review we use the word “sustainable” to include the environmental and social dimensions of sustainability together.

Given the extent of these impacts, the European Commission has included textiles in the priority product categories for the Circular Economy Action Plan (European Commission, 2019a) and has recently developed a specific strategy targeted to this industry (European Commission, 2022). A transition of the fashion industry toward sustainability is critical, implies structural changes, and should be supported by the political decisions of each state (Da Giau et al., 2020; Johnstone & Newell, 2018). Combining and managing efforts of the multiple supply chain actors can play an essential role in lowering negative sustainability impacts (Sarkis et al., 2019) and fostering sustainable development through responsible innovation (Cha & Park, 2023). Both companies – which can develop new sustainable textile products, as well as suggest innovative sustainable strategies of clothing use and disposal – and consumers – who can adopt sustainable consumption behaviors – can play a crucial role in reducing the environmental pressure of the fashion industry. Sustainable fashion can contribute significantly to achieving several of the UN SDGs, encompassing “Responsible Consumption and Production” (SDG 12), by developing and promoting sustainable production and consumption practices; “Climate Action” (SDG 13), by mitigating the polluting emissions of the fashion industry; “Life Below Water and Life on Land” (SDGs 14 and 15) by promoting biodiversity conservation and minimizing habitat destruction associated to clothing production and consumption, reducing the use of harmful chemicals and the microplastic release; “Decent Work and Economic Growth” (SDG 8) by prioritizing fair labor practices and providing safe working conditions; and “Partnerships for the Goals” (SDG 17) since it requires establishing collaborations and partnerships among various stakeholders to drive systemic change toward sustainability targets. Thus, models of sustainable production and consumption in the fashion industry are fundamental approaches to solving the issues related to environmental and social impacts of this critical industry.

1.2 | Sustainable fashion

The first examples of sustainable fashion date back to the 1960s, when consumers became more aware of the environmental impacts

of the industry and asked firms for a change. However, only after numerous awareness campaigns in the 1980s and 1990s, a growing interest in this matter was reported (Henninger et al., 2016; Jung & Jin, 2014). In the early 2000s, sustainable fashion passed from a niche market to a stable commercial reality, driven by fashion firms' efforts to increase sustainable production (e.g., fair trade, organic, or recycled clothing) and through several promotion initiatives (Beard, 2008). Recent years have been characterized by a further increase in sustainable fashion product offers, with several firms involved in the research and development of new sustainable materials, fibers, and processes (e.g., bioplastic, vegan leather, lyocell, natural dye), as well as fast fashion brands launching new product lines with sustainable features (e.g., H&M conscious collection). Vintage style nowadays is in trend and second-hand clothing has increased its market share. Likewise, recently, consumers' care for sustainability has risen, as well as habits and routines have shifted toward more sustainable ones (BCG, 2018), for example, slow consumption culture (see Fletcher, 2010); the Covid-19 pandemic has further fostered these processes (Dangelico, Schiaroli, & Fraccascia, 2022). However, despite this positive trend, the fashion industry is still far from being sustainable.

A growing number of studies dealt with sustainable fashion in the past few years. Concerning sustainable fashion characterization, several definitions of sustainable fashion have been developed in the literature. Table 1 reports several key definitions.¹ Some refer to and keep the focus on certain types of products (e.g., Joergens, 2006; Papadopoulou et al., 2021), others on production methods (e.g., McKeown & Shearer, 2019), others remain generic (e.g., Castro-López et al., 2021), while others consider the entire production and consumption system (e.g., Lundblad & Davies, 2016; Thomas, 2008; Woodside & Fine, 2019). Thereby, Henninger et al. (2016) concluded that what sustainable fashion entails can be defined in different ways from different realities.

1.3 | Gap in the literature and research question

The concept of sustainable fashion is ample and is associated with different attributes. Indeed, in the literature on sustainable fashion consumption, adjectives like “green”, “eco”, “slow”, “ethical”, and “sustainable” are equally associated with fashion to define the same concept (Bakış & Kitapçı, 2023; Castro-López et al., 2021; Hasbullah et al., 2022), with the risk of creating confusion among researchers, business, and consumers (Thomas, 2008). Further, extant literature underscores that the sustainable fashion concept is not clear among consumers, and future research endeavors should clarify the matter to facilitate the study of sustainable behaviors (Strübel et al., 2023). Thus, understanding what such terms encompass is crucial.

Many of the studies available in the literature concern sustainable fashion consumption and are aimed at exploring consumer behavior toward several sustainable fashion solutions – that is, investigating purchase behavior toward recycled (Kumagai, 2020; Şener et al., 2023) or organic garments (Davis & Dabas, 2021; Han, 2019), as well as the consumer adoption of laundry practices (McQueen et al., 2020; Yates & Evans, 2016), repair activities (Laitala &

TABLE 1 Sustainable fashion definitions.

Definition	Reference
"The broadest view of sustainable fashion to encompass the myriad of issues of an ethical or environmental nature in the production and consumption of fashion"	(Lundblad & Davies, 2016, p. 150)
"Sustainable fashion, also known as "eco fashion", is a part of the growing design, manufacturing, and use philosophy and trend toward maintainability, the goal of which is to create a system which is supportable indefinitely in terms of human impact on the environment and social responsibility. Sustainable fashion is an alternative trend against fast fashion."	(Woodside & Fine, 2019, p. 113)
Sustainable fashion refers to "the positive impact of a designer, a consumer choice, a method of production as experienced by workers, consumers, animals, society, and the environment."	(Thomas, 2008, p. 525)
"Sustainable fashion includes the variety of means by which a fashion item or behavior could be perceived to be more sustainable, including (but not limited to) environmental, social, slow fashion, reuse, recycling, cruelty-free and anti-consumption and production practice."	(Mukendi et al., 2020)
Sustainable fashion refers to "any garment or accessory that respects the environment, human health and workers, and promotes the use of sustainable materials, the reuse of existing materials and local production."	(Castro-López et al., 2021, p. 2)
"Ethical fashion aims to minimize the impact on the environment using biodegradable or organic cotton, and maximizing the benefit for workers by avoiding sweatshop and incorporating fair working conditions"	(Wiederhold & Martinez, 2018, p. 419)
"Sustainable fashion can be defined as eco-designed fashion products, a slow fashion, a long-term relationship with clothing and a capacity to be ethical, an environmentally responsible behavior when buying and wearing clothing, a sustainable clothing consumption practice that can improve sustainable apparel consumption in terms of environment-friendly appearance."	(Davidavičienė et al., 2019, p. 52)
"The sustainable fashion concept is associated with fair working conditions, a sustainable business model, organic and environmentally friendly materials, certifications, and traceability and has emerged in response to growing awareness and concern about the negative, environmental and human impact of the global fashion industry."	(McKeown & Shearer, 2019, p. 406)
"Sustainable fashion is defined as clothing that encompasses fair trade principles with sweatshop-free labor conditions; that is not harmful to the environment or workers though the use of biodegradable and organic cotton and designed for long-term use; that is produced in an ethical production system, if possible, locally; that causes little or no environmental impact and makes use of eco-labeled or recycled materials."	(Papadopoulou et al., 2021, p. 354)
"Ethical fashion can be defined as fashionable clothes that incorporate fair trade principles with sweatshop-free labor conditions while not harming the environment or workers by using biodegradable and organic cotton."	(Joergens, 2006, p. 361)
"Eco-fashion means fashion clothing made in an eco-friendly way. Frequently, eco-fashion items are made with biodegradable or recycled materials such as corn fiber, and eco-fabrics are made with eco-technologies, such as natural dyes and socially responsible processes such as fair-trade sourcing. These materials and production processes benefit consumers, society, and companies by providing unique experiences to consumers."	(Fu & Kim, 2019, p. 220)
"Eco fashion is defined as garments which are designed and produced to increase benefits for people and society while decreasing a garment's negative environmental effects."	(Iran & Schrader, 2017, p. 470)

Klepp, 2018; McNeill, Hamlin, McQueen, Degenstein, Wakes, et al., 2020), and disposal methods (Paço et al., 2021; Bianchi and Birtwistle, 2012), together with the determinants of these behaviors. Notably, most of these studies are focused on a single sustainable product or a single consumption phase (e.g., Iran et al., 2019; Khare, 2023). Conversely, few studies compare different sustainable products – for example, Dangelico, Alvino, and Fraccascia (2022) studied the influence of consumer's environmental concerns, perceived value, and consumer familiarity with the product on purchase intention and willingness to pay a premium price for bio-based, organic, and recycled garments – or investigates together multiple consumption phases – for example, McNeill, Hamlin, McQueen, Degenstein, Wakes, et al. (2020) focused on garments life extension strategies exploring which factors influence consumer behavior toward several garments' use and disposal solutions. However, these studies concern specific geographical areas and consider a limited series of garment items. Furthermore, they are fragmented since they use different definitions to refer to the sustainable fashion concept or the specific

sustainable fashion solution. A clear and comprehensive conceptualization of all sustainable fashion solutions is lacking.

Some literature reviews on sustainable fashion consumption have been published in the last few years. Nevertheless, these studies focused on specific consumers' consumption practices – that is, purchase behavior (Busalim et al., 2022), laundry practices and habits (Klint et al., 2022), collaborative fashion consumption (Henninger et al., 2021; Jain et al., 2022), clothing recycling and reusing methods (Xie et al., 2021) – or on companies' strategies to enhance their sustainability performances – that is, corporate social responsibility models (Nguyen, Le, et al., 2020) and how business can increase consumers' knowledge and adoption of sustainable consumption behavior (Sinha, Sharma, & Agrawal, 2022). Conversely, to the best of our knowledge, no literature reviews on sustainable fashion considering together all consumption phases exist. However, as the fashion industry generates impacts in each stage of its value chain (Niinimäki et al., 2020; Popowska & Sinkiewicz, 2021), taking a holistic analysis approach is essential (Ellen MacArthur Foundation, 2017). Further,

many solutions to make fashion products more sustainable along the entire consumption process do exist, for which the consumer behavior has been studied. However, a comprehensive analysis of these solutions is lacking and could help to better define what sustainable fashion encompasses.

This study wants to address the identified lacunae in the existing literature by providing a comprehensive picture of the sustainable fashion solutions available in the market. To this aim, a systematic literature review is conducted (e.g., Fink, 2019; Page et al., 2021; Paul & Criado, 2020; Seuring & Gold, 2012), driven by the following research question:

How can a fashion product be more sustainable in the different phases of the consumption process?

To answer this research question, a focus will be made on products and related customer solutions that have already been (or are close to be) launched on the fashion market: hence, only studies including the consumer behavior perspective will be considered. Consequently, the sustainable fashion solutions for which there is evidence in terms of consumer behavior were revised and organized according to the three consumption phases (i.e., (pre-)purchase, use, and post-use).

1.4 | Contribution and structure of the paper

Hence, this paper provides researchers with an explanatory framework of all the different components of sustainable fashion for which consumer behavior has been studied. This study has several elements of novelty. First, compared to the existing literature, it investigates sustainable fashion solutions through a unique analysis approach, considering the entire consumption process. Second, it provides a comprehensive picture of all sustainable fashion solutions, integrating both companies' actions and consumers practices. Third, it proposes a roadmap for future research, highlighting under-researched areas, particularly associated with emerging sustainable fashion alternatives in the market. Further, the developed sustainable fashion solutions framework can be used as a sort of inventory, for companies in the fashion industry that can guide them in defining their sustainable product strategy and product portfolio.

The paper is organized as follows. In Section 2, we present the methodology used in this study. In Section 3, after a brief overview of the articles' sample, the identified sustainable solutions are presented according to the three consumption phases. In Section 4, a discussion of findings, the future research agenda, and the limitations of this study are provided. Section 5 concerns conclusions and theoretical and managerial implications.

2 | METHODS

A systematic literature review process was conducted (Fink, 2019; Page et al., 2021; Paul & Criado, 2020; Seuring & Gold, 2012). We

choose to use the systematic literature review methodology as common in the business & management, sustainability, and innovation fields (e.g., Baig & Yadegaridehkordi, 2024; Dangelico, 2016; Di Vaio et al., 2022; Du et al., 2023; Marcon et al., 2022).

First, according to the research question, a series of relevant keywords were identified. They belong to three main domains to which the research refers: *consumer behavior*, *sustainability*, and the *fashion industry*. These domains are able to define the sustainable fashion phenomenon considering the consumer's perspective including all phases of consumption (i.e., purchase of sustainable fashion products, sustainable behaviors of use and disposal of garments). Then, the search string was constructed using the selected keywords. Scopus and Web of Science were chosen as reference databases as common in this kind of research (e.g., Adabre & Chan, 2019; do Prado et al., 2020; Merli et al., 2018; Muat et al., 2024), as they are considered as comprehensive sources (Marrucci et al., 2019; Prancutè, 2021). The search string used is the following:

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((sustainab* OR ecological OR eco-friendly OR green  
OR circular OR environmental) AND ("consumer behavio**"  
OR "purchase behavio**" OR "purchasing behavio**"  
OR "use behavio**" OR "disposal behavio**")  
OR ("sustainable consum**" OR "green consum**") AND  
(fashion OR cloth* OR apparel OR textile)).
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The search string was launched on December 31st, 2023, and no lower limit was specified. Selected articles range from 1998 to 2023. The results were limited to articles published in peer-review journals and written in English. In order to answer the research question of this study, exclusion criteria were defined. Specifically, we have selected articles (1) adopting the consumer's perspective, studying consumer behavior and/or its determinants; (2) focused on sustainability in terms of product/service characteristics and/or consumer behavior; and (3) centered on the fashion industry (excluding shoes, accessories, and cosmetics). The inclusion criterion related to the consumer perspective guarantees that the analyzed sustainable solution/technology has already been (or is close to be) launched on the fashion market. In addition, it was decided to exclude all those items that are not useful to identify and describe existing sustainable fashion solutions that the consumer can adopt (e.g., studies that do not define sustainable attributes or characteristics or that refer to the generic concepts of sustainable fashion or sustainable fashion product). Indeed, it is important to note that many articles do not study consumer behavior toward a specific solution. Instead, they refer to generic concepts using adjectives such as "sustainable", "eco", "environmentally-friendly", "sustainably and socially produced", and "green" without providing a description. Such a kind of study has not been included. Having established these criteria, the starting sample of selected articles was then thoroughly analyzed. This process started with screening the titles and abstracts of 716 articles and then the full-text analysis was conducted, leading to the exclusion of 529 articles not relevant to the purposes of this study. A final sample of 187 papers

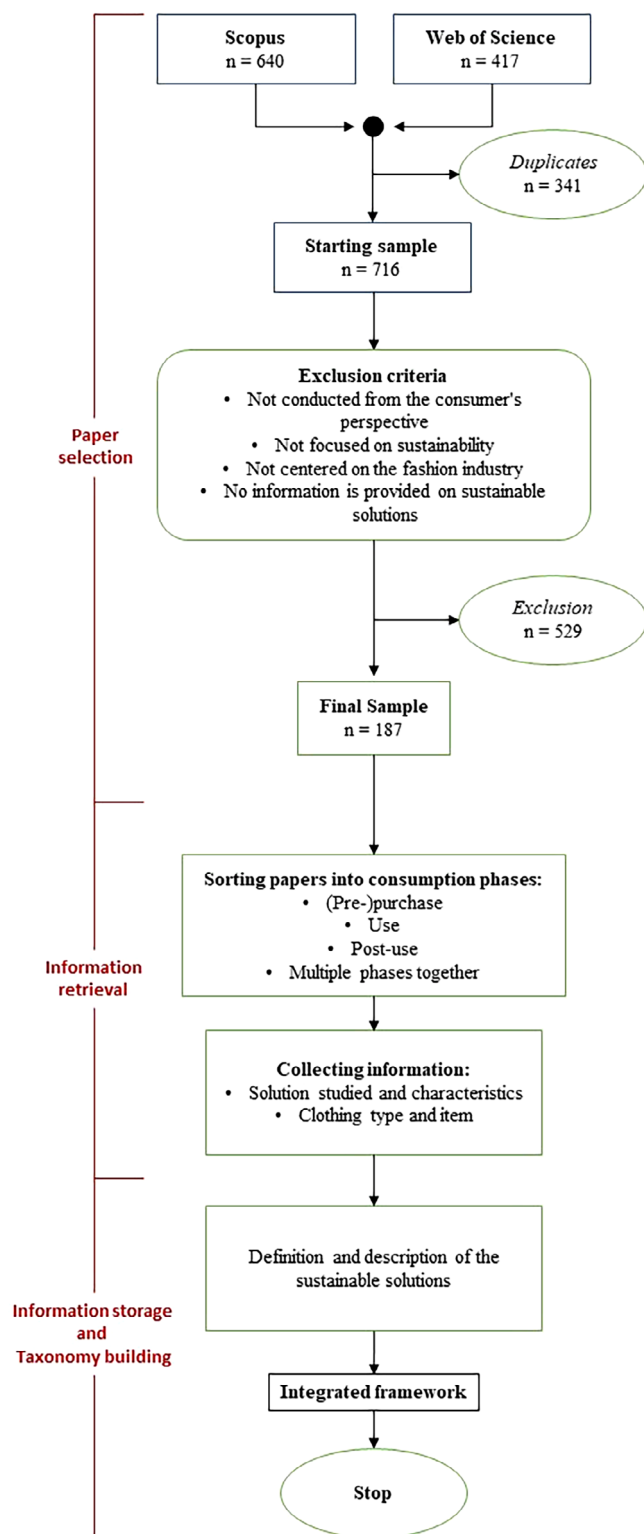


FIGURE 1 Research flow chart.

was obtained. The list of selected articles is reported in Table A1 of the appendix.

The next stage of the research involved a second round of in-depth screening to sort the articles and collect information regarding

the existing sustainable solutions, the item of clothing, and the investigated sustainable characteristics.

Results were then classified by applying the framework on sustainable solutions of Belz and Peattie (2012) to the fashion industry, classifying the sustainable fashion solutions within different consumption phases. Specifically, Belz and Peattie (2012) distinguished sustainable solutions in (1) (pre-)purchase solutions, which satisfy consumer needs through product and service offerings, (2) use solutions, which refer to the use of the product and the use-related services, and (3) post-use solutions, which relate to the disposal of a product. The flow chart of the steps conducted is displayed in Figure 1.

Through the identified solutions, we explain how an item of clothing can be sustainably crafted by companies, used, and disposed of sustainably by consumers, and moves among the consumption phases, thus considering its entire life cycle. Based on that we developed the sustainable fashion solutions framework (Figure 2).

As a result, for each consumption phase, a description of the existing sustainable solutions available for consumers is provided. Further, in the supplementary material (see Table S1, S2, and S3) for each phase a summary of the articles studying the specific solution with reference to the garment type (e.g., t-shirt or generic) is displayed.

3 | RESULTS

Before presenting the sustainable solutions identified, a short overview of the selected studies is given. Concerning the temporal distribution of the sample, the selected articles span from 1998 to 2023. Figure 3 shows an increase in the number of studies starting from 2016, underscoring the recent surge in scholarly interest in sustainable fashion topics.

Selected studies have been published in 80 different scientific journals (Table 2). These journals pertain to the three thematic domains on which the research is established: sustainability (e.g., Sustainability, Journal of Cleaner Production), consumer behavior (e.g., International Journal of Consumer Studies, Journal of Fashion Marketing and Management), and the textile and fashion industry (e.g., International Journal of Fashion Design, Technology and Education, Clothing and Textiles Research Journal).

The selected studies encompassed consumers from 42 countries (Figure 4), with particular emphasis on those from the United States, Germany, China, the United Kingdom, South Korea, India, and Italy. These countries represent the most extensively investigated populations, each with more than ten studies. Six studies were excluded from the country analysis since there was not a focus on a specific consumer sample; these studies comprise four conceptual studies and two studies involving a sample of anonymous fashion experts. Concerning the methodology used, most of the selected studies adopt a quantitative methodology (i.e., about 70%), while qualitative or mixed methods approaches are used to a lesser extent.

Figure 5 shows the distribution of the papers across the different consumption phases. Most of the articles in the sample deal with the

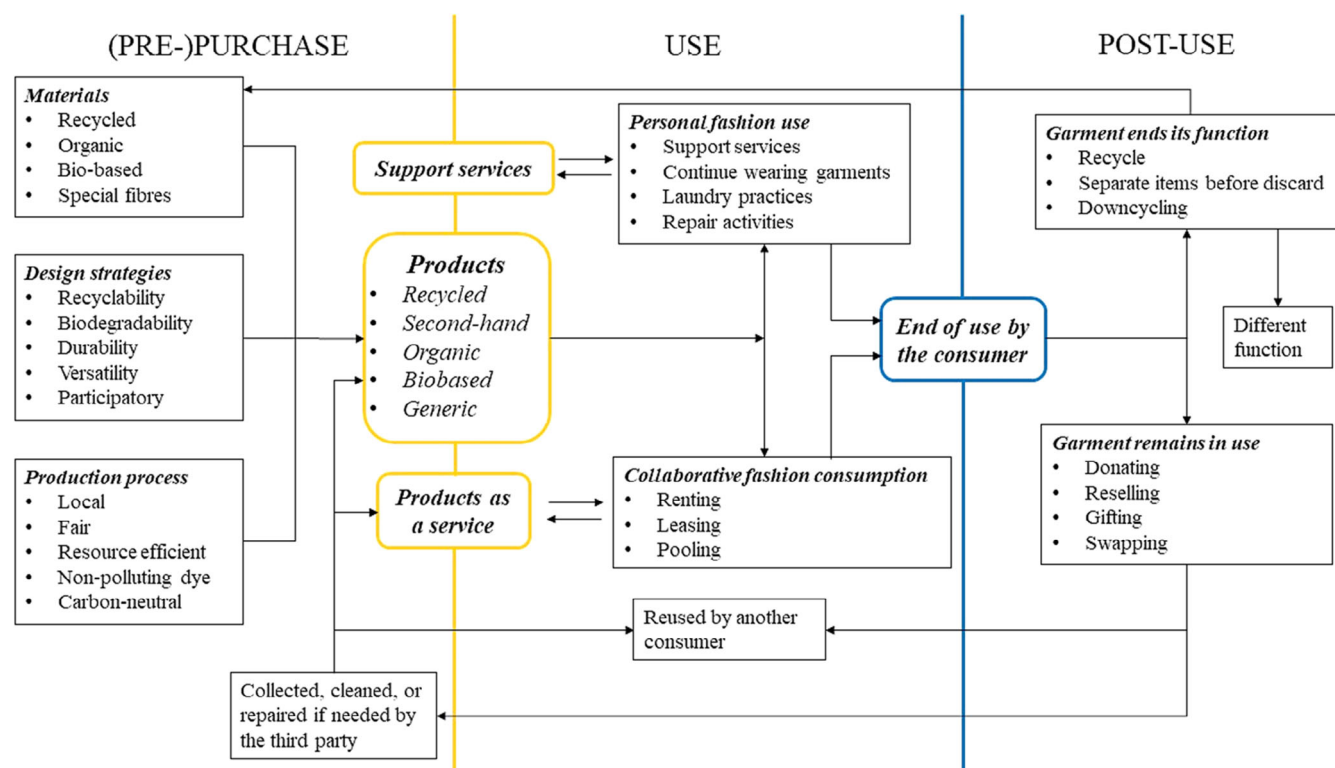


FIGURE 2 Sustainable fashion solutions framework.

Evolution of the papers over time

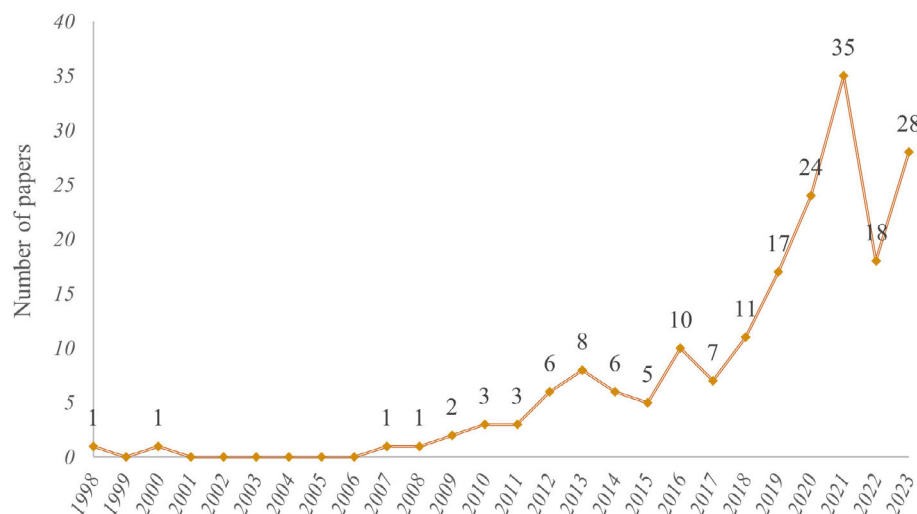


FIGURE 3 Evolution of the papers over time.

“(pre-)purchase” phase. It is important to note that 31 articles simultaneously investigate multiple consumption phases. Further, it is worth recognizing that a single study may consider together one or more specific clothing items. For this reason, the total calculation of the articles shown in the figure is greater than 187. Concerning articles involving multiple phases, the majority encompass “use” and “post-use” sustainable solutions. Overall, scholars choose to investigate consumer behavior toward a generic item of clothing, without specifying

its type. As displayed in the figure, most studies on specific clothing items belong to the “use” phase.

Concerning the specific clothing items analyzed, nine main types of clothing items were studied in the reviewed articles: t-shirts, jeans or pants, jackets, shirts, underwear, socks, sportswear, formal, sweat-shirts or sweaters. Figure 6 displays the number of articles per specific clothing item considering the consumption phase. T-shirts and jeans are the most studied clothing items.

TABLE 2 Number of papers per journal.

Journal	Number of Papers
<i>Sustainability</i>	23
<i>Journal of Fashion Marketing and Management</i>	14
<i>Journal of Cleaner Production</i>	13
<i>International Journal of Consumer Studies</i>	12
<i>International Journal of Fashion Design, Technology and Education</i>	11
<i>Business Strategy and the Environment</i>	6
<i>Clothing and Textiles Research Journal</i>	6
<i>International Journal of Retail and Distribution Management</i>	6
<i>Journal of Fashion Marketing and Management: An International Journal</i>	4
<i>Journal of Global Fashion Marketing</i>	4
<i>Journal of Retailing and Consumer Services</i>	4
<i>Research Journal of Textile and Apparel</i>	4
<i>Fashion and Textiles</i>	3
<i>Journal of the Textile Institute</i>	3
<i>Asia Pacific Journal of Marketing and Logistics</i>	2
<i>Cleaner and Responsible Consumption</i>	2
<i>Fibres & Textiles in Eastern Europe</i>	2
<i>Journal of Business Research</i>	2
<i>Social Responsibility Journal</i>	2
<i>Sustainable Production and Consumption</i>	2
<i>Waste Management</i>	2
<i>Young Consumers</i>	2
<i>Journals with less than two articles included</i>	58

With the aim of answering the RQ, the sustainable ways to produce clothes, the characteristics of sustainable clothes as well as the strategies of sustainable use and disposal that consumers can adopt are described as follows. It is important to note that some articles do not study consumer behavior toward a specific sustainable garment solution, rather they refer to the concept of sustainable fashion defining it through multiple solutions together (e.g., garments made using recycled materials, durable clothing, and/or less polluting dyeing process). These are related to the (pre-)purchase phase and are reported in Table 15 in the supplementary material with underscores.

Sustainable fashion solutions are categorized according to the framework of sustainable solutions of Belz and Peattie (2012), presented in Section 2. The remainder of this section is divided into four subsections, which concern sustainable solutions regarding (pre-)purchase (Section 3.1), use (Section 3.2), and post-use (Section 3.3), and the sustainable fashion solutions framework developed (Section 3.4).

3.1 | (Pre-)purchase

This subsection focuses on the product's (pre-)purchase phase and refers to the materials (Section 3.1.1), design strategies (Section 3.1.2),

and production processes (Section 3.1.3) that can be used to realize a sustainable garment.

3.1.1 | Materials

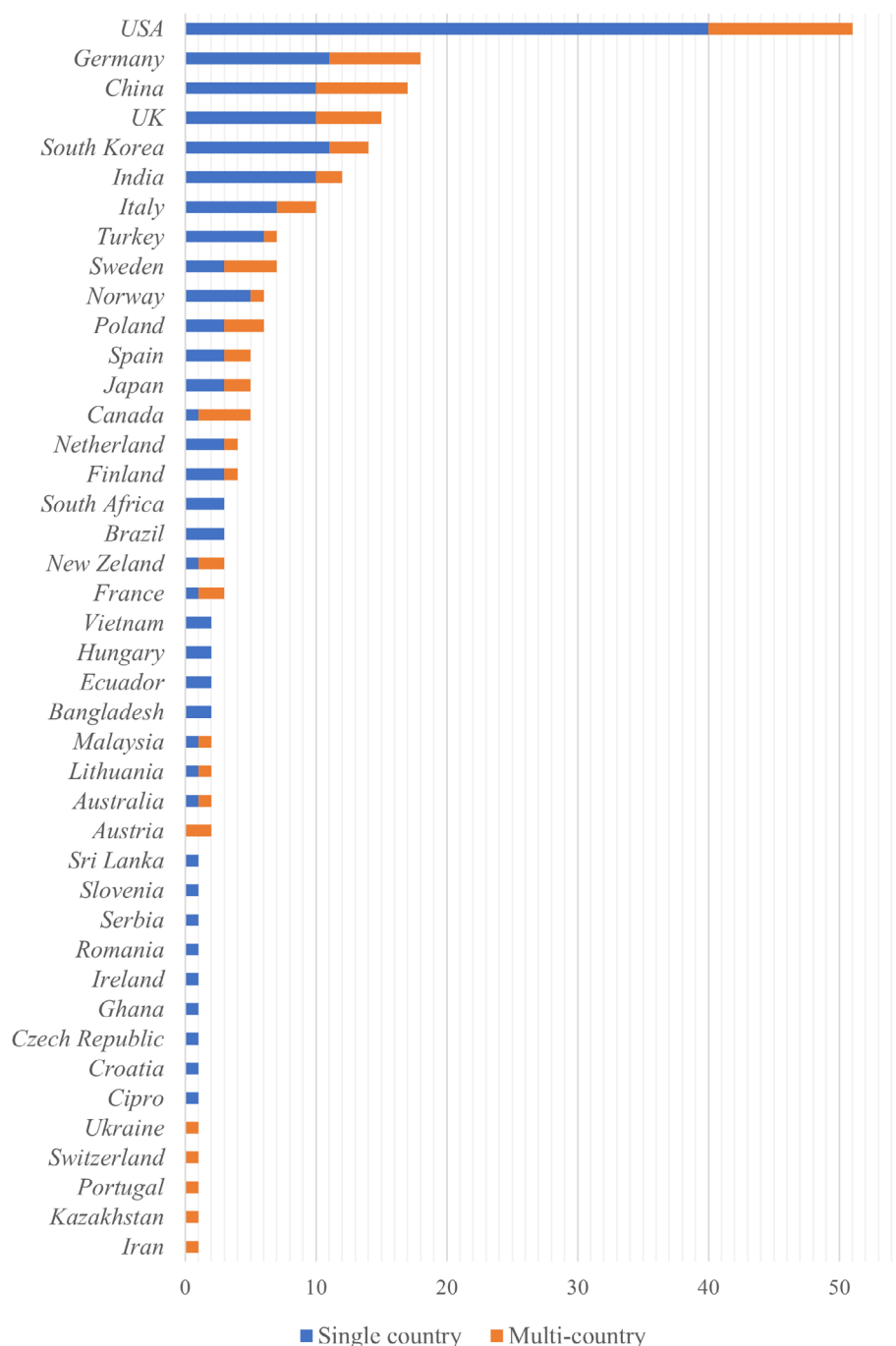
Raw materials are the input of production processes, and their origin and features connote the final product. Concerning sustainable materials used in garment production, four main categories can be identified: (1) *recycled*, (2) *organic*, (3) *bio-based*, and (4) *special fibers*.

Recycled materials are derived from waste products that undergo mechanical or chemical treatment converting them into new fibers used to produce new garments. Recycling is known for its positive environmental effects, as it facilitates the recovery of waste materials or products at the end of their life cycle, thus contributing to saving resources, reducing waste, and mitigating pollution associated with disposal (Filho et al., 2019; Ghisellini et al., 2016). Several fashion companies are actively engaged in the advancement of novel technologies aimed at ameliorating the environmental repercussions associated with clothing recycling processes (Acquaye et al., 2023). Recycled materials can be divided into two categories, depending on whether they are generated from pre-consumer or post-consumer wastes (e.g., Chaturvedi et al., 2020; Davidavičienė et al., 2019; Pedersen & Andersen, 2015). Pre-consumer wastes refer to materials generated during production processes (e.g., cuts and leftover fabrics). Alternatively, post-consumer wastes are materials resulting from the consumption phase (e.g., discarded clothes or plastic bottles).

Fashion products belonging to the category of clothing made with recycled materials can be further distinguished into two types: (1) *upcycled* products and (2) products from recycled waste. *Upcycled* products are made from parts of used clothing, deadstock, or from textile wastes, which can be reassembled and redesigned together to obtain new and unique clothing items (Evans & Peirson-Smith, 2018; Park & Lin, 2020; Soyer & Dittrich, 2021). The second type concerns fashion products made from textile fibers wastes – for example, wool, cotton, synthetic, polyester (Papadopoulou et al., 2021; Roozen et al., 2021) – or other wastes – for example, ocean plastic (Kumagai, 2020) or plastic bottles (Kumagai & Nagasawa, 2020; Nguyen, Tran, et al., 2020). Another type of product having similar characteristics to this product category is *second-hand* garments. Here, although the material used to manufacture the item is not recycled, the entire product is recovered and reused. These products are indeed used clothing that had a previous owner (Cervellon et al., 2012; De Groot, 2021; Machado et al., 2019); they are collected, cleaned, or repaired if needed, and resold. The sale of second-hand garments generally takes place in vintage stores and flea markets. Recently, the diffusion and use of second-hand online platforms is rising (see e.g., Bae et al., 2022).

Organic materials used in textile production can be classified into two categories based on their origin: plant-based and animal-based materials. The former category includes crops of cotton, hemp, bamboo, flax, and jute, among others. As organic crops, no chemicals (e.g., herbicides, pesticides, fungicides, defoliant) and no petroleum or sewage sludge fertilizers are used in plants propagation and growth

Number of papers per country

FIGURE 4 Number of papers per country.

(e.g., Gam et al., 2010; Han, 2018; Hustvedt & Dickson, 2009). The latter category includes livestock like goats, sheep, and silkworms used to produce textile fibers, such as wool and silk (Maloney et al., 2014). Organic livestock has access to outdoor pastures and is fed with organic food, without hormones or antibiotics use (e.g., Bernard et al., 2013; Hong & Kang, 2019). These farming practices mitigate environmental impacts associated with soil, water, and air pollution caused by chemical substance use, contribute to biodiversity safeguards, and ensure cruelty-free living conditions for livestock.

Bio-based materials are partly or entirely made from biomass (i.e., renewable materials of plant or animal origin) (European Commission, 2019b). *Bio-based materials* may originate from waste generated by other industries (e.g., the food industry) (Provin & de Aguiar Dutra, 2021). Through the analysis of the reviewed papers, three main *bio-based materials* used in clothing production are identified: bio-textile (e.g., Lyocell, Tencel), bioplastic, and eco-faux leather. Bio-textile is a bio-product realized using wood-based fibers derived from wood components like cellulose, hemicellulose, lignin, and

extractives (Notaro & Paletto, 2021; Soyer & Dittrich, 2021). Bioplastic is made up of biopolymer-based fiber from biomass, using biogenic raw materials such as starch, cellulose, and natural oils instead of raw materials derived from fossil fuel sources. Furthermore, some types of bioplastics can even be biodegradable (Friedrich, 2021; Klein et al., 2020). Eco-faux leather is a new biodegradable material composed of bio-based polyurethane derived from nanocellulose obtained from biomass (Jung & Oh, 2019; Sigaard & Laitala, 2023). Recently, several other types of clothes made with bio-based materials (e.g., made from alternative vegetable matter like orange peels) were placed on the market. Crafting bio-based garments reduces the exploitation of highly polluting fossil-derived raw materials, and these products can be biodegradable or compostable at the end of their life cycle. Additionally, the use of eco-leather helps prevent cruelty practices toward animals.

The last category of sustainable materials used in garments' production concerns *special fibers*, that is, fibers allowing sustainable garment handling in the use phase. For instance, these fibers require lower washing temperatures, reduce the drying time, or even do not

need to be ironed (Chang & Watchravesringkan, 2018; Gwozd et al., 2017; Soyer & Dittrich, 2021). Garments produced with these fibers can have one or more of these characteristics. Thereby allowing for a reduced environmental impact in the use phase thanks to resource-saving in garment maintenance (e.g., water and energy consumption).

3.1.2 | Product design strategies

Product design strategies can contribute to making a garment sustainable, giving it intrinsic properties able to reduce the environmental impact in both its use and disposal phase. According to the papers analyzed, five product design strategies can be distinguished: (1) *Design for (re)cyclability*, (2) *Design for biodegradability* (3) *Design for durability*, (4) *Design for versatility*, and (5) *Participatory design*.

Design for (re)cyclability aims to facilitate material recovery from garments at the end of their lifecycle. Accordingly, the garment can be conceived to enable easy disassembly into its various components (e.g., fabrics, zips, buttons, laces), which are then recovered separately, or designed for mono materiality, thereby facilitating recycling or upcycling processes (Moon et al., 2013; Turunen & Halme, 2021). Further, the modular design makes it possible to modify the garment by upgrading or personalizing its components (Niinimäki & Hassi, 2011).

Design for biodegradability aims at reducing the environmental impact of garment disposal. Accordingly, the garment can be designed entirely with natural biodegradable materials, allowing for composting, recycling, or less impactful disposal at the garment's end of life (Brand & Rausch, 2021; Moon et al., 2013).

Design for durability aims at extending the product life cycle and concerns the style and physical properties of the garments. Regarding the style, this strategy is focused on conferring a timeless style to garments and guaranteeing wear longevity over a longer term, thus allowing the garment never to go out of style (e.g., Joyner Armstrong et al., 2018; Kim & Seock, 2019; Moon et al., 2013), for instance

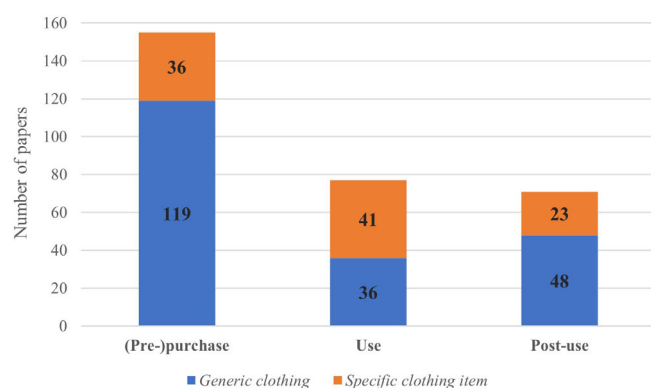


FIGURE 5 Number of papers investigating generic or specific clothing item in each consumption phase (i.e., (pre-)purchase, use, and post-use).

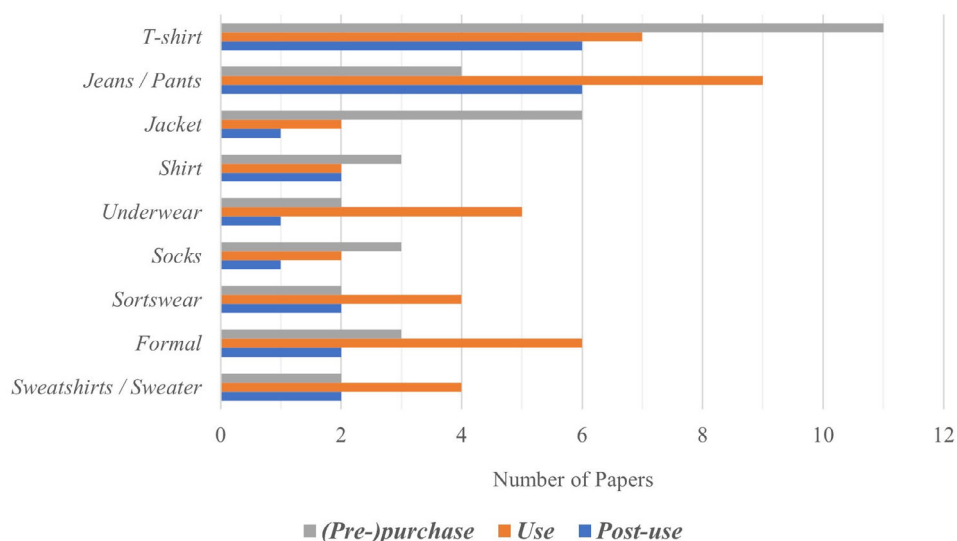


FIGURE 6 Number of papers per specific clothing item in each consumption phase (i.e., (pre-)purchase, use, and post-use).

adopting classic style design (Okur et al., 2023). Regarding the physical properties, the garment is realized using high-quality materials and special processes, which confer stronger resistance to use (e.g., wear, wash, dry, iron) and comfort in wear (Laitala et al., 2015; Niinimäki & Hassi, 2011; Rahman et al., 2021). For instance, fashion luxury items hold both characteristics (i.e., high quality and timeliness) and are more likely to be reused in second-hand markets (Carranza et al., 2023).

Design for versatility (also mentioned as *Transformable design* or *Multifunctional design*) entails a specialized examination of garment parts composition, intending to meet users' needs through transformative design and functionality (e.g., adjustable length, size/fit, color/pattern, reversibility, or adaptability), thereby enabling seamless adjustment to alterations in body size or utilization in diverse social contexts (Connell, 2010; Ma & Koo, 2016; Rahman et al., 2021). This design strategy allows users to extend the wearable lifespan of the garment. Thereby, consumers can wear the garment more times by selecting from various combinations of looks and adjusting it according to comfort or style preferences, potentially reducing the frequency of new clothing purchases.

Participatory design strategy involves consumers assuming an active role in the product-making process as garment co-creators, thereby contributing to the design process (Hirscher et al., 2018). This can be achieved by using emerging, such as body scanning and computer-aided, able to support designers in meeting consumers' desires (Laitala et al., 2015). This method makes the garment extremely personalized. Consequently, consumers may attribute greater value to it via emotional attachment, which results in more careful maintenance of the garment and longer use (e.g., Joyner Armstrong & Park, 2017; Niinimäki & Hassi, 2011). Hence, the product life cycle is extended. Moreover, participatory design increases consumers' awareness and skills about fashion production and may result in a shift toward more sustainable fashion choices (Hirscher et al., 2018).

3.1.3 | Production processes

The *production processes* employed in crafting the final product represent additional and important factors contributing to conferring sustainable attributes to the garment. According to the papers analyzed, these include: (1) *Local production*, (2) *Fair production*, (3) *Resource efficient production*, (4) *Non-polluting dyeing process*, and (5) *Carbon-neutral production*.

Local production is characterized by (1) the use of local sources as a firm's input to realize the final product, (2) the production of clothes from local (small) designers or craftsmen, and (3) the support to the local community development, reducing distances among suppliers, producers, and consumers (e.g., Jung & Jin, 2022; Legere & Kang, 2020; Mandarić et al., 2022). This method is often associated with limited volumes and traditional production, maintaining the local identity and features (Şener et al., 2019). Thanks to these attributes,

local production fosters the reduction of transport and logistics impacts, concurrently promoting the development of the local economy and enhancing social welfare.

Fair production concerns several features related to human work in the textile industry, which aim at alleviating poverty and ensuring decent livelihoods for the workers. Indeed, this production method guarantees fair working conditions to employees (e.g., respect for their values, well-being, fair financial remuneration, support for gender equality, opportunity to grow and education) and condemns child labor (e.g., Kozar & Connell, 2013; Rausch et al., 2021; Ritch, 2022). Consequently, it promotes social welfare and reduces workforce exploitation.

Resource efficient production relates to the efficiency improvement of industrial processes, with the goal to minimize water, energy, and materials used. These objectives can be reached through the introduction of new techniques or technologies in garment production (e.g., digital textile printers, embroidery and laser cutting machines, and digital weaving machines – see Niinimäki & Hassi, 2011) – enabling the utilization of lesser amounts of water, energy, virgin materials, or recovered materials (Akram et al., 2022; Suet al., 2023; Turunen & Halme, 2021) – or through the switch toward alternative renewable energy sources – diminishing the dependence on fossil fuels and leading to resource conservation and waste reduction.

The *non-polluting dyeing* process aims to mitigate the environmental impacts associated with garment production by employing alternative coloring practices instead of traditional practices, which include the use of hazardous or harmful substances generating severe water pollution and environmental degradation (Dutta et al., 2024; Javaid et al., 2021). These alternative coloration practices include the use of enzyme-washing techniques (Ritch, 2022) and dyes derived from natural sources such as plants, animals, or minerals (Mishra et al., 2023; Sobuj et al., 2021; Kovacs, 2021). One additional sustainable alternative is the absence or reduction (e.g., less coloring or less printing) of the dyeing process² (Chang & Watchravesringkan, 2018; Dhir et al., 2021; Moon et al., 2013). All in all, such practices mitigate air, soil and water pollution compared to the traditional coloration processes (Mabuza et al., 2023; Xue & Li, 2023).

Finally, *carbon-neutral production* can be achieved through the compensation of the environmental impacts due to the production processes thanks to the use of renewable energy sources or through the support of certified emission reduction projects (Brand & Rausch, 2021; Pencarelli et al., 2019; Ritch, 2022), such as planting trees, encouraging the development of centers and infrastructures for the production of renewable energy, converting means of transport to electric vehicles, among the others.

In supplementary material, for each identified category (i.e., materials, design strategies, and production processes), Table 15 displays the different product types with the related sustainable characteristics and the different items of clothing (e.g., T-shirts, jeans, etc.) studied in the selected articles.

3.2 | Use

In this subsection, consumers' sustainable clothing use habits and behavior that emerged from the review are reported. They are distinguished as referring to personal fashion use (Section 3.2.1) or collaborative fashion consumption (Section 3.2.2).

3.2.1 | Personal fashion use

Concerning personal fashion use, four main practices can be identified: (1) *Continuing wearing garments*, (2) *Laundry practices*, (3) *Repair activities*, and (4) *Support services*. These behaviors are more likely to be adopted when clothing exhibits specific attributes, including comfort (e.g., suitability for various activities and weather conditions, garment fit), the garment's ability for repeated wear (e.g., quality, versatility, durability), the perceived value of the garment (e.g., initial cost, emotional attachment), and the garment's fashion appeal (Maguire & Fahy, 2023). They are presented as follows.

Continuing wearing garments refers to consumer behaviors aimed at prolonging the use of their clothes, thereby reducing the frequency of clothing acquisition and disposal, consequently decelerating the fashion cycle. This concept pertains to consumer practices like continue wearing clothes even if they are no longer in perfect condition (e.g., clothes with small defects, that do not fit well, or that are out of fashion) (Soyer & Ditttrich, 2021). This category can also include consumer behavior allowing to extend garment wearability, such as following the garment maintenance and storing instructions provided on the label to take care of it or rearranging the wardrobe to better define clothing availability by mixing and matching different items together in new creative looks (Frick et al., 2021; Park & Lee, 2020). This concept relates to the fashion consumption reduction phenomenon. Indeed, when consumers opt to continue wearing clothes they already possess, the need to buy new clothes is reduced (Joyner Armstrong et al., 2016). This can be reached through the "capsule wardrobe" – a wardrobe composed of a limited number of garments characterized by high quality, longevity, and minimal or classic design (Bardey et al., 2022). In addition, some studies have tested the reactions and behaviors of consumers by having them participate in experimental learning, such as the "clothing diet" – that is, wearing a limited number of clothing items over one month (Rhee & Johnson, 2019) – or the "fashion detox" – that is, eliminating every form of clothing acquisition (e.g., that it is a purchase, rent, or gift) for ten weeks (Joyner Armstrong et al., 2016; Ruppert-Stroescu et al., 2015). The findings from these studies indicate that despite encountering initial challenges, consumers value the practice, report positive emotions and personal growth, and express intentions to sustain these behaviors over time.

Laundry practices include all the actions concerning a sustainable washing of the garments. These include (1) washing carefully to extend clothes life cycle, (2) using lower washing temperatures and eco-washing programs to reduce energy use, (3) using eco-friendly products to wash (e.g., eco detergent and eco softener) to reduce

chemical pollutants, (4) extending the wearing frequency before washing and loading the washing machine fully to minimize the number of washes thus saving resources, and (5) reducing drying and ironing processes to mitigate energy consumption (e.g., Jack, 2013; Laitala & Klepp, 2020; McQueen et al., 2020; Sohn et al., 2021). Clothing care labels provide information about material composition and fabric maintenance, thereby assisting consumers in performing sustainable laundry practices (Maguire & Fahy, 2023). Adopting sustainable washing practices enables consumers to prolong their garment's lifespan, preserve its quality, and simultaneously diminish the consumption of resources such as water, energy, and chemicals.

Repair concerns all the activities aimed at turning a damaged or old garment still wearable or making it newly fashionable, thus reconditioning it and extending its functionalities over time. These include knitting, sewing, mending, adjusting size, patching, fixing length or unraveled seam, dyeing, and changing the zipper among others (Haines & Lee, 2021; McNeill, Hamlin, McQueen, Degenstein, Garrett, et al., 2020; Paço et al., 2021). These activities can be performed by the user self (i.e., "Do It Yourself" activities, see Niinimäki et al., 2021), by a user's relatives or friends, by a tailor or in other shops (e.g., dry cleaners, repair specialists, or workshops) (Jalil & Shaharuddin, 2019; Laitala et al., 2021; Niinimäki et al., 2021). Repairing a garment extends its utility, alleviating the burden on landfill sites associated with premature clothing disposal.

During usage, users can also rely upon *support services* offered by companies. These services aim at sustaining consumers in extending their clothes use. Style consultancy services, available in-store or online, provide consumers with advice about fresh and original ways of putting on their clothes arrangement (Lang et al., 2016). This service can also be provided as an application, that is, an AI fashion curation service. The AI furnishes consumers with personalized information on how to care for their clothes and use them more effectively (Shin et al., 2022). Repair or cleaning services allow sending back ruined garments to the company, which takes care of making them wearable again and subsequently returns them as new to the users (Potdar et al., 2023; Popowska & Sinkiewicz, 2021; Gwozdz et al., 2017). Finally, other services to extend garment use concern modifying the garment's wearability or updating its style, and others focus on educating consumers about repair activities (Laitala et al., 2015).

3.2.2 | Collaborative fashion consumption

Collaborative Fashion Consumption is based on the idea of having access to the product instead of buying it (Iran & Schrader, 2017; McNeill & Venter, 2019) with the aim of prolonging its lifespan and utility (Herold & Prokop, 2023). Regarding clothes, collaborative use refers to the use of the same item by one or more users in and for different periods of time. Different types of collaborative fashion consumption exist, which can be distinguished based on three factors: (1) who is involved in the collaborative usage (e.g., consumers, companies, communities, or organizations), (2) if the exchange requires

payment or is free of charges, and (3) the duration of the usage. Although no shared terminology and a precise definition of the different forms of collaborative consumption exist in the literature (Henninger et al., 2021), three forms of collaborative fashion consumption can be distinguished: (1) *Renting*, (2) *Leasing*, and (3) *Pooling*.³ All these forms are characterized by the provision of garments by a firm to users for a defined period in exchange for monetary compensation, and garments being sequentially utilized by various customers in succession (Iran & Schrader, 2017; Johnson & Plepys, 2021; Lang et al., 2016; Pantano & Stylos, 2020; Tunn et al., 2021). Further, the garments' repair, control, and maintenance are in charge of the service provider (Becker-Leifhold, 2018; Joyner Armstrong & Park, 2017). In the case of *renting* and *leasing*, users can access a wardrobe of clothes, whose ownership is kept by the provider, and use it for a given period of time – usually a very short term (e.g., 2–14 days) in the case of *renting* and long term (e.g., a month) in the case of *leasing* – paying a membership or a subscription fee in return. The firm can provide the service via online (app, platform) or physical (store) channels. Differently, product *pooling* is organized as a clothing library, where the clothing ownership can be with the service provider or remain with the garment owner. In return, users pay a membership fee, which gives them unlimited access to clothes available in the library. These types of services are mainly used to gain access to clothes for special occasions, luxury, or work clothes.

Collaborative consumption models can reduce the environmental impact of the fashion industry. Specifically, they extend the lifespan of garments by intensifying their utilization instead of resorting to new purchases (Iran & Schrader, 2017; Kang et al., 2023; Lee & Huang, 2020), leading to resource conservation (e.g., materials, water, energy), as well as reduction of wastes and pollution (Henninger et al., 2021; Pantano & Stylos, 2020; Tunn et al., 2021). Collaborative fashion consumption services enhance affordability and broaden access to an expanded collection of goods and services, benefiting low-income consumers (Ramtiyal et al., 2023). Moreover, these collaborative consumption models have the potential to enhance environmental consciousness and foster responsibility in clothing consumption thanks to the exchange of information among users. Additionally, they can diminish individual purchases of new clothing, leading to savings in time, expenses, and storage space for the consumer (Navia et al., 2021). Consumers consider the business-to-consumer collaborative fashion service a more reliable solution, compared to peer-to-peer platforms instead perceived as a cost-effective alternative. Thanks to its emphasis on quality and reliability, the business-to-consumer structure effectively mitigates concerns regarding cleanliness and potential rental issues such as loss or damage liabilities (Herold & Prokop, 2023). This underscores the criticality of establishing and adhering to standards and protocols for promoting the dissemination of these services.

In supplementary material, for each identified use solution, Table 2S displays the consumers' sustainable clothing use behavior and the relative garment types (e.g., T-shirts, jeans, etc.) studied in the selected articles.

3.3 | Post-use

This subsection presents sustainable clothing disposal behaviors that emerged from the review. These behaviors adhere to the principles of reverse logistics, wherein fashion items are reintroduced into the consumption cycle by being reused or recycled (Rogers & Tibben-Lembke, 2001). Consumers have several solutions to dispose of their old garments, and these can be categorized into two macro-categories depending on whether the garment (1) remains in use (Section 3.3.1) or (2) ends its function (Section 3.3.2). The first category includes (1) *Donating*, (2) *Reselling*, (3) *Gifting*, and (4) *Swapping*. In this case, the garment ceases to be used by the first owner and continues to be used by a second consumer who receives, buys, or exchanges it. The second category includes (1) *Recycling*, (2) *Downcycling*, and (3) *Removing or separating items before discarding*. Here, the garment is no longer used for its initially conceived purpose, and its function changes.

3.3.1 | Garment remains in use

Donating refers to giving away used clothes, enabling other users to use the garment again (Gazzola et al., 2020; Hwang et al., 2020; Zhang et al., 2020). This method is typically provided by charitable organizations or humanitarian associations, which offer collection containers or establish collection centers where consumers can deposit their unused garments (Haines & Lee, 2021; Paço et al., 2021; Sohn et al., 2021). Further, novel online channels for clothing donation have arisen (Guo & Kim, 2023). Consumers can schedule appointments for clothing donations, and certain platforms propose complimentary door-to-door services, enhancing the practicality and efficiency of the donations (Wu et al., 2023). Then the collected clothes are redistributed to poor and needy people. This disposal method enables subsequent consumers to receive clothing items without cost, thereby diverting unused products from the waste stream and prolonging their utility by reutilization (Öztürk & Şahin, 2023).

Reselling refers to consumers offering their used or idle clothing items for sale to other consumers, who will continue to use them after the purchase. Consumers can independently resell their used clothes (online or in-person) or take them to resellers retail, such as second-hand stores, flea markets, and online platforms that will handle the sale in their place (McQueen et al., 2021; Paço et al., 2021; Zhang et al., 2020). The use of online fashion resell platforms (e.g., Vinted) is growing and aims to redistribute unwanted or used goods back into the market, promoting a sustainable circulation of idle fashion items (Liu et al., 2023; Palomo-Domínguez et al., 2023). Each consumer has the dual capacity of acting as both a buyer and a seller, exchanging fashion items that may range from lightly used to brand-new and idle (Wang & Liu, 2023). Sellers may seek to part with items due to economic motives or may not need them, yet these items still hold the potential to fulfill the requirements of other consumers within the resale market.

Gifting (also mentioned as “Giving away to family or friends” or “Passing on to family or friends”) refers to giving away or passing old or

unused clothing items to family members or friends. This consumer-to-consumer interaction form occurs without money exchange and typically among acquaintances, who independently organize the garments' transfer (e.g., Gazzola et al., 2020; Paço et al., 2021).

Swapping refers to an interaction among consumers wherein garments are exchanged from one consumer to another through online or offline channels, typically without monetary compensation and for an undefined period. These forms may involve a few users, for example, relatives and friends who exchange clothes among them, or a higher number of users organized in peer communities or not-for-profit movements, such as clothing exchange platforms and swapping parties (Iran & Schrader, 2017; Lang et al., 2016; McNeill & Venter, 2019). On these platforms, consumers can offer clothing items they wish to dispose of and request items from other participants within the online community (Öztürk & Şahin, 2023). This type of service mainly concerns sharing and exchanging old or unused clothes between peers.

3.3.2 | Garment ends its function

According to the *recycling* perspective, consumers can discard their old clothes so they can be reused as raw materials for creating new clothes or other products in distinct industries, for example, automotive, construction, or furniture (Islam & Bhat, 2019). Discarded clothes can be collected via recycling bins, recycling platforms, assembly centers, or through recycling programs promoted by companies (Hwang et al., 2020; Park & Lee, 2020; Sohn et al., 2021). In this last solution, companies can establish a collection center, usually made by containers placed in physical stores, where consumers can bring and deliver their old clothes; in exchange, they can receive incentives, vouchers, or discounts, for example, to purchase new clothes (Acquaye et al., 2023; Papadopoulou et al., 2021; Zhang et al., 2020).

Downcycling (also mentioned as *Repurpose*) refers to the reuse of an old clothing item, which has reached the end of its life, for a different aim (e.g., use it as a rag) (Evans & Peirson-Smith, 2018; McQueen et al., 2021; Zhang et al., 2020). In this case, consumers can directly recycle their used garment, either in its entirety or by utilizing its specific parts, repurposing it for a different function than originally conceived.

Before discarding old or unused clothing items, consumers may *separate and or remove* the different parts that make them up (e.g., labels, zips, buttons, laces, and hoods) (Nenckova et al., 2020; Park & Lee, 2020; Soyer & Dittrich, 2021). This practice has the goal of fostering and simplifying the future recycling or the future reuse of garments' components. Indeed, recycling is easier if the diverse garments' pieces, made with different fibers and materials, are collected separately. Moreover, single components such as zippers, buttons, or laces can be repurposed in other garments or for the creation of new clothing items through upcycling or repair (Vlastelica et al., 2023).

The presented post-use solutions ensure that garments reaching the end of their lifespan are repurposed as raw material, incorporated into new products, reused by another consumer, or utilized for

alternative purposes, thereby assuring a circular process. Consequently, several environmental advantages are attained, including the conservation of virgin raw materials, a decrease in the manufacturing of new products, and the mitigation of the adverse effects associated with conventional disposal methods, such as landfill deposition or incineration.

In supplementary material, for each identified disposal solution, Table 3S displays sustainable disposal solutions and the relative garment types (e.g., T-shirts, jeans, etc.) studied in the selected articles.

3.4 | Sustainable fashion solutions framework

Following comprehensively reviewing, defining, and presenting the array of sustainable fashion solutions available for consumers across the three consumption phases, we developed a structured framework to conceptualize and organize these solutions (Figure 2). This framework delineates the interplay between consumer behaviors and the fashion companies' operational strategies and product and service offerings, providing a holistic understanding of sustainable fashion consumption dynamics. Specifically, the arrows represent the steps the garment can do during its life cycle, moving across consumption phases. The lines in yellow and blue represent the points of contact and interchange between the consumption phases. Starting from the (pre-)purchase phase (left side of Figure 2), companies can craft garments by incorporating one or multiple combinations of the sustainable solutions. Moving to the right, the yellow line includes the sustainable fashion product offerings consumers can choose. Whether sustainable or not, the garment can be offered via collaborative consumption forms as a service and used repeatedly by different consumers. During the use phase, the consumer may extend the garment's lifespan through continued wear, adopting sustainable laundering practices, and engaging in repair activities. In this phase, the consumer can also turn to support services offered by companies or specialized firms to extend the duration of garment use. Moving to the post-use phase, when a consumer decides to discard a piece of garment, it can remain in use by passing directly or indirectly to another consumer. Alternatively, it can stop being used for its original function and start a new life cycle or be used for different scopes. In the case of collaborative consumption, at its end of life, the garment can be repaired and reconditioned, or be disposed of by its owner using one of the methods described above.

All in all, based on an analysis of the definitions provided by extant studies, sustainable fashion emerged as a broad concept that concerns both the production and the consumption perspectives. Indeed, it refers to the commitment of companies to improving their actions in sustainability terms both internally (e.g., production and design) and externally (e.g., products and services offered, communication and information), and in making them real. Further, it lies in the behavior of consumers both in terms of consumption and in terms of promotion and sharing of sustainable practices (for instance using social networks or other communication channels).

4 | DISCUSSIONS AND FUTURE RESEARCH DIRECTIONS

This review systematically examined 187 articles related to sustainable fashion. The article provides a holistic view of the existing sustainable solutions in the fashion industry for which consumers' sustainable behaviors were studied. The analysis facilitated the identification and definition of sustainable fashion solutions documented in the literature across different consumption phases.

Results show that over 65% of the selected articles are referred to quantitative studies. Most of them are related to the (pre-)purchase phase and deal with sustainable product offers and choices. Conversely, qualitative studies are mostly associated with the use and post-use phases and investigate the features of the garments' use and disposal solutions. Finally, less than 13% of the sample contains mixed methods or conceptual studies. To obtain deeper insights, the literature suggests exploring sustainable consumer behavior in the fashion industry using a qualitative approach (Rahman et al., 2021; Sandhya & Mahapatra, 2018) or mixed methods (Kopplin & Rösch, 2021; Laitala et al., 2021).

In terms of garment types, most studies focus on a generic item of sustainable garments instead of on a specific clothing item (e.g., Davis & Dabas, 2021). The only exceptions concern the laundry and disposal solutions. Indeed, in contrast to other solutions, sustainable laundry practices and disposal methods for different types of specific clothing are analyzed and compared among them (e.g., Laitala & Klepp, 2016; Laitala & Klepp, 2020; McQueen et al., 2020). Among the few articles that focus on one or more specific items of clothing, t-shirts and jeans received the highest attention, perhaps because they are the most common types of clothing used by consumers. Future research should investigate sustainable fashion solutions for specific clothing items, in order to assess whether consumer behavior is significantly different depending on the type of garment (Dangelico, Alvino, & Fraccascia, 2022; Seo & Kim, 2019), as in the case of laundry (e.g., Yates & Evans, 2016). Furthermore, future research should be aimed at highlighting whether there are differences in the evaluation and perception of sustainable characteristics, depending on the different types of garments (Colasante & D'Adamo, 2021).

Regarding the (pre-)purchase phase, several solutions have been identified, according to some intrinsic characteristics of the products (i.e., the raw material, the design strategy, and the production process adopted). Many scholars provide a generic definition of sustainable clothing when investigating sustainable fashion purchase behavior. The literature suggests the classification of sustainable clothing considering factors affecting behaviors toward specific sustainable clothing categories (Bakiş & Kıtapçı, 2023) and specific sustainable attribute combinations (Carranza et al., 2023). Recycled, organic, and second-hand are the sustainable product solutions mostly investigated (e.g., Hong & Kang, 2019; Hur, 2020), followed by the design for durability and fair production (e.g., Rahman & Koszewski, 2020). In the case of recycled products, several types of garments made with recycled materials (e.g., waste or apparel)

are considered (e.g., Ritch, 2022; Şener et al., 2022). Instead, bio-based garments and participatory design are the solutions less studied. Therefore, future research should further analyze bio-based garments, as well as garments realized with new generation materials (Klein et al., 2020). This could be useful in fostering the diffusion of these innovative sustainable fashion products on the market by giving relevant insight to marketers and policymakers. Likewise, new design strategies, which entail a high consumer involvement and innovative product attributes (e.g., co-creation, versatility), should be investigated in future studies, with the aim to explore consumers' perceptions and acceptance.

Several solutions for sustainable clothing use emerged from the analysis. Among those related to personal fashion use, laundry behaviors and repair activities have been particularly investigated (e.g., Laitala & Klepp, 2020; McNeill, Hamlin, McQueen, Degenstein, Wakes, et al., 2020). The literature advocates for further investigations employing larger samples and the integration of innovative analytical methodologies (Klint et al., 2023). These methodologies may encompass the utilization of washing machine logging systems to record resource consumption across distinct programs or of clothing item tags designed to collect data on their use. Subsequently, amalgamating these datasets with consumer surveys or datasets derived from enterprises offering sustainable clothing services is recommended for a comprehensive understanding of sustainable clothing usage patterns. Alternatively, few studies investigated the motivations toward continuing wearing garments or explored the firm's services able to extend the clothing life cycle (e.g., Lang et al., 2016; Whitson-Smith, 2018). Therefore, future research should expand insight into the motivations that lead consumers to extend the use of their clothing. Specifically, it would be interesting to evaluate how the services offered by companies (e.g., repair or consultancy) affect the lifespan of the garment, as well as a deeper understanding of consumers' habits, knowledge, and skills for extending garment longevity (Laitala & Klepp, 2020). Collaborative consumption has been studied in several of its forms, such as physical stores or online exchange platforms (e.g., Johnson & Plepys, 2021; McNeill & Venter, 2019). Many of these studies delve into formal clothing rental (e.g., Tunn et al., 2021). However, since a shift toward these consumption patterns implies cultural and societal transitions (Frenken & Schor, 2017), consumer behavior toward collaborative consumption needs to be further addressed. Future studies should focus on the shared consumption patterns of clothing, exploring the diffusion, accessibility, and perception of these services, as well as the new forms (e.g., digital platforms) through which these services are offered (Iran et al., 2019; Liang & Xu, 2018; Pantano & Stylos, 2020). Future research could investigate the potential variations in behavioral markers of sustainable consumption (e.g., frequency, quantity, and expenditure related to new clothing acquisitions) after the consumer adoption of collaborative fashion consumption services (Kang et al., 2023). In addition, the literature suggests considering the influence of socio-demographic factors on adoption behaviors and comparing collaborative fashion consumption systems to other sustainable fashion alternatives (Herold & Prokop, 2023; Ramtiyal et al., 2023).

TABLE 3 Synthesis of future research agenda.

FUTURE RESEARCH AGENDA	
General	<ul style="list-style-type: none"> Adopting a qualitative approach or mixed methods. Investigating sustainable fashion solutions using specific clothing items, highlighting whether there are differences in the evaluation and perception of sustainable characteristics depending on the different types of garments.
(Pre-) purchase	<ul style="list-style-type: none"> Further analyzing bio-based garments, garments realized with new generation materials, and new design strategies, which entail a high consumer involvement and innovative product attributes. Investigating and comparing one or more specific sustainable fashion solutions, detailing each sustainable attribute.
Use	<ul style="list-style-type: none"> Employing larger samples and integrating innovative analytical methodologies (e.g., washing machine logging systems or clothing item tags). Studying motivations that lead consumers to prolong the use of their clothing, evaluating how the services offered by companies (e.g., repair, consultancy) affect the garment lifespan; more deeply investigating consumers' habits, knowledge, and skills for extending garment longevity. Investigating how collaborative fashion consumption services adoption may affect behavioral markers of sustainable consumption (e.g., frequency, quantity, and expenditure related to new clothing acquisitions). Investigating diffusion, accessibility, and perception of shared fashion consumption patterns and the new forms (e.g., digital platforms) through which these services are offered. Comparing collaborative fashion consumption systems to other sustainable fashion alternatives
Post-use	<ul style="list-style-type: none"> Investigating the new alternatives for the disposal of clothing that consumers can choose regarding service offered, promotion, dissemination, knowledge, and accessibility. Investigating online clothing disposal platform. Examining sustainable disposal behaviors considering frequency and quantity alongside clothing attributes (e.g., type, material composition, price, brand, and the number of users).

Regarding the *post-use* phase, six sustainable solutions and one behavior that favors recycling have been identified. Among these, donating and reselling are the most studied solutions in the literature (e.g., Birtwistle & Moore, 2007; McQueen et al., 2021; Sohn et al., 2021), while swapping and separating the items before discarding are the least investigated (e.g., Paço et al., 2021; Park & Lee, 2020). Moreover, online clothing disposal platform services have witnessed a notable ascent; nevertheless, their scrutiny within the existing literature remains scarce and necessitates additional research endeavors. Studies seem to focus on specific disposal methods, such as donating, reselling, and giving away, while other methods, like collection in the shop, recycling, and behaviors that favor recycling (e.g., separation of the garment components), are investigated to a

lower extent. For these reasons, future studies should be aimed at identifying all the alternatives for the disposal of clothing available to consumers, as well as investigating these solutions in terms of service offered, promotion, dissemination, knowledge, and accessibility. The extant literature advocates for a finer examination of sustainable disposal behaviors, outlining factors such as frequency and quantity alongside exploring clothing attributes encompassing type, material composition, price, brand, and the number of users (Guo & Kim, 2023). This detailed analysis approach is essential to elucidate the intricacies underlying the decision-making process associated with clothing disposal. Furthermore, cross country-studies could be valuable in exploring differences in disposal solutions, available services, and adoption behaviors (Wu et al., 2023).

Concerning the study limitations, the article sample used was defined from Scopus and Web of Science databases. Additional pertinent research not included in these databases may be missing. Further, only articles from the consumers' perspective were included; relevant findings could emerge from the analysis of articles focused on the companies' perspective.

Based on the above discussions, Table 3 displays the future research directions summary according to the consumption phase or general (i.e., valid for all the phases).

5 | CONCLUSIONS

This article aimed to explore the sustainability solutions for a product in the fashion industry, classifying them according to the consumption phases – that is, (pre-)purchase, use, and post-use – through a systematic literature review. The review considers the entire consumption process, highlighting sustainable product offering features (e.g., raw material, design, processes, and the associated services) and the sustainable garment choices, use, and disposal methods available on the market. This approach allows for understanding the multiple sustainability shapes that a fashion product can assume during its life cycle, moving across the consumption phases. This provides a comprehensive picture of sustainable fashion, from creation to value recovery integrating both the consumer and the company perspectives.

This study has several implications, from both the theoretical and managerial perspectives. Concerning implications for scholars, this study develops the sustainable fashion solutions framework, which promotes the understanding of the sustainable fashion concept through a unique analytical approach that considers the entire consumption process. The study proposes a roadmap for future research, highlighting under-researched areas, particularly those associated with emerging sustainable fashion alternatives in the market. Regarding managerial implications, companies can refer to the sustainable fashion solutions framework developed in this study to define their sustainable product strategies and product portfolio. The classification of these solutions holds significant implications for designers and marketers, serving as an inventory from which to select in order to make product offerings in the fashion industry sustainable throughout the various phases of consumption. Although sustainable fashion

solutions were presented individually, company designers can integrate multiple solutions that encompass the entire product life cycle when designing a product. This approach would enhance sustainability in each phase of consumption, promoting optimal strategies for the garment's sustainable manufacture, use, and disposal.

Several noteworthy points can be highlighted from this study:

1. The (pre-)purchase phase accounts for the greatest number of studies. It is important to further investigate the phases of use and disposal, which are fundamental for transitioning toward a more sustainable society. Additionally, consumers' fashion consumption behavior may vary depending on the specific clothing item. Considering and studying multiple clothing items will provide useful insights to clarify and deepen the understanding of this subject.
2. Reducing consumption and extending the use of garments are essential for sustainable development. Understanding and examining the drivers of these behaviors will be a critical focus of research in the coming years. In this context, collaborative consumption has emerged as a promising alternative to mitigate the negative impacts of the fashion industry. Although consumer acceptance of this service remains limited, offering collaborative fashion consumption services through multimedia channels (e.g., online platforms) may help its widespread adoption. Further, repair services would be key to extend product life cycle. Companies should consider the development of these services as part of their offering.
3. Promoting product circularity is a key driver of sustainable transition. Concerning fashion products post-use, it will be fundamental to concentrate efforts to optimize and increase the recovery of end-of-life garments and to foster the development of reverse logistics systems to advance circularity within the industry.
4. Specific garment attributes, encompassing comfort, quality, and fashionability, promote sustainable consumer behaviors across consumption phases. Ensuring that garments possess these characteristics is imperative for facilitating the fashion industry's transition toward sustainability.
5. Finally, literature underscores that scarce consumer knowledge (e.g., how to recognize a sustainable garment, how to repair clothes or wash or dispose of them sustainably) and cultural barriers (e.g., being perceived as poor or dirty if you wear the same item several times, or being perceived as not being fashionable if you do not follow the latest trends) can hinder the adoption of the presented sustainable solutions. For this reason, scholars, policymakers, and fashion companies should study and develop strategies to increase consumer awareness of sustainable fashion.

This review highlighted several sustainable fashion solutions across the entire consumption process. This holistic perspective is fundamental to reducing the impact of the fashion industry and moving toward a circular textile eco-system, where products are designed to last and are respectful of the natural environment, producers take responsibility for their products along the entire lifecycle, and repair services are available and economically feasible for consumers (European Commission, 2022).

Further, the framework built in this study can be extended by including innovations in the sustainable fashion industry, for example with regard to new-generation materials and new production processes, that are being developed or that will be developed in the future.

We hope this review will be useful for scholars, marketers, and policymakers to foster sustainable production and consumption in the fashion industry, thus promoting sustainable development.

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ENDNOTES

- ¹ These definitions are not intended to exhaustively reflect all the definitions provided in the literature.
- ² In addition, several companies have recently developed innovative sustainable dyeing processes. Among these, for example: DyeRecycle extract dyes from waste fibers, and transfer the dyes to a new fabric. The process is circular by design and eliminates the use of new dyes (DyeRecycle, 2022); Ever Dye use a no-heat, no-petroleum-based dyeing process producing color through a hybrid between paper waste and minerals (Ever Dye, 2022).
- ³ Collaborative consumption can also take place in the form of *gifting* or *swapping*. However, in the literature, there is no agreement on the phase to which these forms belong; in particular, some studies categorize them in the use phase (e.g., Iran et al., 2019; Iran & Schrader, 2017; Johnson et al., 2016) while others in the post-use phase (e.g., Cruz-Cárdenas & del Val Núñez, 2016; Joung & Park-Poaps, 2013; Paço et al., 2021). Since the present study considers the consumer perspective, and the gift or swap solutions imply that a user ceases to use the product permanently, even if this continues to be used by other users, gifting and swapping solutions are considered in the post-use phase.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Schiaroli, V., Dangelico, R. M., & Fraccascia, L. (2024). Mapping sustainable options in the fashion industry: A systematic literature review and a future research agenda. *Sustainable Development*, 1–34. <https://doi.org/10.1002/sd.3129>

APPENDIX A

TABLE A1 List of the papers considered for the literature review.

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Environmental concern and apparel consumption	Kim, H. S., & Damhorst, M. L.	1998	Clothing and Textiles Research Journal	x		
Consumer behavior toward recycled textile products	Grasso, M.M., McEnally, M., Widdows, R., Herr, D.G.	2000	Journal of the Textile Institute	x		
Fashion clothing – Where does it all end up?	Birtwistle, G., Moore, C.M.	2007	International Journal of Retail and Distribution Management			x
The branding of ethical fashion and the consumer: A luxury niche or mass-market reality?	Beard, N.D.	2008	Fashion Theory – Journal of Dress Body and Culture	x		
An investigation of young fashion consumers' disposal habits	Morgan, L.R., Birtwistle, G.	2009	International Journal of Consumer Studies			x
Consumer likelihood of purchasing organic cotton apparel: Influence of attitudes and self-identity	Hustvedt, G., Dickson, M.A.	2009	Journal of Fashion Marketing and Management	x		
Internal and external barriers to eco-conscious apparel acquisition	Connell, K.Y.H.	2010	International Journal of Consumer Studies	x		
Quest for the eco-apparel market: A study of mothers' willingness to purchase organic cotton clothing for their children	Gam, H.J., Cao, H., Farr, C., Kang, M.	2010	International Journal of Consumer Studies	x		
Eco-clothing, consumer identity and ideology	Kirsi Niinimäki	2010	Sustainable Development	x		
Social and eco-labeling of textile and clothing goods as a means of communication and product differentiation	Koszewska, M.	2011	Fibres and Textiles in Eastern Europe	x		
Emerging design strategies in sustainable production and consumption of textiles and clothing	Niinimäki, K., Hassi, L.	2011	Journal of Cleaner Production	x		
Are fashion-conscious consumers more likely to adopt eco-friendly clothing?	Gam, H.J.	2011	Journal of Fashion Marketing and Management	x		
The Normative Social Influence on Eco-Friendly Consumer Behavior: The Moderating Effect of Environmental Marketing Claims	Kim, H., Lee, E.-J., Hur, W.-M.	2012	Clothing and Textiles Research Journal	x		
Changing laundry habits in Norway	Laitala, K., Klepp, I.G., Boks, C.	2012	International Journal of Consumer Studies		x	
The role of environmental knowledge in young female consumers' evaluation and selection of apparel in South Africa	Momberg, D., Jacobs, B., Sonnenberg, N.	2012	International Journal of Consumer Studies	x		
Something old, something used: Determinants of women's purchase of vintage fashion versus second-hand fashion	Cervellon, M.-C., Carey, L., Harms, T.	2012	International Journal of Retail and Distribution Management	x		
The sustainable clothing market: An evaluation of potential strategies for UK retailers	Goworek, H., Fisher, T., Cooper, T., Woodward, S., Hiller, A.	2012	International Journal of Retail and Distribution Management	x	x	x
The consumption side of sustainable fashion supply chain: Understanding fashion consumer eco-fashion consumption decision	Chan, T., Wong, C.W.Y.	2012	Journal of Fashion Marketing and Management	x		
Laundry routine and resource consumption in Australia	Jack, T.	2013	International Journal of Consumer Studies		x	

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Factors motivating and influencing clothing disposal behaviors	Joung, H. M., & Park-Poaps, H.	2013	International journal of consumer studies			x
Environmental awareness on bamboo product purchase intentions: Do consumption values impact green consumption?	Yoo, J.-J., Divita, L., Kim, H.-Y.	2013	International Journal of Fashion Design, Technology and Education	x		
Product design scenarios for energy saving: A case study of fashion apparel	Moon, K.K.-L., Youn, C., Chang, J.M.T., Yeung, A.W.-H.	2013	International Journal of Production Economics	x	x	
What is a label worth? Defining the alternatives to organic for US wool producers	Bernard, J.C., Hustvedt, G., Carroll, K.A.	2013	Journal of Fashion Marketing and Management	x		
Green marketing of apparel: Consumers' price sensitivity to environmental marketing claims	Stall-Meadows, C., Davey, A.	2013	Journal of Global Fashion Marketing	x		
Consumer Acceptance of Sustainable Fashion in Germany	Eifler, C., Diekamp, K.	2013	Research Journal of Textile and Apparel	x		
Socially and environmentally responsible apparel consumption: Knowledge, attitudes, and behaviors	Kozar, J.M., Connell, K.Y.H.	2013	Social Responsibility Journal	x		
Korean Consumers' Motivations and Perceived Risks Toward the Purchase of Organic Cotton Apparel	Han, T.-I., Chung, J.-E.	2014	Clothing and Textiles Research Journal	x		
The Role of Information Exposure in Female University Students' Evaluation and Selection of Eco-Friendly Apparel in the South African Emerging Economy	Sonnenberg, N., Jacobs, B., Momberg, D.	2014	Clothing and Textiles Research Journal	x		
Consumer laundry practices in Germany	Kruschwitz, A., Karle, A., Schmitz, A., Stamminger, R.	2014	International Journal of Consumer Studies		x	
Fast-fashion consumers' post-purchase behaviors	Joung, H.-M.	2014	International Journal of Retail and Distribution Management			x
Consumer willingness to purchase organic products: Application of the theory of planned behavior	Maloney, J., Lee, M.-Y., Jackson, V., Miller-Spillman, K.A.	2014	Journal of Global Fashion Marketing	x		
Reuse and Recycling of Clothing and Textiles—A Network Approach	Ekström, K.M., Salomonson, N.	2014	Journal of Macromarketing		x	x
Environmentally sustainable apparel acquisition and disposal behaviors among slovenian consumers	Žurga, Z., Hladnik, A., Tavčer, P.F.	2015	Autex Research Journal	x		x
Creativity and Sustainable Fashion Apparel Consumption: The Fashion Detox	Ruppert-Stroescu, M., LeHew, M.L.A., Connell, K.Y.H., Armstrong, C.M.	2015	Clothing and Textiles Research Journal		x	
The heuristic-systemic model of sustainability stewardship: Facilitating sustainability values, beliefs and practices with corporate social responsibility drives and eco-labels/indices	Kim, H., Lee, S.H., Yang, K.	2015	International Journal of Consumer Studies	x		
Making clothing last: A design approach for reducing the environmental impacts	Laitala, K., Boks, C., Klepp, I.G.	2015	International Journal of Design		x	x
Sustainability innovators and anchor draggers: A global expert study on sustainable fashion	Pedersen, E.R.G., Andersen, K.R.	2015	Journal of Fashion Marketing and Management	x	x	x
Dirtying Linen: Re-evaluating the sustainability of domestic laundry	Yates, L., Evans, D.	2016	Environmental Policy and Governance		x	

(Continues)

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Creativity and sustainable apparel retail models: does consumers' tendency for creative choice counter-conformity matter in sustainability?	Lang, C., Armstrong, C.M., Liu, C.	2016	Fashion and Textiles	x	x	
Factors influencing college students purchase intention toward Bamboo textile and apparel products	Thompson, A., Tong, X.	2016	International Journal of Fashion Design, Technology and Education	x		
Clothing disposition by gifting: Benefits for consumers and new consumption	Cruz-Cárdenas, J., & del Val Núñez, M. T.	2016	Journal of Business Research			x
Educating for Sustainable Fashion: Using Clothing Acquisition Abstinence to Explore Sustainable Consumption and Life Beyond Growth	Joyner Armstrong, C.M., Connell, K.Y.H., Lang, C., Ruppert-Stroescu, M., LeHew, M.L.A.	2016	Journal of Consumer Policy		x	
Antecedents to internet use to collaboratively consume apparel	Johnson, K.K.P., Mun, J.M., Chae, Y.	2016	Journal of Fashion Marketing and Management		x	
Understand attitude-behavior gaps and benefit-behavior connections in Eco-Apparel	Perry, A., Chung, T.	2016	Journal of Fashion Marketing and Management	x	x	x
Preferences on transformable dresses for sustainability	Ma, Y.J., Koo, H.	2016	Research Journal of Textile and Apparel	x	x	
Wool wash: Technical performance and consumer habits	Laitala, K., & Klepp, I. G.	2016	Tenside, Surfactants, Detergents		x	
Willingness to pay for environmentally linked clothing at an event: Visibility, environmental certification, and level of environmental concern	Dodds, R., Pitts, R.E., Smith, W.W.	2016	Tourism Recreation Research	x		
Willingness to pay for organic cotton: Consumer responsiveness to a corporate social responsibility initiative	Nassivera, F., Troiano, S., Marangon, F., Sillani, S., Markova Nencheva, I.	2017	British Food Journal	x		
Clothing Disposal System by Gifting: Characteristics, Processes, and Interactions	Cruz-Cárdenas, J., González, R., Gascó, J.	2017	Clothing and Textiles Research Journal			x
Impact of Social Influence and Green Consumption Values on Purchase Intention of Organic Clothing: A Study on Collectivist Developing Economy	Varshneya, G., Pandey, S.K., Das, G.	2017	Global Business Review	x		
Sustainability and collaborative apparel consumption: putting the digital 'sharing' economy under the microscope	Joyner Armstrong, C.M., Park, H.	2017	International Journal of Fashion Design, Technology and Education		x	
Collaborative fashion consumption and its environmental effects	Iran, S., Schrader, U.	2017	Journal of Fashion Marketing and Management		x	
Antecedents to organic cotton clothing purchase behavior: study on Indian youth	Khare, A., Varshneya, G.	2017	Journal of Fashion Marketing and Management	x		
An environmental perspective on clothing consumption: Consumer segments and their behavioral patterns	Gwozdz, W., Nielsen, K.S., Müller, T.	2017	Sustainability	x	x	x
Motivations and barriers to the prolonged use of clothing	Whitson-Smith, J	2018	Critical Studies in Fashion & Beauty		x	
Second-hand clothing consumption: A generational cohort analysis of the Chinese market	Liang, J., Xu, Y.	2018	International Journal of Consumer Studies	x		

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Who are sustainably minded apparel shoppers? An investigation to the influencing factors of sustainable apparel consumption	Chang, H.J., Watchravesringkan, K.	2018	International Journal of Retail and Distribution Management	x		
The role of values in collaborative fashion consumption – A critical investigation through the lenses of the theory of planned behavior	Becker-Leifhold, C.V.	2018	Journal of Cleaner Production		x	
Social manufacturing in the fashion sector: New value creation through alternative design strategies?	Hirscher, A. L., Niinimäki, K., & Armstrong, C. M. J.	2018	Journal of Cleaner Production	x	x	
Clothing style confidence: The development and validation of a multidimensional scale to explore product longevity	Joyner Armstrong, C. M., Kang, J., & Lang, C.	2018	Journal of Consumer Behaviour		x	
The sustainability word challenge: Exploring consumer interpretations of frequently used words to promote sustainable fashion brand behaviors and imagery	Evans, S., Peirson-Smith, A.	2018	Journal of Fashion Marketing and Management	x	x	x
Enhancing green loyalty toward apparel retail stores: A cross-generational analysis on an emerging market	Dabija, D.-C.	2018	Journal of Open Innovation: Technology, Market, and Complexity	x		
Thematic analysis to assess indian consumers purchase intention for organic apparel	Sandhya, G., Mahapatra, S.K.	2018	Qualitative Report	x		
Determinants of organic cotton apparel purchase: A comparison of young consumers in the U.S.A. and South Korea	Han, T.-I.	2018	Sustainability	x		
Care and production of clothing in Norwegian Homes: Environmental implications of mending and making practices	Laitala, K., Klepp, I.G.	2018	Sustainability		x	
Sustainable dressing: Consumers' value perceptions toward slow fashion	Şener, T., Bişkin, F., Kılınç, N.	2019	Business Strategy and the Environment	x		
Eco-Fashion Consumption: Cognitive-Experiential Self-Theory	Fu, W., Kim, Y.-K.	2019	Family and Consumer Sciences Research Journal	x		
Objective knowledge, subjective knowledge, and prior experience of organic cotton apparel	Han, T.-I.	2019	Fashion and Textiles	x		
The impact of moral philosophy and moral intensity on purchase behavior toward sustainable textile and apparel products	Hong, H., Kang, J.H.	2019	Fashion and Textiles	x		
Increasing sustainability in clothing production and consumption-opportunities and constraints	Kleinhüchelkotten, S., Neitzke, H.-P.	2019	GAIA	x		
Identity, self-concept and young women's engagement with collaborative, sustainable fashion consumption models	McNeill, L., Venter, B.	2019	International Journal of Consumer Studies	x	x	
'The wardrobe diet': teaching sustainable consumption through experience with undergraduates in the USA	Rhee, J., Johnson, K.K.P.	2019	International Journal of Fashion Design, Technology and Education		x	
Understanding the purchasing behavior of second-hand fashion shoppers in a non-profit thrift store context	Seo, M.J., Kim, M.	2019	International Journal of Fashion Design, Technology and Education	x		
Consumer purchase behavior of eco-fashion clothes as a trend to reduce clothing waste	Jalil, M.H., Shaharuddin, S.S.	2019	International Journal of Innovative Technology	x		

(Continues)

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
			and Exploring Engineering			
Factors explaining shared clothes consumption in China: Individual benefit or planet concern?	Khan, J., Rundle-Thiele, S.	2019	International Journal of Nonprofit and Voluntary Sector Marketing		x	
Collaborative fashion consumption – A cross-cultural study between Tehran and Berlin	Iran, S., Geiger, S.M., Schrader, U.	2019	Journal of Cleaner Production		x	
Second-hand fashion market: consumer role in circular economy	Machado, M.A.D., Almeida, S.O., Bollick, L.C., Bragagnolo, G.	2019	Journal of Fashion Marketing and Management	x		
Green Apparel Buying: Role of Past Behavior, Knowledge and Peer Influence in the Assessment of Green Apparel Perceived Benefits	Khare, A.	2023	Journal of International Consumer Marketing	x		
The roles of values and social norm on personal norms and pro-environmentally friendly apparel product purchasing behavior: The mediating role of personal norms	Kim, S.H., Seock, Y.-K.	2019	Journal of Retailing and Consumer Services	x		
Evaluation of customers' sustainable fashion perception	Davidavičienė, V., Raudeliūnienė, J., Zubrii, M.	2019	Journal of System and Management Sciences	x	x	
Exploring the sustainability concepts regarding leather apparel in China and South Korea	Jung, H.J., Oh, K.W.	2019	Sustainability	x		
Luxury products and sustainability issues from the perspective of young Italian consumers	Pencarelli, T., Taha, V.A., Škerháková, V., Valentiny, T., Fedorko, R.	2019	Sustainability	x		
Knowledge, attitudes and behavior of consumers toward sustainability and ecological fashion	Ceylan, Ö.	2019	Textile and Leather Review	x		x
Investigating consumer behavior for environmental, sustainable and social apparel	Byrd, K., Su, J.	2020	International Journal of Clothing Science and Technology	x		
Fashion sensitive young consumers and fashion garment repair: Emotional connections to garments as a sustainability strategy	McNeill, L.S., Hamlin, R.P., McQueen, R.H., (...), Dunn, L., Wakes, S.	2020b	International Journal of Consumer Studies		x	x
The impact of odour on laundering behavior: an exploratory study	McQueen, R.H., Moran, L.J., Cunningham, C., Hooper, P.M., Wakefield, K.A.-M.	2020	International Journal of Fashion Design, Technology and Education		x	
Consumer responses to online fashion renting: exploring the role of cultural differences	Lee, S.H., Huang, R.	2020	International Journal of Retail and Distribution Management		x	
Exploring attitude–behavior gap in sustainable consumption: comparison of recycled and upcycled fashion products	Park, H.J., Lin, L.M.	2020	Journal of Business Research	x		
Rebirth fashion: Secondhand clothing consumption values and perceived risks	Hur, E.	2020	Journal of Cleaner Production	x		
The role of self-concept in shaping sustainable consumption: A model of slow fashion	Legere, A., Kang, J.	2020	Journal of Cleaner Production	x		
Waste not want not: Behavioral intentions toward garment life extension practices, the role of damage, brand and cost on textile disposal	McNeill, L.S., Hamlin, R.P., McQueen, R.H., (...), Garrett, T.C., Dunn, L.	2020a	Journal of Cleaner Production			x
Consumers' clothing disposal behaviors in Nanjing, China	Zhang, L., Wu, T., Liu, S., (...), Wu, H., Yang, J.	2020	Journal of Cleaner Production			x

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
A study of consumer choice between sustainable and non-sustainable apparel cues in Poland	Rahman, O., Koszewska, M.	2020	Journal of Fashion Marketing and Management	x		
Factors influencing the consumer's intention to buy fashion products made by recycled plastic waste	Nguyen, X.H., Tran, H.L., Nguyen, Q.H., (...), Dinh, H.L., Vu, H.T.	2020	Management Science Letters	x		
Cosmopolitanism, self-identity, online communities and green apparel perception	Khare, A., Kautish, P.	2020	Marketing Intelligence and Planning	x		
The extended shopping experience of used clothes in Hungary	Kapusy, K., Lógó, E.	2020	Periodica Polytechnica Social and Management Sciences	x		
The Cinderella moment: Exploring consumers' motivations to engage with renting as collaborative luxury consumption mode	Pantano, E., Stylos, N.	2020	Psychology and Marketing		x	
Antecedents to Indian consumers' perception of green apparel benefits	Khare, A.	2020	Research Journal of Textile and Apparel	x		
Trends in the fashion industry. The perception of sustainability and circular economy: A gender/generation quantitative approach	Gazzola, P., Pavione, E., Pezzetti, R., Grechi, D.	2020	Sustainability	x		x
The persuasive effect of competence and warmth on clothing sustainable consumption: The moderating role of consumer knowledge and social embeddedness	Hwang, Y.Y., Jo, G.Y., Oh, M.J.	2020	Sustainability			x
Effects of perceived sustainability level of sportswear product on purchase intention: Exploring the roles of perceived skepticism and perceived brand reputation	Kim, Y., Oh, K.W.	2020	Sustainability	x		
Indicators of consumers' preferences for bio-based apparel: A German case study with a functional rain jacket made of bioplastic	Klein, F.F., Emberger-Klein, A., Menrad, K.	2020	Sustainability	x		
Launch of sustainable plastic apparel: Effects of brand luxury and experience on consumer behavior	Kumagai, K., Nagasawa, S.	2020	Sustainability	x		
What affects garment lifespans? International clothing practices based on a wardrobe survey in China, Germany, Japan, the UK, and the USA	Laitala, K., Klepp, I.G.	2020	Sustainability		x	
Scale development of sustainable consumption of clothing products	Park, S., Lee, Y.	2020	Sustainability	x	x	x
Disposal behavior of Czech consumers toward textile products	Nencková, L., Pecáková, I., Šauer, P.	2020	Waste Management			x
Investigating the determinants of behavioral intentions of generation Z for recycled clothing: an evidence from a developing economy	Chaturvedi, P., Kulshreshtha, K., Tripathi, V.	2020	Young Consumers	x		
Sustainable plastic clothing and brand luxury: a discussion of contradictory consumer behavior	Kumagai, K.	2020	Asia Pacific Journal of Marketing and Logistics	x		
Green apparel buying behavior: A Stimulus–Organism–Behavior–Consequence (SOBC) perspective on sustainability-oriented consumption in Japan	Dhir, A., Talwar, S., Sadiq, M., Sakashita, M., Kaur, P.	2021	Business Strategy and the Environment	x		
Consumer adoption of access-based product-service systems: The influence of duration of use and type of product	Tunn, V.S.C., Van den Hende, E.A., Bocken, N.M.P., Schoormans, J.P.L.	2021	Business Strategy and the Environment		x	

(Continues)

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Exploring the level of sustainability awareness among consumers within the fast-fashion clothing industry: a dual business and consumer perspective	Papadopoulou, M., Papasolomou, I., Thrassou, A.	2021	Competitiveness Review	x		x
Emerging diy activities to enable wellbeing and connected societies	Niinimäki, K., Durrani, M., Kohtala, C.	2021	Craft Research		x	
Smells in Sustainable Environments: The Scented Silk Road to Spending	de Groot, J.H.B.	2021	Frontiers in Psychology	x		
INVESTIGATING THE IMPACTS OF PERSONALITY TRAITS ON COLLABORATIVE CONSUMPTION INTENTION OF LUXURY FASHION PRODUCTS AMONG MIDDLE-AGED WOMEN	Navia, CR; Khire, RU and Lyver, M	2021	INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION		x	
Considerations regarding the purchase behavior for clothes made from recycled textile waste in Turkey	Oncioiu, I., Ifrim, A.M., Petrescu, M., (...), Petcu, C., Silvestru, C.I.	2021	Industria Textila	x		
A study of U.S. consumers' intention to purchase slow fashion apparel: understanding the key determinants	Chi, T., Gerard, J., Yu, Y., Wang, Y.	2021	International Journal of Fashion Design, Technology and Education	x		
Factors influencing consumer choice: a study of apparel and sustainable cues from Canadian and Indian consumers' perspectives	Rahman, O., Fung, B.C.M., Kharb, D.	2021	International Journal of Fashion Design, Technology and Education	x		
Sharing Economy: Generation Z's Intention Toward Online Fashion Rental in Vietnam	Pham, H.T., Hoang, K.T., Nguyen, T.T., Do, P.H., Mar, M.T.C.	2021	Journal of Asian Finance, Economics and Business		x	
Examining sustainability surcharges for outdoor apparel using Adaptive Choice-Based Conjoint analysis	Brand, B.M., Rausch, T.M.	2021	Journal of Cleaner Production	x		
Increasing repair of household appliances, mobile phones and clothing: Experiences from consumers and the repair industry	Laitala, K., Klepp, I.G., Haugrønning, V., Throne-Holst, H., Strandbakken, P.	2021	Journal of Cleaner Production		x	
Communicating actionable sustainability information to consumers: The Shades of Green instrument for fashion	Turunen, L.L.M., Halme, M.	2021	Journal of Cleaner Production	x	x	x
Before and after the outbreak of Covid-19: Linking fashion companies' corporate social responsibility approach to consumers' demand for sustainable products	Vătămănescu, E.-M., Dabija, D.-C., Gazzola, P., Cegarro-Navarro, J.G., Buzzi, T.	2021	Journal of Cleaner Production	x		
Comparative analysis of sustainability measures in the apparel industry: An empirical consumer and market study in Germany	Friedrich, D.	2021	Journal of Environmental Management	x		
When your shop says #lessismore. Online communication interventions for clothing sufficiency	Frick, V., Gossen, M., Santarius, T., & Geiger, S	2021	Journal of Environmental Psychology		x	x
One size fits all? Segmenting consumers to predict sustainable fashion behavior	Haines, S., Lee, S.H.M.	2021	Journal of Fashion Marketing and Management	x		x
Capturing sustainable fashion purchase behavior of Hispanic consumers in the US	Davis, L. & Dabas, C.	2021	Journal of Global Fashion Marketing	x		
Do verbal and visual nudges influence consumers' choice for sustainable fashion?	Roozen, I., Raedts, M., Meijburg, L.	2021	Journal of Global Fashion Marketing	x		

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Equifinal causes of sustainable clothing purchase behavior: An fsQCA analysis among generation Y	Kopplin, C.S., Rösch, S.F.	2021	Journal of Retailing and Consumer Services	x		
The circular economy and bioeconomy in the fashion sector: Emergence of a “sustainability bias”	Colasante, A., & D'Adamo, I.	2021	Journal of Cleaner Production	x		
Consumers' preferences, attitudes and willingness to pay for bio-textile in wood fibers	Notaro, S., Paletto, A.	2021	Journal of Retailing and Consumer Services	x		
Does sustainability really matter to consumers? Assessing the importance of online shop and apparel product attributes	Rausch, T.M., Baier, D., Wening, S.	2021	Journal of Retailing and Consumer Services	x		
Impact of self-expressiveness and environmental commitment on sustainable consumption behavior: the moderating role of fashion consciousness	Mishra, S; Malhotra, G; (...); Shukla, YS	2021	Journal of Strategic Marketing	x		
Exploring the connection between odour and clothing disposal	McQueen, R.H., Moran, L.J., Cunningham, C., Hooper, P.M.	2021	Journal of the Textile Institute		x	x
Perceptions and attitudes of generation z consumers toward sustainable clothing: Managerial implications based on a summative content analysis	Kovacs, I.	2021	Polish Journal of Management Studies	x		x
Factors influencing eco-friendly apparel purchase behavior of Bangladeshi young consumers: case study	Sobuj, M., Khan, A.M., Habib, M.A., Islam, M.M.	2021	Research Journal of Textile and Apparel	x		
Slow fashion trends: Are consumers willing to change their shopping behavior to become more sustainable?	Castro-López, A., Iglesias, V., Puente, J.	2021	Sustainability	x		
Product-service systems and sustainability: Analysing the environmental impacts of rental clothing	Johnson, E., Plepys, A.	2021	Sustainability		x	
Sustainable fashion in poland—too early or too late?	Popowska, M., Sinkiewicz, A.	2021	Sustainability	x		x
Sustainable consumer behavior in purchasing, using and disposing of clothes	Soyer, M., Dittrich, K.	2021	Sustainability	x	x	x
By-and-Buy: The Effect of Social Influence on Discounting of Environmental Outcomes	Sargisson, R.J., Ankoné, B.A.H., Dijkhuis, M., (...), Philipp, A.J., Syafika, A.	2021	Sustainability and climate change	x		
The environmental impacts of clothing: Evidence from United States and three European countries	Sohn, J., Nielsen, K.S., Birkved, M., Joanes, T., Gwozdz, W.	2021	Sustainable Production and Consumption	x	x	x
Fostering sustainable consumer behavior regarding clothing: Assessing trends on purchases, recycling and disposal	Paço, A., Leal Filho, W., Ávila, L.V., Dennis, K.	2021	Textile Research Journal	x		x
Brazilian consumer perceptions toward second-hand clothes regarding Covid-19	Amaral, J. H. G., & Spers, E.	2022	Cleaner and Responsible Consumption	x		
Consumer preferences for circular outdoor sporting goods: An Adaptive Choice-Based Conjoint analysis among residents of European outdoor markets	Fuchs, M., & Hovemann, G.	2022	Cleaner Engineering and Technology	x		
Exploring mindful consumption, ego involvement, and social norms influencing second-hand clothing purchase	Zahid, N. M., Khan, J., & Tao, M.	2023	Current Psychology	x		

(Continues)

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Educating for change?: An investigation into consumers' perception of sustainability and the educational drivers needed to support sustainable consumption.	Bennetta, K., & Oeppen Hill, J.	2022	International Journal of Fashion Design, Technology and Education		x	
Drivers and barriers for sustainable fashion consumption in Spain: a comparison between sustainable and non-sustainable consumers	Blas Riesgo, S., Lavanga, M., & Codina, M.	2022	International Journal of Fashion Design, Technology and Education	x	x	
Finding yourself in your wardrobe: An exploratory study of lived experiences with a capsule wardrobe	Bardey, A; Booth, M; (...); Larsson, J	2022	International Journal of Market Research		x	
Slow fashion branding: understanding what consumers value most	Jung, S., Jin, B.E.	2022	Journal of Brand Management	x		
Consumer interpretations of fashion sustainability terminology communicated through labeling	Ritch, Elaine L	2022	Journal of Fashion Marketing and Management	x		
Theory of planned behavior, ethics and intention of conscious consumption in Slow Fashion Consumption	de Lira, J. S., & da Costa, M. F.	2022	Journal of Fashion Marketing and Management: An International Journal	x		
The effects of perceived value, environmental concern and attitude on recycled fashion consumption	Şener, T., Bişkin, F., & DüNDAR, N.	2023	Journal of Fashion Marketing and Management: An International Journal	x		
The Impact of Fashion Brand Sustainability on Consumer Purchasing Decisions	Mandarić, D., Hunjet, A., & Vuković, D.	2022	Journal of Risk and Financial Management	x		
Examining Sustainable Consumption Behaviors Through the Mass Customization Context: Emotional Product Attachment and Environmental Attitude Perspectives	Shaver, J., & Yan, R. N.	2022	Journal of Sustainability Research	x		
Satisfaction Through Clothing Utilization and Environmental Sustainability Based on Fashion AI Curation Service	Shin, E., Kim, S., & Koh, A. R.	2022	KSII Transactions on Internet & Information Systems		x	
Apparel disposal in the South African emerging market context: Exploring female consumers' motivation and intent to donate post-consumer textile waste	Sonnenberg, N. C., Stols, M. J., Taljaard-Swart, H., & Marx-Pienaar, N. J. M. M.	2022	Resources, Conservation and Recycling			x
Implementation of Digitalized Technologies for Fashion Industry 4.0: Opportunities and Challenges	Akram, S. V., Malik, P. K., Singh, R., Gehlot, A., Juyal, A., Ghafoor, K. Z., & Shrestha, S.	2022	Scientific Programming	x		
Technology-Based Strategies for Online Secondhand Platforms Promoting Sustainable Retailing	Bae, Y., Choi, J., Gantumur, M., & Kim, N.	2022	Sustainability	x		
Extending the Lifetime of Clothing through Repair and Repurpose: An Investigation of Barriers and Enablers in UK Citizens	Zhang, L., & Hale, J.	2022	Sustainability		x	
Investigating the antecedents of consumer behavioral intention for sustainable fashion products: Evidence from a large survey of Italian consumers	Dangelico, R. M., Alvino, L., & Fraccascia, L.	2022	Technological Forecasting and Social Change	x		
Addressing post-consumer textile waste in developing economies	Sinha, P., Dissanayake, D. G. K., Abeysooriya, R. P., & Bulathgama, B. H. N.	2022	The Journal of The Textile Institute			x

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Young consumers' motivations and barriers to the purchase of second-hand clothes: An empirical study of China	Wang, B., Fu, Y., & Li, Y.	2022	Waste Management	x		
Adolescent Generation Z and sustainable and responsible fashion consumption: exploring the value-action gap	Williams, A., & Hodges, N.	2022	Young Consumers	x		x
Modeling the intention and donation of second-hand clothing in the context of an emerging economy	Wu, M., Al Mamun, A., Yang, Q., Gao, J., Rahman, M. K., & Al Shami, S. S. A.	2023	Scientific Reports			x
Analyzing the impact of Covid-19 on sustainable fashion consumption with a model based on consumer value perceptions	Okur, N., Saricam, C., Iri, A. R., & Sari, I.	2023	Journal of Fashion Marketing and Management: An International Journal	x		
Is fast fashion finally out of season? Rental clothing schemes as a sustainable and affordable alternative to fast fashion	Herold, P. I., & Prokop, D.	2023	Geoforum		x	
Sustainable consumption in sports fashion – German runners' preference and willingness to pay for more sustainable sports apparel	Spindler, V., Schunk, H., & Könecke, T.	2023	Sustainable Production and Consumption	x		
Sustainable apparel: a perspective from Bangladesh's young consumers	Su, J., Iqbal, M. A., Haque, F., & Akter, M. M. K.	2023	Social Responsibility Journal	x		
Consumer attitude and disposal behavior to second-hand clothing in Ghana	Acquaye, R., Seidu, R. K., Eghan, B., & Fobiri, G. K.	2023	Scientific African	x		x
Improving Society and the Planet: Sustainability and Fashion Post-Pandemic	Strübel, J., Goswami, S., Kang, J. H., & Leger, R.	2023	Sustainability	x		
Encouraging sustainable clothing disposal: consumers' social recycling motivations in Turkey	Öztürk, E., & Şahin, A.	2023	Journal of Material Cycles and Waste Management			x
Examining Generation Z Consumer Online Fashion Resale Participation and Continuance Intention through the Lens of Consumer Perceived Value	Liu, C., Bernardoni, J. M., & Wang, Z.	2023	Sustainability	x		x
Mind the (reporting) gap—a scoping study comparing measured laundry decisions with self-reported laundry behavior	Klint, E., Johansson, L. O., & Peters, G.	2023	The International Journal of Life Cycle Assessment		x	
Drivers of green apparel consumption: Digging a little deeper into green apparel buying intentions	Tandon, A., Sithipolvanichgul, J., Asmi, F., Anwar, M. A., & Dhir, A.	2023	Business Strategy and the Environment	x		
Identifying Factors Influencing Consumers' Choice of Disposal Channels Regarding Children's Clothing in China	Guo, W., & Kim, E.	2023	Sustainability			x
Ecological consciousness and sustainable purchase behavior: the mediating role of psychological ownership	Mishra, S., Malhotra, G., Chatterjee, R., & Kareem Abdul, W.	2023	Asia Pacific Journal of Marketing and Logistics	x		
Mining Chinese Consumer Minds: Motivations for Selling Unwanted Fashion Items in Online Resale Marketplaces	Wang, Z., & Liu, C.	2023	Sustainability			x
Why do consumers purchase green clothing? Investigating symbolic meanings beyond social status and the role of consumer mindset	Bakiş, S., & Kitapçı, H.	2023	Journal of Fashion Marketing and Management: An International Journal	x		

(Continues)

TABLE A1 (Continued)

Title	Authors	Year	Journal	Life cycle phase		
				Before Usage	During Usage	After Usage
Gen Z's Motivations toward Sustainable Fashion and Eco-Friendly Brand Attributes: The Case of Vinted	Palomo-Domínguez, I., Elías-Zambrano, R., & Álvarez-Rodríguez, V.	2023	Sustainability	x		x
Solving the luxury fashion and sustainable development “oxymoron”: A cross-cultural analysis of green luxury consumption enablers and disablers	Carranza, R., Zollo, L., Díaz, E., & Faraoni, M.	2023	Business Strategy and the Environment	x		
Unlocking insights in the everyday: Exploring practices to foster sustainable maximum use of clothing	Maguire, H., & Fahy, F.	2023	Cleaner and Responsible Consumption		x	
Natural and sustainable? Consumers' textile fiber preferences	Sigaard, A. S., & Laitala, K.	2023	Fibers	x		
An investigation into the clothing repair behavior of fashion-sensitive consumers	Potdar, B., McNeill, L. S., & McQueen, R. H.	2023	International Journal of Fashion Design, Technology and Education		x	
Psychological ownership rather than material consumption: Can fashion firms' new subscription services become an environmentally sustainable business strategy?	Kang, J., Bissenbina, A., Faria, A. A., & Jang, J.	2023	Business Strategy and the Environment		x	
The impact of marketing mix on the adoption of clothes rental and swapping in collaborative consumption	Ramtiyal, B., Johari, S., Vijayvargy, L., & Prakash, S.	2023	Journal of Global Operations and Strategic Sourcing		x	
Generation Z's Intentions Toward Sustainable Clothing Disposal: Extending the Theory of Planned Behavior	Vlastelica, T., Kostić-Stanković, M., Krstić, J., & Rajić, T.	2023	Polish Journal of Environmental Studies			x
Fashion Consumption of Naturally Dyed Products: A Cross-Cultural Study of the Consumption of Blue-Dyed Apparel Between China and Japan	Xue, X., & Li, L.	2023	Fibres & Textiles in Eastern Europe	x		