

## BARRIERS TO REACHING SUSTAINABILITY IN THE FAST FASHION INDUSTRY

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### **Abstract**

*The fast fashion industry is one of the most polluting industries, and unfortunately, not a lot of viable solutions have been found till this moment. Nowadays, we are noticing more and more fashion campaigns that include a sustainable message, though we are still talking about a lot of environmental and social problems caused by this industry. However, finding innovative ideas starts with identifying the potential barriers that the industry is facing to better understand the actual state of the industry regarding sustainability from both the consumer and organization points of view. The following structured literature review is trying to create a whole picture of the sustainability barriers that the fashion industry is facing, and as we are talking about a highly competitive industry, constant research is needed. The main implications of this study are the ability to better comprehend what hinders the path to a more sustainable future nowadays. Still, to this day, little research has been conducted on the always-evolving challenges of sustainability. More research is needed for companies and consumers to adapt to the shift that is already happening, and the contribution of the paper will likely generate innovative strategies and solutions toward a greener future from both sides of view.*

**Keywords:** *barriers, challenges, consumer barriers, fashion sustainability, fast fashion organizational barriers,*

**JEL Classification:** *M14*

### **I. INTRODUCTION**

Currently, the way consumers and industry are designing, producing, and using clothes has a concerning effect from an environmental point of view. The Fashion industry is one of the most polluting industries on the planet, as it's a highly resource-consuming industry, with global factories, supply chain networks, and a short production timeframe and consumption that are mainly based on trend and not a necessity (Niinimäki et al., 2020; Quantis, 2018). Textile production generates 1.2 billion tons of greenhouse gas emissions yearly, which translates into more than all international flights and maritime transport combined. The fashion industry is also accountable for around 79 trillion liters of water consumed yearly, representing around 20% of the overall industrial water pollution coming from textile dyeing and chemical treatments, ending up being a major oceanic polluter with microplastics (Niinimäki et al., 2020). Around 500\$ billion is wasted annually because of the lack of sustainable practices like recycling, using clothing till the end of the life cycle, borrowing clothes, and stopping buying new clothes based on trends and not a necessity (Ellen MacArthur Foundation, 2017). By 2030 we may talk about around 102 million tons of clothing wasted if viable solutions are not found (Global Fashion Agenda, 2017). Another concerning issue is that about 85% of textiles are sent yearly to landfills (Rahman and Amin, 2017). Approximately 80 billion pieces of new clothing are being purchased yearly on a global level (Bick et al., 2018). Summing up all the above information, the main issues when talking about the fast fashion industry's impact on the environment level are related to chemical usage, textile waste, carbon footprints, water waste, water, soil, and air pollution, general waste, and ozone depletion (Noh and Johnson, 2019; Niinimäki et al., 2020).

As sustainability is a multifaced concept, it also refers to a social and economic dimension; therefore, it is important to point out that most fast fashion clothes and accessories are produced in China and Bangladesh, as the manufacturing costs are lower (Turker and Altuntas, 2014). Because of globalization, more and more factories of global fast fashion brands are providing workplaces for people to escape poverty. This translates into low wages for the employees, terrible working conditions, long working hours, no contracts, inadequate safety and health measurements, and vulnerability to discrimination (Turker and Altuntas, 2014; Mukherjee, 2015). Also, because the labor market is usually limited to children and females, consequently, sexual harassment, child labor, and incidents of verbal and physical violence frequently occur (Mukherjee, 2011; James, 2022; Zhang et al., 2021).

Conventional methods of dealing with extreme waste and general sustainability issues have failed globally to address the rising and continuous consumption (Smith et al. 2017). Also, these methods were unable to help consumers and industry create a similar perception of what sustainability means and how it would be

achieved. When debating sustainability, the challenges noticed must be perceived from both consumer and industry perspectives.

From a consumer point of view, we may talk about the fear of health issues in the future as the pollution effects can be concerning for some consumers. Next, we may talk about the consumers' consciousness and desire to do good and the fact that they are contributing to future generations' well-being, which leads to their availability to spend more on a good cause. Younger generations may see sustainability as a way to express themselves and their beliefs. (Öztürk and Engizek, 2017). Also, social pressure (Ciasullo et al., 2017) and 'saving face' (Wei and Jung, 2017) have been noticed to be important drivers towards sustainable purchases, especially for the younger generations.

However, creating a new business model or generating innovative ideas starts with identifying the industry's barriers and finding solutions; therefore, the paper's goal will be exploratory, to acknowledge the barriers that hinder the transition toward a sustainable fashion market. In order to do that, it will start with a theoretical framework. After that, the methodology will be divided into 3 stages, that will help us identify the mentioned barriers.

The contribution of the paper will be to acknowledge both organizational and consumer barriers that hinder the fast fashion industry transition to a more sustainable future.

## **II. THEORETICAL FRAMEWORK**

When discussing sustainable development or sustainability in a sector, we usually refer to the three dimensions or pillars: environmental, social, and economic (Barbier, 1987). While other scholars and thinkers have added other pillars, such as technical, institutional, or political (Hill and Bowen, 1997), the concept of the three pillars is still broadly accepted. It has been continuously developed through the triple bottom line of sustainability as an assessment tool, which John Elkington first enounced in 1994. The model of the triple bottom line took off in late 1990 and is also referring to 3 dimensions of corporate sustainability: profits (economic pillar), planet (environmental pillar), and people (social pillar). Hence, while the consequences from an environmental, social, and economic point of view are growing exponentially in the fashion industry, there are still some movements toward a shift in the sustainability paradigm and a focus on the triple bottom line model even in newer literature (Connell and Kozar, 2017; Wang et al, 2019). Therefore, achieving sustainability may not lie individually in each sphere but in the relationships between them.

When speaking about barriers, we refer to different factors that can prevent or impede organizations and consumers from reaching sustainable development in the future. Before going into depth into the two perspectives, we must mention that demographics may play a significant role in the research results. For example, there are differences in how people view sustainability in developed and developing markets. In developed countries, consumers will view sustainability as a life choice. In contrast, in developing countries, consumers may see sustainability more as legal compliance or corporate philanthropy, although their awareness of the topic might be similar (Yang et al. 2017). Regardless in both developing and developed countries, clothing consumption patterns are still unsustainable (Hur and Cassidy, 2019).

A pilot study made about challenges to reaching sustainability in the fast fashion industry, with a sample size of 58 respondents consisting of fashion designers, educators, and fashion design students, managed to categorize the barriers into internal and external as well as individual and collective. The mentioned barriers were, therefore, internal: "lack of consensus and knowledge regarding sustainable design, lack of design-led approaches implementing sustainability in fashion and perceived trade-offs with other design criteria, such as aesthetic styles, costs, and fashion trends" and "external: the complexity of sustainability issues, perceived insufficient consumer demand, attitudes and behavior gaps in consumer purchasing decisions on sustainable, collection ranges and insufficient incentives or values for businesses to implement sustainable design strategies" (Hur and Cassidy, 2019, p.1). The data was gathered through a quantitative and qualitative research method by collecting 5 interviews and 50 surveys.

In another study, with a sample size of over 1100 participants, where questionnaires were used as research instruments and also five in-depth interviews, the main barriers against the popularization of sustainable fashion were: limited knowledge about the issues from the fashion consumers, limited supply sources for sustainable fashion, economic issues (referring to sustainable products prices being higher than the usual products) and products design being not as appealing (Moon et al., 2015). Interviews showed that consumers have limited knowledge about the fashion market impact from an environmental point of view. Also, the respondents found it challenging to understand what sustainable fashion would look like, although they claimed to be environmentally conscious. The cost also played a significant role, as consumers were unwilling to pay

more for sustainable products. Moreover, the consumers were unable to find a lot of sustainable shops and found environmentally friendly designs not so appealing.

Consumers also play a big role in choosing the fashion companies that produce eco-friendly clothes, as there is a gap between the industry movement and the consumer's willingness to adopt more sustainable practices. An article that questioned what we know about sustainable fashion and how the future looks argued that radical change might follow only through innovation or a better understanding of the consumers' behaviors and empowering changemakers (Mukendi et al, 2020). Authors have already discussed a change in the consumer's awareness level linked to sustainable and eco-friendly fashion products as a step towards a circular economy transition in the fashion industry (Mishra et al, 2020). We are also talking about an industry with a highly competitive structure that puts pressure on the costs, newest trends, consumer satisfaction, and social responsibility (Turker and Altuntas, 2014), needing permanent research and updates.

Although we expected to see more drastic changes regarding reaching fashion sustainability, we only noticed small steps toward achieving it. Our goal is, therefore, to try to research and map the potential barriers that the fashion industry is raising from both consumer perspective and organizational points of view. As we can notice in all papers presented above, the lack of awareness regarding sustainability issues that the fashion industry creates from both consumers and organizations is a common challenge. It may be one of the most complex barriers to overcome.

### III.METHODOLOGY

The objective of our research was to identify the main barriers and sub barriers of reaching sustainability in the fast fashion industry.

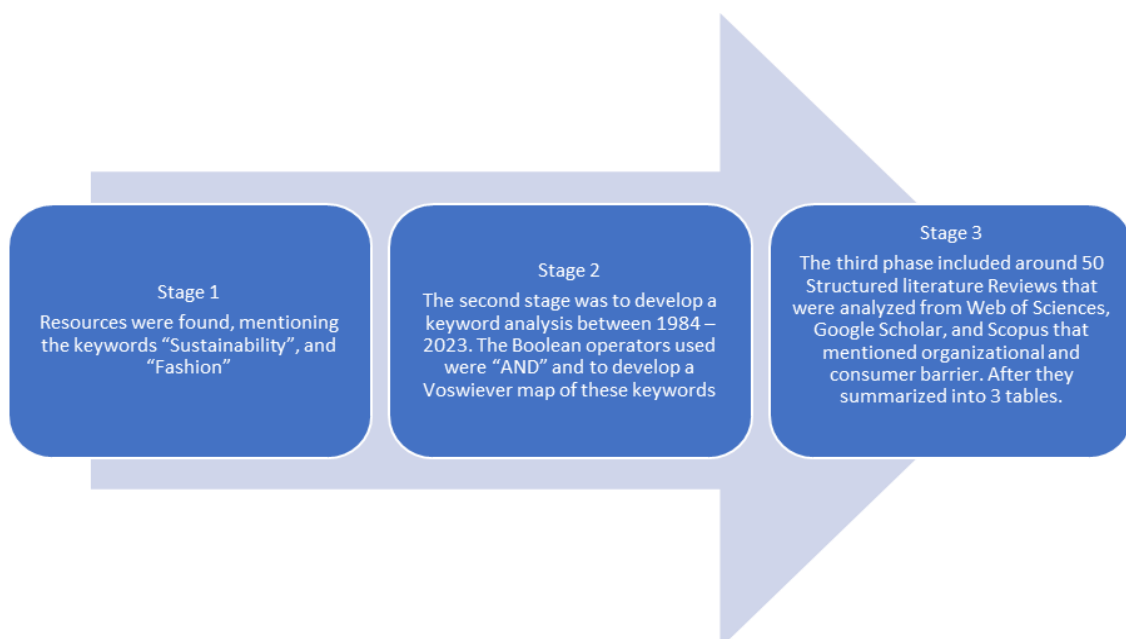
We have chosen to develop a systematic review, in order to offer us an overview of what has been already written on the topic. The research question that will be further answered is “Which are the sustainable barriers from an organization perspective and consumer perspective toward sustainable development in the fast Fashion industry?”. In order to provide an answer to the research question, the following steps were taken into consideration:

Stage 1: Resources were found, mentioning the keywords “Sustainability”, and “Fashion”

Stage 2: The second stage was to develop a keyword analysis between 1984 – 2023. The Boolean operators used were “AND” and to develop a Voswiever map of these keywords.

Stage 3: The third phase included around 50 Structured literature Reviews that were analyzed from Web of Sciences, Google Scholar, and Scopus that mentioned organizational and consumer barrier. The most cited papers mentioning consumer and organizational barriers were then summarized into 3 tables.

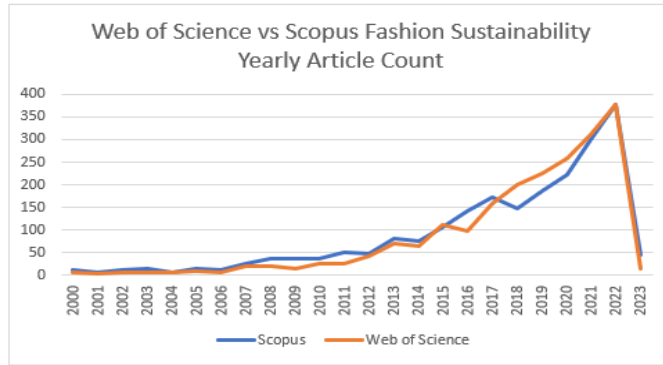
**Figure 1. Methodology Stages**



IV.RESULTS

Fashion sustainability is a relatively new topic, as interest in the matter has exponentially grown in the last decade (McNeil et al., 2015). Systematic literature review analysis showed that the field knowledge has advanced only after 2006 and has exponentially increased, as can be noticed in Figure 1.

Figure 2. Web of Science vs. Scopus Fashion Sustainability Yearly articles count



We started analyzing the keyword in Voswiever for “Sustainability” and “Fashion” the wider search gave us more results and we obtain the following general view on the keywords in researching the steps toward sustainability in the fast fashion industry from the Web of Science 2,118 results: consumption, management, supply chain management, apparel, innovation, consumer behavior, CSR, business models, circular economy, design, perspective, and perception (See Figure 2).

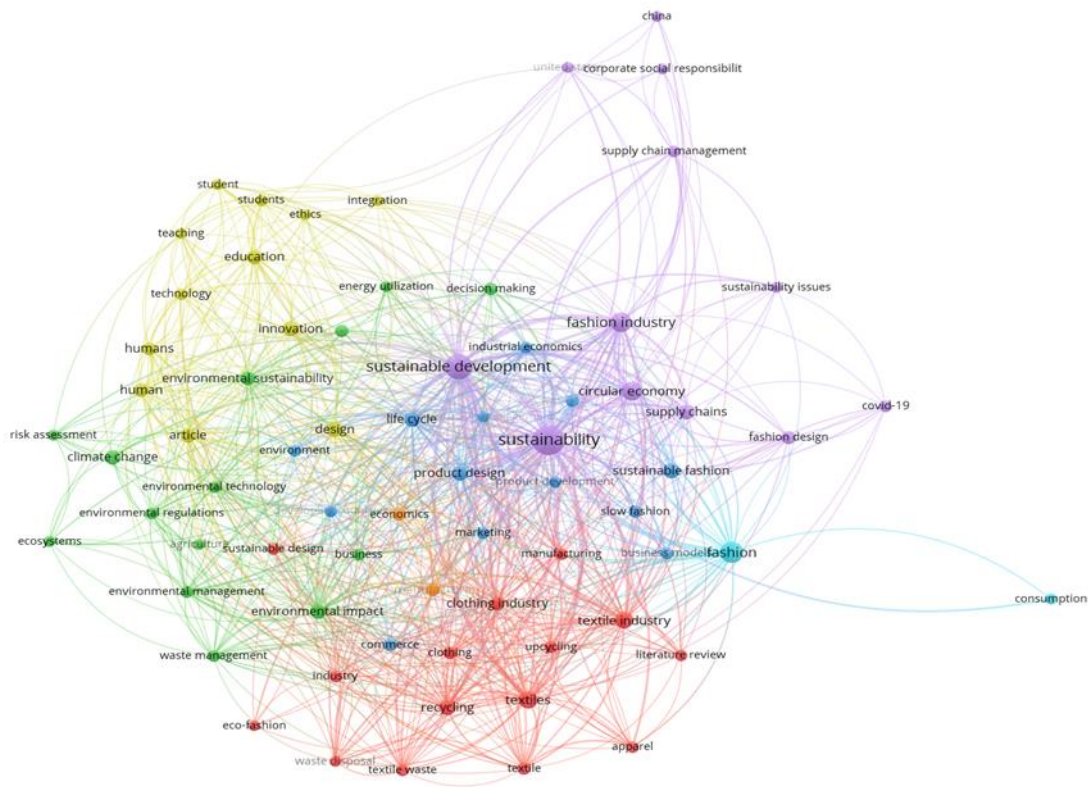
Figure 3. Keywords for “Sustainability”, “Barriers” and/or “Fashion”

Web of Science	Keyword for barriers/challenges to sustainability in fast fashion	occurrences	total link strength
1	sustainability	52	204
2	challenges	32	167
3	barriers	31	140
4	consumption	19	83
5	drivers	12	66
6	governance	12	40
7	green	11	46
8	CSR	11	48
9	corporate social-responsibility	11	57
10	management	10	47
11	performance	9	35
12	supply chain management	9	43
13	innovation	8	36
14	consumer behavior	7	27
15	business models	7	47
16	consumer	7	26
17	fashion industry	7	37
18	framework	7	38
19	supply chain	7	39
20	education	7	15
21	fast fashion	6	25
22	responsibility	6	26
23	sharing economy	6	23
24	clothing	5	15
25	consumers	5	23
26	design	5	26
27	determinants	5	24
28	economy	5	31
29	perceptions	5	22
30	perspective	5	27
31	textile	5	25
32	collaboration	5	20
33	fashion design	5	8

After running the same keyword analysis on Scopus (649 results), the following additional keywords were found compared to the Web of Science: environmental regulations, environmental technology, eco-fashion, and information management.

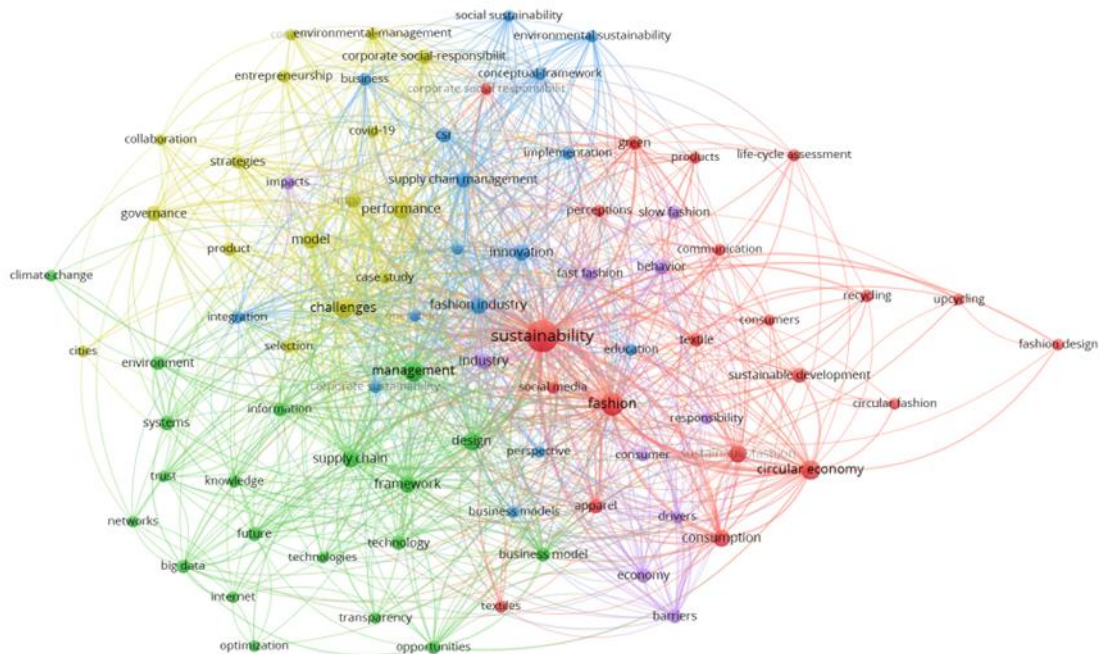
Next, we mapped in Vosviewer the keyword Analysis. We noticed the following after using Vosviewer to better understand the direction for barriers/challenges toward sustainability. In Scopus (Figure 3), we had the yellow cluster, which is linked to education, teaching, ethics, technology, innovation, and integrations; the purple cluster, which contains sustainable development, circular economy, supply chain management, corporate social responsibility, fashion design, the third cluster is the blue one linked toward business model, life circle, product design, and consumption. The red cluster refers to recycling, textile waste, manufacturing, eco-fashion, and upcycling. The green cluster is linked to environmental regulations, management, and technology, as also waste management and climate change.

**Figure 4. Bibliometric map of barriers towards sustainable fashion from Scopus**



In the Web of Science bibliometric analysis (Figure 4), the following were noticed: the yellow cluster was linked to challenges, governance, collaboration, strategies, and products; the blue cluster was linked to social sustainability, supply chain management, innovation, and CSR; the red cluster contained circular economy, communication, life cycle assessment, upcycling, circular economy, consumption, and consumers. The purple cluster contained consumer behavior, drivers, barriers, economy, and fast fashion. The green cluster contained the supply chain, technologies, technologies innovation design, internet, and optimization. Both bibliometric keyword analyses contained a cluster, either yellow for Scopus or green for Web of Science, linked toward innovation and technology. Another similarity is linked to the circular economy, recycling, and upcycling, clusters, purple in Scopus and red in Web of Science. Another common keyword is corporate social responsibility, and supply chain, in both Scopus and Web of Science analysis.

**Figure 5. Bibliometric map of barriers towards sustainable fashion from Web of Science**



The main perceived difference is that the Scopus analysis doesn't contain a cluster associated with challenges or barriers, while on Web of Science, there is a yellow cluster associated with challenges and a purple one with barriers. On Scopus, on the other hand, we have the additional keywords that caught our attention: waste management, environmental regulations, decision-making, energy utilization, and manufacturing.

Next, we identified 108 articles mentioning “Sustainability”, “Barriers” and “Fashion” on the Web of Science and 90 results on Scopus. If we narrowed it to “Sustainability”, “Barriers” and “Fast Fashion” only 12 results were found on the Web of Science and 17 on Scopus, therefore we decided to extend the research to Google Scholar. In Web of Sciences we have found the following mentioned barriers: globalization and lack of transparency, inconvenience and lack of resources, lack of knowledge and awareness, lack of trust in fashion companies, attitude behaviour gap from consumers, concerns about aesthetics (Ozdamar and Atik, 2015). Another article researching mentioned high production cost, the complexity of garments requirements, high consumer prices, distant manufacturing, lack of production capacity (Sirilertsuwan et al., 2019). Other articles mentioned mentioned consumer attitudes, communications, awareness level, stakeholders support, and consumer perception in general. From Scopus, only two articles were researching the barriers and valuable for us. The first article “Sustainability in fashion retail: literature review and bibliometric analysis” found the lack of existence of a clear definition of the sustainable fashion as being one of the main challenges to reaching it. Other mentioned barriers would be the challenges between stakeholders, the global supply chains in relationship with innovation and ethical consumption, company communication and changing consumers behavior (Prado et al, 2022).

The second article mentioned the fast fashion culture as being one of the main barrier, as even though more consumers are more environmentally conscious aware, the awareness has not reached the large scale population and industry still sells a misguided version of consumerism (de Aguiar et al, 2021).

The last step of the analysis was to identify the most cited literature review studies linked to our study of barriers toward sustainability from Google Scholar, which will be presented in Table 5. Only the systematic literature review that mentioned barriers was taken into consideration, as our main goal was to scan the actual literature review for potential barriers. The following barriers were identified, as to be seen in Table 5, from around 50 most cited Google Scholar articles:

**Table 6. Systematic Literature Mentioning Organisational and Consumers barriers toward sustainability**

<b>Systematic Literature review</b>	<b>Identified barriers</b>
Yang et al. (2017)	<ol style="list-style-type: none"> <li>1. Consumers' willingness to pay extra for sustainable fibers</li> <li>2. Low awareness regarding the environmental impact of the fast fashion industry</li> <li>3. Consumers' general perception of sustainable fashion consumption</li> <li>4. Consumerism behaviour</li> </ol>
Thorisdottir and Johannsdottir (2019)	<ol style="list-style-type: none"> <li>1. Management commitment</li> <li>2. Price policy</li> </ol>
Wu et al. (2022)	<ol style="list-style-type: none"> <li>1. Barriers to sustainable merchandising perceptions (coming from consumers perception and actions)</li> <li>2. Barriers to sustainable merchandising standards (coming from producer and government)</li> </ol>
Wagner and Heinzl (2020)	<ol style="list-style-type: none"> <li>1. Mixed waste streams</li> <li>2. Lack of awareness coming from consumers</li> <li>3. Lack of awareness coming from the organization regarding the implementation of innovative management processes to address fashion sustainability</li> </ol>
Mukendi, Davies, Glozer & McDonagh (2020)	<ol style="list-style-type: none"> <li>1. Financial barriers</li> <li>2. Lack of accessibility and convenience prevents</li> <li>3. Perceived ugly designs</li> <li>4. Lack of reuse opportunities and recycling availability</li> <li>5. Lack of information and education</li> </ol>

From the table, we noticed that the barriers could be categorized into two categories: consumer barriers and organizational barriers.

**V. DISCUSSION**

As a result of the above-mentioned analysis, we managed to identify the following barriers.

**Table 7. Conceptual map Barriers**

<b>Organisational Barriers</b>	<b>Consumer Barriers</b>
The complexity of sustainability	Limited understanding and awareness of fashion sustainability coming from consumers
The complexity of the fashion supply chain	Perceived limited supply sources for sustainable fashion
Management commitment and engagement	Higher Cost and availability to pay extra
Cost and pricing strategy	Products design
Lack of awareness coming from the organization regarding the implementation of innovative strategies to address fashion sustainability	Attitudes and Behaviour gaps in consumer purchasing decisions on sustainable collection ranges

First, we will present the organizational barriers which are the complexity of sustainability in the fast fashion and supply chain, the management engagement and commitment towards sustainability, the cost and pricing strategy, and the lack of awareness coming from the organization regarding the implementation of innovative approaches to address fashion sustainability.

**Table 8. Organizational Barriers toward sustainable fashion summary**

Organizational Barrier	Specific barrier	Reference
The complexity of sustainability	Challenges of understanding sustainable fashion	Moon et al. (2015)
	Three complex dimensions	Barbier (1987)
	Additional dimensions, such as technical, etc.	Hill and Bowen (1997)
The complexity of the fashion supply chain	Stakeholder Cooperation and Commitment	Donaldson and Preston (1995); Farooque et al. (2019); Khoo (2019); Pedersen and Andersen (2015);
	The circularity of the supply chain	Kazancoglu et al. (2020)
	Public policies and government legislation to support ethically and sustainable clothing production	Pedersen and Andersen (2015)
Management commitment and engagement	Management commitment	Thorisdottir and Johannsdottir (2019); Khoo (2019);
	Internal organization changes from management	Pedersen and Andersen, (2015);
Cost and pricing strategy	High prices	Thorisdottir and Johannsdottir (2019);
	Perceived trade-offs of sustainability with other design criteria, such as cost, design, and fashion trends	GOEL (2018); Hur and Cassidy (2019);
	Innovative technologies for recycling and sustainable merchandising and production	Sirilertsuwan et al. (2019); Wu et al. (2022)
Lack of awareness coming from the organization regarding the implementation of innovative strategies to address fashion sustainability	Lack of awareness regarding sustainability tools	Barbier (1987); Plessis (2007); Connell and Kozar (2017); Wang et al. (2017);
	Lack of knowledge regarding sustainable design	Moon et al. (2015); Hur and Cassidy (2019);
	Lack of awareness regarding the circular economy in textile apparel	Staicu and Pop (2018)

***The complexity of sustainability in fast fashion***

One of the main issues we noticed from the literature is that both consumers and organizations find it challenging to understand sustainable fashion and how it can be defined (Moon et al., 2015). In a study developed by Hur and Cassidy (2019), the understanding of the term sustainability was evaluated by 58 survey respondents, 20% of them were not sure what sustainability meant, 36% of the respondents only provided short terms of descriptions like eco-friendly, environmentally conscious, longer life of the products, no waste, etc. The other 44% of respondents were able to provide meaningful interpretations of what sustainability meant in the fashion industry with examples of their own practices and goals.

Sustainability is a complex term that refers to three dimensions or pillars: environmental, social, and economic (Barbier, 1987). Some scholars and thinkers have added other pillars, such as technical, institutional, or political (Hill and Bowen, 1997), which may add even deeper complexity to the term.

Incorporating sustainability means anything that implements one or all of these dimensions. Therefore, a sustainable development strategy in the fashion department cannot only focus on creating jobs and clothes to satisfy the internal and external public at the cost of ignoring environmental issues.



### *The complexity of the fashion supply chain*

When designing the barriers to sustainability, we looked at manufacturing, transport, the materials that are being used, and the importance that the stakeholders from the supply chain play in reaching sustainability. We cannot deny that the fashion industry implies, without a doubt, a very long and complicated supply chain that involves a lot of stakeholders, both external and internal (Ki et al., 2020). As Stakeholder theory suggests, building a positive relationship with stakeholders leads to various company advantages (Donaldson and Preston, 1995). As Farooque et al. (2019) state, getting the supply chain stakeholders to work systematically and integrate a circular environmental approach will eventually lead to developing innovative business models and relevant supply chain functions to achieve zero waste by recycling resources throughout the life circle (Farooque et al., 2019). Still, these require a lot of involvement and complexity. As presented before, the management commitment represents a barrier; therefore, although these innovative strategies would be needed for making decisions and helping to create waste management strategic plans in the future Khoo (2019), we still question the real concern of the fashion companies' managers. Wang et al. (2020) stated how, nowadays, fashion stakeholders and managers have their approach, which may or may not include social and environmental sustainability considerations.

Another study by Kazancoglu et al. (2020) explained how the supply chain of fashion companies needs to be circular to deliver sustainable products to customers. Also, there was stated that further research should try to understand more in-depth the insight of the experts regarding these barriers and the interest and awareness regarding supply chain management and how it can become more environmentally friendly in the future. Regardless, the government and European Union should support ethical and sustainable brands and help the industry move towards the sustainable path by providing more and more drivers and incentives for businesses to create a supply chain as sustainable as possible (Pedersen and Andersen, 2015).

### *Management engagement/commitment*

As Osterwalder and Pigneur (2010) state, organizations have common elements, and business models are structured and designed upon. The first element is how people within the organization, with their mindsets, skills, and ideas, merge with the organization's strategies. The second is the organization's direction, the third is represented by the organization's structure and what it requires, and the fourth is related to the process and implementation of the business model. The last-mentioned element requires the ability to map the company's internal and external environment, whose main areas are the market forces, industry forces, key trends, and macroeconomic forces. The fifth element is the reward, focusing on how managers reward and manage employees to achieve a goal (Thorisdottir and Johannsdottir, 2019).

When talking about transforming the fashion industry into a more sustainable one, we also refer to the necessity of some significant organizational changes in the management structure. Management commitment is essential when discussing successful strategies and processes, as management allocates resources, sets directions, supervises, and monitors performance, and rewards it accordingly. Also, it's essential to reflect on the internal organizational factors that can impact the transition toward sustainability (Pedersen and Andersen, 2015).

### *Cost and pricing strategy*

Although in the literature regarding sustainability, the economic pillar was often associated with the social and environmental pillars, the economic dimension is related to the ability to incorporate sustainable processes and practices in the strategies of the business (Peralta et al, 2016). To achieve those sustainable strategies, it's vital to ensure the strategy's economic and technological viability. Sadly, sustainable practices are often perceived as a trade-off between cost, style, and fashion trends. Therefore, the economic dimension plays a considerable role as a barrier to reaching sustainability from both points of view of the consumers and organizations (GOEL, 2018), and incentives or business values can't balance the importance of the dimension.

From a business perspective, sustainability comes with a price, representing a significant barrier. Due to the pressure and competitiveness in the fast fashion industry, it can be challenging to change business practices. Usually, companies tend to avoid these changes for economic reasons. For example, investing in the latest recycling and anti-pollution control technology is an extra cost but is essential for the industry's long-term future. The long-term stability of the fashion industry may also mean giving up the fast fashion business model in the future or changing it (Khoo, 2019). Hopefully, we will also see a shift from the linear approach to sustainability that we noticed in the fast fashion industry (take, make, dispose of) to a more circular economic model. Still, multiple barriers exist to sustainability (Niinimäki et al., 2020). The lack of infrastructure, legal issues, and recycling technology represent a few obstacles the fashion industry faces (Sirilertsuan et al., 2019). Due to little demand, companies won't try hard if consumers are not ready to spend extra on sustainability.

***Lack of awareness coming from the organization regarding the implementation of innovative strategies to address fashion sustainability.***

Many papers talk about the lack of knowledge regarding sustainability tools as the triple bottom line of sustainability, which John Elkington first enounced in 1994, or the Life Cycle Analysis (LCA). The model of the triple bottom line took off in late 1990 (Barbier,1987) and has been mainly used to justify a multifaceted approach; therefore, achieving sustainable development should be seen as a complex system of problems that are interconnected relations between economy, technology, society, and environment (Du Plessis, 2007). Hence, while the consequences from an environmental, social, and economic point of view are growing exponentially in the fashion industry, there are still some movements toward a shift in the sustainability paradigm and a focus on the triple bottom line model, even in newer literature (Connell and Kozar, 2017; Wang et al, 2017). However, one potential issue that needs to be further addressed is that these tools are valuable evaluators for existing practices but are not very helpful in creating innovative solutions for future sustainable strategies.

When discussing sustainable design, incorporating sustainable practices can translate into more eco-friendly dyes, printing, surface treatments, waste management, and recycling. Other sustainable design options can be green packaging, upcycling design, sharing clothes, and, of course, trying to use the product till the end of the lifecycle. In another study about sustainable design, designers were unaware of how to design sustainable textiles and battle the mentality of sustainable fashion items not being as aesthetically pleasing as other items (Moon et al., 2015). As Hur and Cassidy (2019) state, there is still a lack of awareness regarding sustainable fashion and how it can be achieved by organizations.

As the main managerial implications for countering the effect of fast fashion regarding sustainability are linked more to consumer education (Long and Nasiry, 2022), and developing consumer education shouldn't necessarily be focused on consuming less but on changing consumption patterns towards reducing waste and shifting the perspective from quantity to the quality of the item (Jung and Jin, 2016). While investigating barriers, we observed that the main lines of research from a consumer point of view are focused on the lack of awareness of fashion sustainability, the perceived limited supply sources for sustainable fashion, the higher cost, the product design, and the gap between the attitudes and behaviors of the consumers regarding their purchases of sustainable clothing.

**Table 9. Consumer Barriers toward sustainable fashion summary**

<b>Consumer Barrier</b>	<b>Specific barrier</b>	<b>Source</b>
Limited understanding and awareness of fashion sustainability coming from consumers	Sustainability as a multifaceted concept	Ritch (2015); Moon et al. (2015); Yang et al. (2017); Wagner and Heinzl (2020); Mukendi et al. (2020); Islam and Yuhan (2018)
	Shift in consumers awareness level	Farris et al. (2015); GfK, 2020; Orzan et al. (2018); Purcareia et al. (2022); Roman et al. (2015);
	Sustainability branding	Kim and Hall, (2015); Visser et al. (2015); de Lenne and Vandenbosch (2017); Henninger et al. (2015); James and Montgomery (2017);
	Sustainability Green Tag	Moon et al. (2015); Blanchet (2017); Ma et al. (2017); Hyllegard et al. (2014); Henninger (2015); Hwang et al. (2015); Ma et al. (2017); Evans and Peirson-Smith (2018);
Perceived limited supply sources for sustainable fashion	Limited awareness regarding real sustainable purchases	Moon et al. (2015); Mukendi et al. (2020); Bly et al. (2015)
	Secondhand purchases	Yang et al. (2017); McNeial and Moore (2015); Padmavathy et al. (2019); Valor et al. (2022); Hur (2020); Laitala and Klepp (2018); Liang and Xu (2018); Silva et al. (2021); Fischer, (2015)
Higher Cost and availability to pay extra	Higher Cost	Nistor (2019); Ritch (2015); Öztürk and Engizek (2017); Yang et al. (2017); Mukendi et al. (2020); Hur and Cassidy (2019)
	Availability to pay extra	Roman et al. (2015); GfK (2020)
Products design	Eco Clothing stigma	Mukendi et al. (2020); Hur and Cassidy (2019); Winge (2008); Harris et al.

		(2016); Goworek et al. (2012)
Attitudes and Behaviour gaps in consumer purchasing decisions on sustainable collection ranges	Trends, impulsive shopping and peer pressure	Armstrong et al. (2016); Dragan (2020); Yang et al. (2017); Mukendi et al. (2020); Pedersen and Andersen (2015);
	Changing habits, patterns	Harris et al. (2015); Shen et al. (2012)

***Limited understanding and awareness of fashion sustainability coming from consumers.***

Globally, one of the most mentioned barriers is the limited knowledge about sustainable fashion. The discrepancy between consumer attitudes, actual sustainable consumption, and purchase behavior has led to the need for researchers to comprehend the issue better. As Islam and Yuhan (2018) state, "sustainability issues can often be multifaceted in nature, with varying scales that could occur on both regional and global levels". Therefore, we can question whether consumers still lack awareness regarding sustainability in the fast fashion industry. As shown by Farris et al. (2015), retailers need to comprehend the shifts and changes regarding consumer awareness. Global studies showed mixed results regarding general consumer awareness.

We also must point out that sustainability branding is still a conflicting topic. Although consumers are yet more open to sustainable collections, marketers have a significant role in how these consumers perceive sustainable fashion (Kim and Hall, 2015). Younger generations seem to be more particularly open to sustainability and its importance, but each age segment needs to be addressed and approached differently to satisfy their heterogeneous needs (Di Benedetto, 2017; Dabija, 2018). Sustainable fashion is usually promoted more as a social norm, as it gives consumers satisfaction towards doing good (Visser et al., 2015). Social media is just one channel recently targeted towards sustainable marketing as it has been shown to increase purchase intention, positive attitudes toward the brand, and self-efficacy (de Lenne and Vandenbosch, 2017). Naturally, consumers desire transparency about sustainability on all platforms (Henninger et al., 2015; James and Montgomery, 2017); although sustainability is instead a complex subject, as presented before, it can overpromise sustainable solutions leading to consumers' perception of the fast fashion industry as being sustainable and very preoccupied about the matter.

Many fashion brands have focused on using a green or sustainable "hang tag" that should educate consumers (Moon et al., 2015; Blanchet, 2017; Ma et al., 2017). It has been argued if these tags on a sustainable product are better at attracting consumers' attention (Hyllegard et al., 2014) or if they are being ignored because consumers are unaware of their purpose. The Consumer who ignores these tags can either see sustainability as propaganda or do not care about environmental impact (Henninger, 2015; Hwang et al., 2015). One of the essential characteristics of these tags is to be clear and transparent to avoid confusion on the topic, as very few consumers discern between terms and completely understand what sustainability means (Ma et al., 2017; Evans and Peirson-Smith, 2018). Fashion sustainable marketing also uses donations claims to label something as being sustainable or celebrity endorsement strategies. However, the product itself may be unsustainable from a garment or materials point of view.

***Perceived limited supply sources for sustainable fashion.***

As Bly et al. (2015) state, consumers committed to sustainable purchases lack awareness regarding their sustainable clothing care. They also see sustainable clothing as having many limitations, from limited stores and design options. More and more sustainable campaigns and second-hand shops are being caught daily.

Second-hand consumption has become a growing trend in the last two decades in both developing and Western countries (Yang et al., 2017). In a study by McNeial and Moore (2015), consumers didn't show a connection between their interest in sustainability and their choice of buying second-hand. The second hand was seen as a method to save money and find something unusual or extraordinary rather than for ethical reasons. Therefore, one of the primary motivators for buying clothes is the economic factor, uniqueness, and nostalgia (Padmavathy et al., 2019), as ecological reasons have been tested. However, the result is still unclear (Valor et al., 2022). Although consumers may acknowledge the benefits of second-hand shopping, and many actively choose second-hand products (Machado et al., 2019), we are still battling the stigma associated with these products. The idea of second-hand clothes being ugly, dirty, and outdated is relevant among non-users of second-hand garments, as also emotions such as disgust, fear, and embarrassment (Hur, 2020, Laitala and Klepp, 2018; Liang and Xu, 2018; Silva et al., 2021). This can easily explain the resistance towards these types of purchases, which may give consumers the perception of having limited options when choosing cheaper, sustainable options, as cost plays a big role for most consumers. The stigma is not as relevant for vintage or luxury used clothing items (Fischer, 2015).

***Higher Cost and availability to pay extra.***

Most probably, the most significant barrier from a consumer perspective is the price difference. Research showed that consumers prefer fast-fashion brands because of the low prices, which is the main factor when purchasing fashion products for plenty of consumers and is not limited to younger ones (Nistor, 2019). In another study developed on the Romanian market, it was shown that 65% of the respondents would agree to spend more for green products, and out of this, 53% would spend an extra 5% of the product value, while 32% would be willing to pay 5-9% more of a product price (Roman et al., 2015). On the other hand, another study mentioned above (Gfk, 2020) concluded that Romanian consumers are not ready yet to spend extra cash or effort for sustainable fashion.

***Products design***

Sustainable clothing has been defined as "clothing which incorporates one or more aspects of social and environmental sustainability, such as Fair-Trade manufacturing or fabric containing organically grown raw material" (Goworek et al., 2012, p.938). More and more sustainable clothing collections and designs are seen nowadays in stores, but the real question is if these products are just branded as sustainable or if they really are sustainable from a production point of view. Product design is a core element and source for the fashion industry. Still, there is the perception that sustainable fashion items are not as stylish and appealing as traditional fashion. Eco-clothing is perceived as antifashion, mainly associated with 1960's hippie costumes (Winge, 2008). These types of consumer stereotypes are hard to combat. Therefore, we can notice a need to normalize sustainable clothing designs and increase access to these types of clothing. As sustainable fashion will eventually become mainstream, it has the potential to tackle the stigma and stereotypes associated with this type of clothing (Harris et al., 2016).

***Attitudes and Behavior Gaps in consumer purchasing decisions on sustainable collection ranges.***

When debating sustainable behavior from an individual level, it can be hard to ask consumers to abstain from hedonistic needs such as trends or impulsive shopping. Also, a lot of social influence comes from peer groups, especially younger consumers who constantly compare with their peers and reference groups as they experience more dissatisfaction and inadequacy (Armstrong et al., 2016).

Changing habits and mindsets is challenging, as social norms represent a barrier to changing behaviors. Consumers should also change their clothes-washing practices to reduce water consumption, disposal, and purchase behaviors (Harris et al., 2015).

Contrary to the idea of consumers not wanting to change their behavior, some studies showed that younger consumers are more likely to buy from ethical-oriented brands and change their purchasing patterns and awareness regarding this matter (Shen et al., 2012).

**VI.CONCLUSIONS**

The main contribution of this paper was the mapping of the barriers from the consumers' and organizations' perspectives, and then into subsections. The consumer barriers identified were limited understanding and awareness of fashion sustainability coming from consumers, perceived limited supply sources for sustainable fashion, higher prices, availability to pay extra, product design, and attitudes and behavior gaps in consumer purchasing decisions. The organizational barriers have been the complexity of the fashion supply chain and sustainability as a concept, the cost and pricing strategy, the management engagement, and the awareness coming from organizations. As seen above, we couldn't find a systematic literature review containing the same categories and as specific and detailed as this literature review which highlights our research gap. More research is needed for companies to adapt to the sustainability shift that is already happening (Purcarea et al., 2022), and having a full perspective of the potential barriers they might stumble upon should give a competitive advantage to those organizations. The possible implication of researching barriers from a micro point of view is that organizations will be able to better understand and potentially combat these barriers in the future and know where to allocate funds in the future. From a macro point of view, we may talk about the possibility of educating consumers and making them change their patterns, as the fashion industry is also driven by consumers' demands and behavior.

As for potential limitations of our actual paper, having so many perspectives and different approaches to barriers may have been difficult to summarize into categories, so further rework and research may be needed, as new barriers and approaches may follow in the future.

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