A Work Project, presented as part of the requirements for the Award of a Master's degree in Management, from the Nova School of Business and Economics

CONSUMER BEHAVIOR: QUALITATIVE STUDY ABOUT PORTUGUESE CONSUMERS' BEHAVIOURS AND CONCERNS RELATIVELY TO FAST FASHION AND SUSTAINABILITY

Mariana Martins Nogueira

Work project carried out under the supervision of:

Daniela Schmitt

20-01-2023

Abstract

The awareness of the fashion industry's negative impact and concern for the environment have been increasing in the last few years. The complete study aims to understand why Portuguese consumers buy fast fashion if they have environmental sustainability concerns. This document includes group common parts and a specific individual qualitative study about the opinion of the fashion experts regarding Portuguese consumers´ behaviours and concerns relatively to fast fashion and sustainability.

Keywords:

Fast Fashion, Sustainability, Consumers' Preferences, Consumers' Perceptions, Paradox

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

1. Introduction

1.1 Background

The statistics from Statista (2022) reveal the size of the fast fashion market around the world since 2021, with the market value expected to grow to approximately 133 billion dollars in 2026. In this thesis, we are studying the Portuguese fashion market, which is valued at 6.64 billion dollars. Moreover, the growth rate is expected to reach 6.6% annually. If one looks into fashion sales in the Portuguese market, by 2022, 93% of sales will be attributed to non-luxury products or fast fashion products. Therefore, we could make the assumption that Portuguese consumers heavily adhere to fast fashion. (Statista, n.d.)

Fast fashion is described as fast production, cheap, trendy and stylish, but is also known to have a significant negative impact on the environment (DiLeonardo, 2022). Even though consumers enjoy purchasing fast fashion, the brands have been constantly criticized for their unethical practices as well as for being a threat to the environment (DiLeonardo, 2022). Some examples of these are: textile waste caused by overproduction (McKensey & Company, 2022) as well as various types of pollution such as GHG emissions and water and air pollution (DiLeonardo, 2022). Furthermore, another great issue of fast fashion is the working conditions, which can be exemplified by the case of the Rana Plaza Building, which was a clothing production facility that collapsed and killed 1,134 people (Sainato, 2022). Because of situations similar to the ones mentioned above, awareness regarding how fast fashion harms the environment and how workers are treated has emerged among consumers all over the world.

Sustainability is currently a valuable word (Jaganmohan, 2022). Nowadays, consumers are increasingly interested in sustainability and environmental issues (Deliotte, 2022). However, before making purchase decisions, consumers demand access to all the information regarding the production of products (Deloitte, 2022). As consumers increase their expectations of fast fashion brands' sustainable practices, circular business models are no longer optional (McKensey & Company, 2022). Young generations will pressure fashion brands to be more sustainable (McKensey & Company, 2022) and the growth of sustainable consumption will grow as well as the implementation of sustainable operations by most businesses (Mckensey & Company, 2022).

As the demand for sustainability has been increasing drastically, fast fashion brands have recently invested in innovation and marketing to cope with the need for sustainability (H&M Group, 2021; and Inditex, n.d.). This is how brands can satisfy conscious consumers or consumers who want to switch to sustainable consumption in terms of production and operation. Moreover, to communicate with their customers, marketing is the key to sending the message. However, there are some who are sceptical of what they are doing, as it will be further explained in the literature review.

1.2 Research Question

The purpose of this work is to understand why Portuguese consumers buy fast fashion if they have environmental sustainability concerns. Furthermore, this research will help gather information about how fast fashion brands can operate in the sustainable fashion market. This way, the different analyses performed in this study will additionally answer the following questions:

- What are the perceptions that Portuguese consumers have of fast fashion brands?
- What attributes the Portuguese consumers prefer when purchasing clothes?
- In which consumer segments should fast fashion brands focus their environmental efforts?

Please notice that for sparing reasons, every time the word “sustainability” appears, it refers to “environmental sustainability”.

1.3 Study Overview

In order to answer all of these research questions, the structure of this thesis and the methodology chosen will now be presented. First, a literature overview was done in order to understand how consumers perceive and behave towards fast fashion and sustainable fashion as well. The existent literature provided information regarding the perceptions consumers have of fast fashion, their preferences regarding fashion products’ attributes, and how different groups of consumers behave toward these matters, which was used to build the analysis performed. Additionally, preliminary interviews with some experts in the fashion industry in Portugal were also done with the purpose of collecting supplementary information about the Portuguese fashion market and Portuguese consumers' preferences and behaviours. Then, a preliminary survey was distributed in order to find how Portuguese fast fashion consumers are concerned with environmental sustainability and how they perceive each fast fashion brand chosen to be analysed in this work. With the information gathered in the survey, a perceptual map was designed and analysed. After this, a conjoint analysis was performed with the results obtained from the choice-based survey to understand how consumers value different attributes of fashion products when provided with several scenarios of distinct choices. The last analysis of this study is a cluster analysis in which information regarding Portuguese consumers’ sustainability concerns and their sociodemographic profile, retrieved from the answers of the preliminary survey, is used. Further research was done in order to understand which environmental sustainability efforts Portuguese consumers value the most; if they are willing to pay more for sustainable products from fast fashion brands and if they associate these brands to greenwashing. Finally, based on the conclusions of all the analyses performed in the work and the findings provided by the existing literature, recommendations were given to fast fashion brands regarding the ways they should improve their sustainability efforts in order to satisfy the current consumers' needs.

1.4 Main Findings

With the research methods used in this study, it was concluded that Portuguese consumers are concerned with the environment and consequently have reduced their fast fashion purchases in the last few years. Even though there is a common interest among most consumers of acquiring more sustainable fashion products, some barriers to sustainable fashion are still significantly reported by consumers such as price, lack of choice/ sustainable alternatives and lack of knowledge about sustainability alternatives.

By doing the perceptual map analysis it was possible to conclude how Portuguese consumers perceive fast fashion brands regarding price, quality, variety, trendiness and immediateness. Primark and Shein are mainly associated with low prices and bad quality; Inditex is perceived as the trendiest brand; H&M is associated with immediateness and variety and finally, Mango is mainly associated with immediateness and trendiness.

Furthermore, the conjoint analysis demonstrated that when making fashion purchase decisions, Portuguese consumers consider the quality and the price of the products as the most important attributes since the most chosen products were of low prices and average or high quality. It was further concluded, that even though consumers seem to prefer these attributes to sustainability, they still choose sustainable products more than non-sustainable ones if these products are affordable and of average or high quality.

Additionally, the cluster analysis performed determined four consumer segments of two different generations. Two groups from Generation Z and two groups from the Millennials generation with different sustainability concerns were found. It was concluded that young consumers with no salary demonstrate a higher interest in becoming more sustainable and paying a higher amount of money for sustainable fashion products than consumers with higher incomes. Furthermore, one of the Millennial groups showed no interest at all in making their closet more sustainable or spending more money to do so.

Finally, further research demonstrated that Portuguese consumers are not aware of the environmental sustainability efforts of the fast fashion brands analysed in this study. Furthermore, consumers chose the use of recycle materials in the clothes' production as the effort they value the most, followed by second hand initiatives and reduction of waste and pollution in the production process, among others. Moreover, they showed a willingness to pay a higher price for a sustainable t-shirt sold by a fast fashion brand compared to a conventional t-shirt sold by the same brand, even though the majority of consumers admitted that they associate fast fashion brands with greenwashing when considering buying sustainable products.

All of the analysis performed, and research methods used will be further explained in the following chapters.

2. Literature Review

The study of consumers' behaviour has been approached from many perspectives. However, an analysis of the existing research is provided in this chapter. The literature review is presented under four major topics: the fashion industry, sustainability, sustainability in fast fashion, and the paradox of fast fashion and sustainability. Consequently, our analysis will be presented in chapters 4, 5, and 6.

2.1 The Fashion Industry

2.1.1 Brief History of Fashion

From the beginnings of the Apparel Industry, garments were handmade, however, the history of fashion has changed since 1970, when the first sewing machine was invented, and most apparel was produced faster within a short amount of time and required less labour (Fashion Gone Rogue, 2020). The fashion market was divided into two categories (Figure 1), which were *Haute Couture* (exclusive custom-fitted) and *Prêt-à-porter* or ready-to-wear with standard sizing (Hines & Bruce, 2007). Fast fashion belongs to the ready-to-wear segment's high-street category (Siegle, 2011). This fast fashion sector (ready-to-wear) comes with a low price and fast turnover concept (Scamans, 2016). They are able to set a low price because most fast fashion brands produce the clothes in countries with cheap labour costs or with low investment in infrastructures, as well as collaborate with suppliers in various areas for a fast response in the market to satisfy their customers (Siegle, 2011). As the Internet grew in popularity, a new generation of trend-setters emerged, including bloggers and vloggers, and fast fashion became more popular among young people (Scamans, 2016).

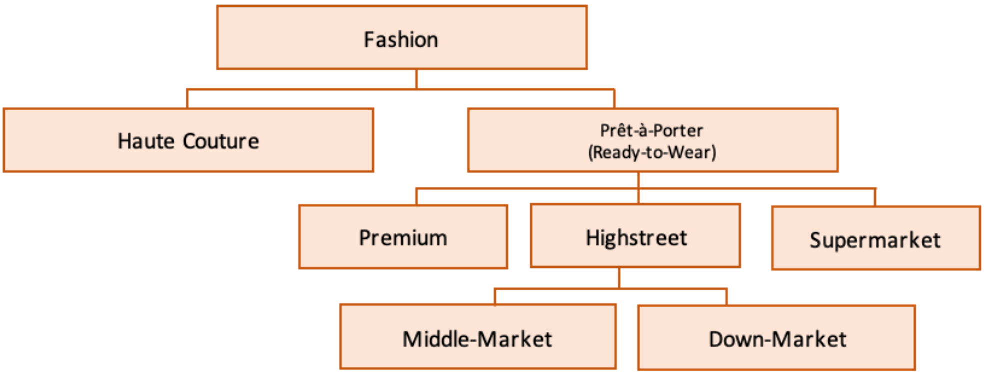

Figure 1: Fashion Industry Market Segmentation (Scamans, 2016)

2.1.2 Fast Fashion

The concept of "fast fashion" refers to low-cost clothing that is rapidly manufactured and sold in accordance with the newest trends (Fagerhus and Hallqvist, 2020). A typical strategy of fast fashion firms is to relocate production to nations with low-cost labour in order to be able to offer the newest fashion trends at a cheap price. As a result, the majority of fast fashion businesses are actively operating around the world, such as brands from Inditex Group, Hennes & Mauritz (H&M), Mango, Primark and Shein.

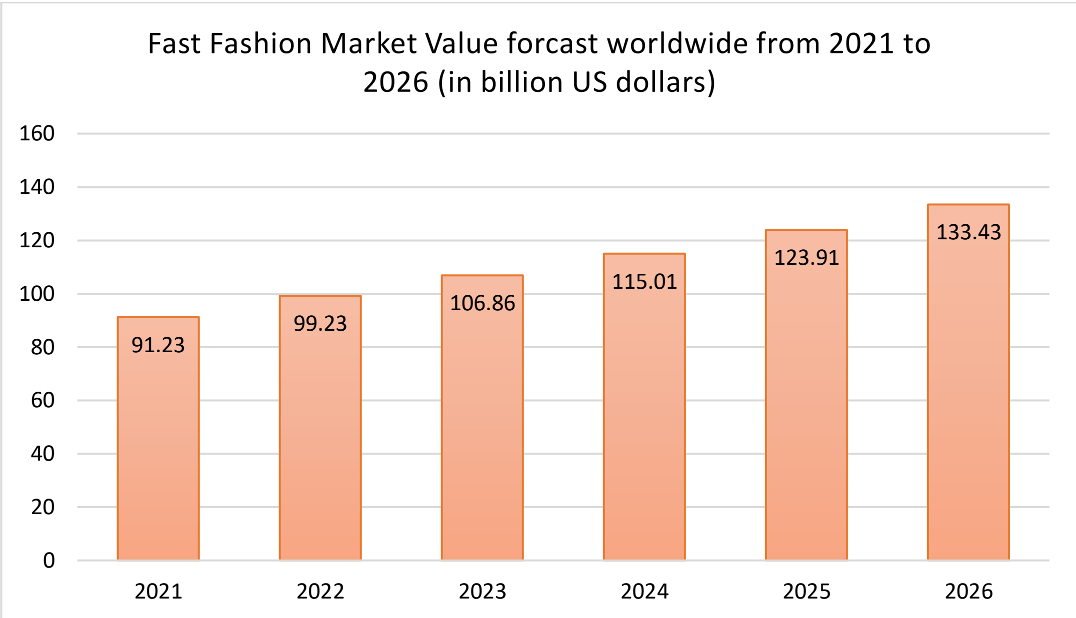

Figure 2: Fast Fashion Market Value Forecast from 2021 to 2026 (Statista 2022)

Furthermore, fast fashion brands also utilize supply chains that are very dynamic, adaptable, and sensitive to constantly shifting trends (Barnes & Lea-Greenwood, 2010) which allows them to continuously provide customers with fresh and fashionable clothing. Because of this, there is a greater desire for fresh fashion, which has increased both the manufacturing and consumption of fast fashion (Figure 2). H&M and Inditex are two well-known companies of fast fashion businesses that operate internationally and have rapid inventory turnover (Scamans, 2016). Additionally, since 2013, Mango became one of the great rivals of those two big fast fashion brands as well as Primark from the UK and Shein from China which are recently the largest fashion retailers (Reuters, 2021).

Fast fashion operates with a significantly faster product turnover cycle than conventional models due to the Internet, globalization, and technological innovation (Statista 2022). Moreover, fast fashion retailers are recognized for regularly updating their product lines, meaning that the fashion industry's product life cycle has shortened from months to only a few weeks or days (Barnes & Lea-Greenwood, 2010). This way, consumers are eventually encouraged to constantly purchase new apparel (Byan & Sternquist, 2008). Additionally, fast fashion companies frequently use limited-time promotions and discounts to induce customers to buy new clothes right away (Byan & Sternquist, 2008).

Regarding the Portuguese market, current data from Statista shows (Figure 3) that fashion segmentation is increasing every year since 2017 and is expected to reach up to 2.17 billion dollars this year (2022). Accessories, Apparel, and Footwear are the fashion categories that are being consumed the most by Portuguese customers; however, among the three categories, apparel has a higher consumption than accessories and footwear (Statista, n.d.). Furthermore, according to Statista (n.d.), the average Portuguese consumption of fashion per person is expected to be 36.4 pieces in 2022. As a result, non-luxury or fast-fashion products will account for 93% of sales by this year (2022).

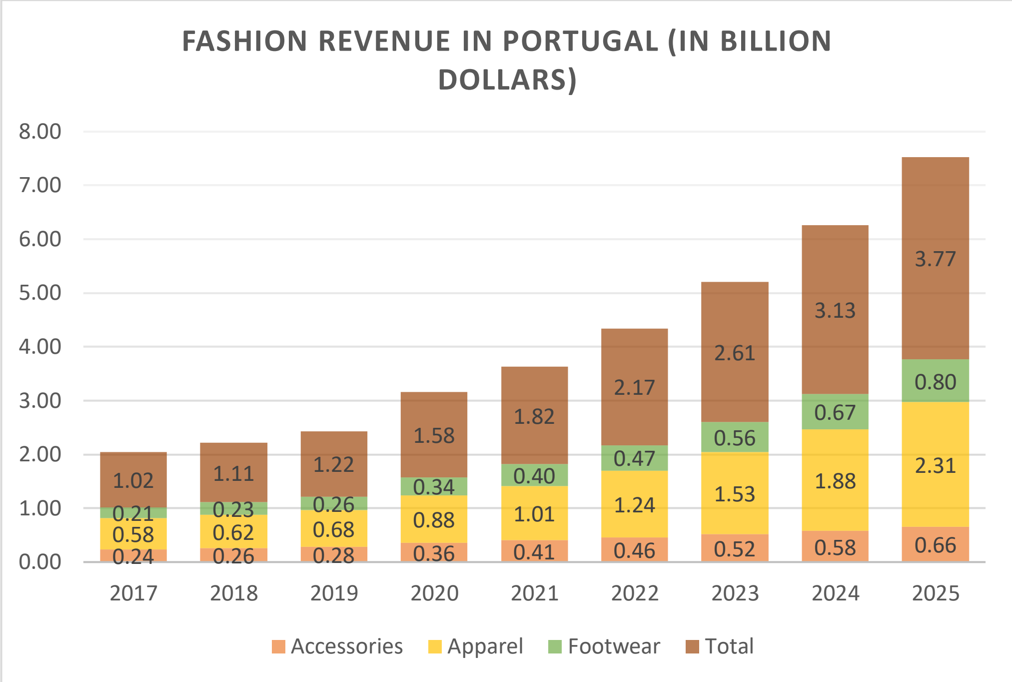

Figure 3: Fashion Revenue in Portugal (Statista, n.d.)

2.1.3 Fashion market after the pandemic

At the beginning of the pandemic (covid-19) in early 2020, customers changed their purchasing behaviour. The immediate increase in the demand for different distribution platforms is another effect of the lack of accessible storefronts along with the growing health concerns of customers and unexpected laws that imposed self-isolation, which significantly affected the preferred purchasing channel of customers (Eger et al, 2021).

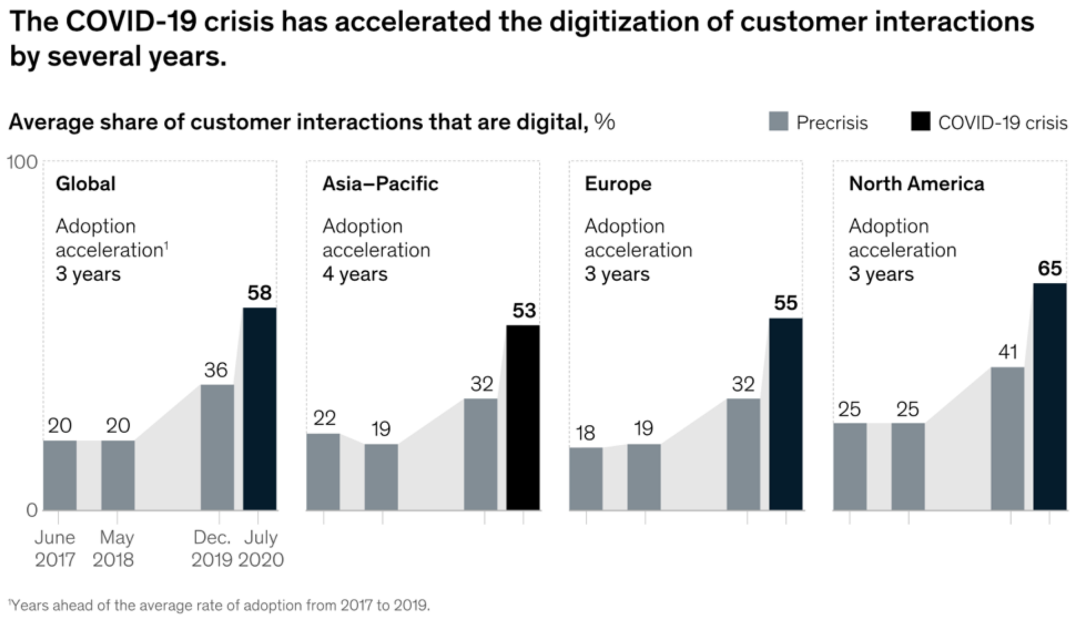

Figure 4: The covid-19 crisis has accelerated the digitization of customer interaction by several years. (McKinsey & Company, 2021)

Businesses and industries have reacted to the significant shift in consumer preference toward online platforms. The results of the survey support the rapid shift to consumer involvement through digital media. (Figure 4) (McKinsey & Company, 2021). According to Nguyen (2021), as consumers' screen time has expanded, organizations must focus on their digital marketing and communications operations, as well as maximizing their online presence.

During the pandemic (covid -19), the fashion industry got heavily affected. In order to survive, they needed to adapt by distributing products online instead of the traditional stores due to the government regulations that did not allow people to leave their homes for unnecessary activities.

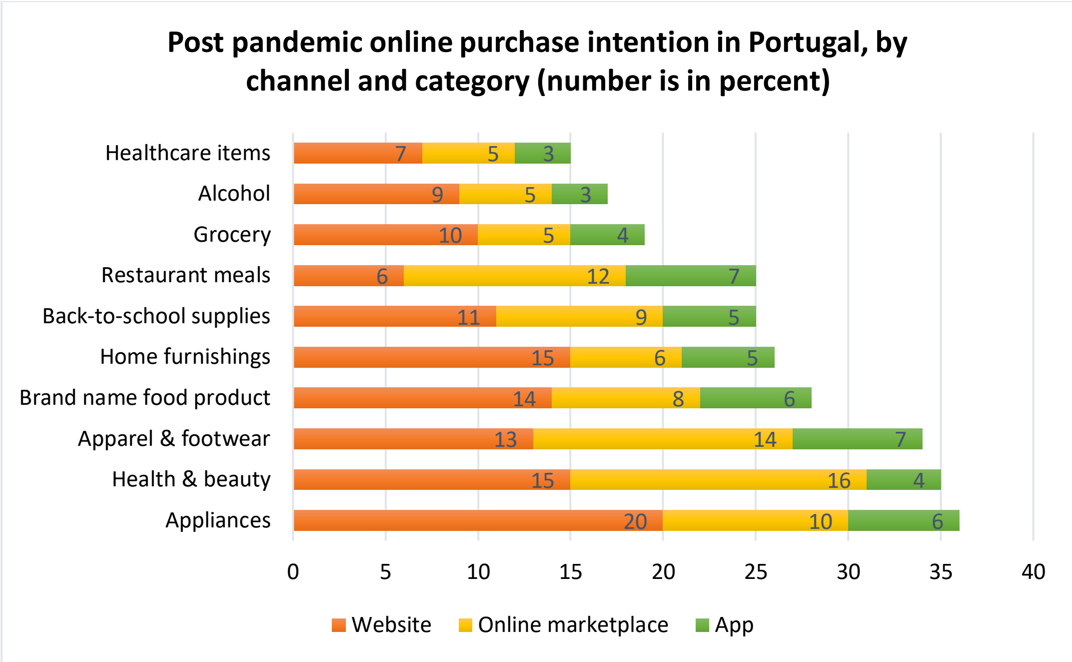

Figure 5: Post-pandemic online purchase intention in Portugal in 2021 (Statista, 2021b)

Despite the fact that the Portuguese were accustomed to online buying, the global pandemic gave websites a small boost, making them the most favoured online purchasing channel across the majority of categories. In the study by Statista (Figure 5), Apparel and Footwear are the third most desired categories for consumers purchasing through online channels. In Portugal, the penetration of digital shoppers has significantly increased in recent years (Statista, 2021b). From this situation, consumers discovered benefits from services that they have never had before, such as online shopping deliveries, store pick-up and cashless transaction (Nguyen, 2021). As a consequence, some consumers switch permanently to the online channel. According to Nguyen (2021), consumer behaviour in the fashion industry changed due to the impact of the pandemic. As a result of this, the manufacturing and consumption of fast fashion have increased globally, and the existent literature reveals that the negative social and environmental impact of fast fashion is increasing in a dangerous way.

2.2 Sustainability

According to the United Nations, sustainability is defined as the capacity to satisfy present needs without jeopardizing future ones, whether they are natural, social, or economic (United Nations, n.d.). Furthermore, sustainability is a popular topic that people discuss nowadays, and businesses must work toward it to satisfy consumers' concerns.

2.2.1 Triple Bottom Line (TBL) & Conscious consumers

The idea behind "the triple bottom line" is to comprise a method of accounting for businesses that take economic, environmental, and social effects into account. The "Triple Bottom Line" or "Triple-P (People, Planet, Profit)" concept is about striking a balance between economic, social, and environmental sustainability (Dalibozhko & Krakovetskaya, 2018). This connection can be seen graphically as the intersection of three circles (Figure 6). It is only possible to speak of obtaining stability when all three elements are taken into consideration (the intersection of all elements is the centre) (Dalibozhko & Krakovetskaya, 2018).

Figure 6: The interconnection of the elements of the Triple Bottom Line concept. (Dalibozhko & Krakovetskaya, 2018)

The idea behind "the triple bottom line" is to comprise a method of accounting for businesses that take economic, environmental, and social effects into account. The "Triple Bottom Line" or "Triple-P (People, Planet, Profit)" is about striking a balance between economic, social, and environmental sustainability (Dalibozhko and Krakovetskaya, 2018). This connection can be seen graphically as the intersection of three circles (Figure 6). It is only possible to speak of obtaining stability when all three elements are considered (Dalibozhko and Krakovetskaya, 2018). *People*, also known as the social dimension or corporate responsibility, focus on the effects that businesses have on the communities in which they operate (Dalibozhko and Krakovetskaya, 2018). Based on operational inputs and outputs, *Planet* (or environmental dimension) emphasizes the direct impact on ecosystems, land, air, and water (Dalibozhko and Krakovetskaya, 2018). The term *Profit* (or "economic dimension") describes the financial impact on the industry level and is typically described in monetary terms (Dalibozhko and Krakovetskaya, 2018).

In this sense, the growth of a society that is socially desired, commercially feasible, and ecologically sustainable might be classified as sustainable development. This model suggests a direct relationship between the environmental, social, and economic objectives that constitute the overall goal of sustainable development (Dalibozhko & Krakovetskaya, 2018). According to Park and Kim (2016), consumers perceive fashion brands—whether they are fast fashion or sustainable brands - in terms of economic, environmental, and social sustainability. Consequently, to achieve sustainability, fashion brands need to work toward the three pillars of sustainability (Kim & Park, 2016)

2.2.2 Environmental impact of Fast Fashion

The negative ***Environmental*** impact of fast fashion is the main focus of this thesis. From the research done, it was found that the four main environmental impacts are related to Water, GHG

Emission, Waste (Microplastic and landfill), and Energy (Fashion & Environment, n.d.; Marsh, 2021 and Maiti, 2022). In terms of water consumption, the process of clothing production overconsumes fresh water and also releases hazardous chemicals which cause water pollution and prevents the communities around the production facilities from accessing clean water (Marsh, 2021).

Table 1 below shows how regular clothes impact the source of water and climate. The example of production includes T-shirt, Fleece sweater, Jeans, and Dress.

Clothes	Liters of water	Kilograms of Chemical	Kilograms of Carbon Dioxide Equivalent
T-shirt (250 grams of cotton)	2,600	0.8	4.5
Fleece sweater (300 grams of polyester)	100	0.8	11
Jeans (600 grams of denim)	6,200	1.4	13
Dress (500 grams of polyester)	150	1.4	17

Table 1: Negative impact on the environment from cloth production (Adjusted from Fagerhus and Hallqvist, 2020)

According to Fashion and Environment (n.d.), 10% of global carbon emissions also derive from the use of energy in the fashion industry during its production, manufacturing, and transporting. Additionally, Synthetic fibres in their production consume more energy than natural fibres. According to James Conca from Forbs: "Cheap synthetic fibres also emit gases like N_2O, which is 300 times more damaging than CO_2." (Fashion & Environment, n.d.).

Moreover, companies in the fashion industry have attempted to reduce their costs, and the use of synthetic fibres is the option for their production (Marsh, 2021). However, this leads to microplastic waste since when it comes to the washing process, the microplastic degrades and mixes in the wastewater (Marsh, 2021). So, when factories or households released wastewater, it would disturb the life in the ocean, streams, and rivers (Maiti, 2022). Furthermore, Fast fashion also causes an increase in landfill and its synthetic fibres take up to 200 years to decompose (Fashion & Environment, n.d.). Fossil Fuels and coal are the traditional energy source that the fashion industry uses in their manufacturing facilities, especially in the countries where the based production of many brands is, like China and Bangladesh. This non-renewable energy is the main reason for GHG emissions (Marsh, 2021).

Fast fashion has made it feasible for almost everyone to purchase the newest trends in clothing, but regulators, businesses, and consumers still have a responsibility to minimize the negative externalities associated with the fashion sector (Bick et al., 2018). Researchers say that fast fashion companies need to adopt more environmentally friendly business practices if they want to comply with the United Nations (12th) Sustainable Development Goal (SDG), which focuses on sustainable production and consumption (Fagerhus and Hallqvist, 2020). Additionally, as the demand for fast fashion increases, fast fashion companies must address the environmental and social impacts of their operations (Fagerhus and Hallqvist, 2020)

2.2.3 Sustainable Production and Consumption (SDGs)

The Sustainable Development Goals (SDGs) were developed by the United Nations (UN) as the nation's roadmap for progress in the same direction in response to a worldwide call for action to eradicate poverty, preserve the environment, and promote peace and prosperity for everyone by 2030. (Sustainable Development, n.d.) The 17 Sustainable Development Goals (SDGs) recognize that sustainable development requires a balance between social, economic, and environmental factors and that decisions made in one area will affect outcomes in other areas (Sustainable Development, n.d.).

The 12th goal refers to responsibility for production and consumption which emphasizes the importance of a sustainable production process (United Nation, n.d.). Also, reducing the use of natural materials and the life cycle of finished products which can be reused and recycled, are the start of sustainable operations as well as the adoption of sustainable and ethical practices through the supply chain (Fagerhus and Hallqvist, 2020). Moreover, the industry has to work together with international norms to manage hazardous chemicals and waste in business practices and consumer behaviour.

Furthermore, the fashion industry is expanding its goals to become a more sustainable industry and create a better world. According to the negative impacts of fast fashion in Chapter 2.2.2, the 6th Clean Water & Sanitation, 13th Climate action and 14th Life below water will be achieved to reduce the environmental issue.

2.3 Empirical Approach

2.3.1. Cluster Analysis

Cluster analysis is one of the most well-known segmentation methods and has been used numerous times for market segmentation (Wedel and Kamakura, 2000). As a result, clustering methodologies are often used to discover important consumer segments in order to help companies define their marketing strategy (Wedel and Kamakura, 2000). In a technical way, clustering can be explained as "Given a representation of n objects, find K groups based on a measure of similarity such that the similarities between objects in the same group are high while the similarities between objects in different groups are low" (Jain, 2009).

In order to develop a cluster analysis a 5-stage process needs to be done. According to Mirkin (2005), the 5 stages are: developing a dataset; pre-processing and standardizing data; finding clusters in data; interpreting the clusters; and finally drawing conclusions. Different authors define different possible descriptive variables to be used in segmentation: geographical, demographical and behaviour or psychographic, (or any other) strategic variables (Kotler, 1998). Furthermore, according to Aleš Žiberna and Vesna Žabkar (2003) "it's necessary to standardize all variables and used the principal components method for determining the importance of selected variables and within variables standardization (due to the fact that not all variables were measured in the same units of measurement)".

In this study, ex-post segmentation methods will be used. When doing an ex-post approach to market segmentation researchers gather information about how consumers react to and rate specific qualities and benefits of products (Allenby, 2002). Some questions from the first survey regarding consumers' habits and opinions about sustainability will be used to perform the analysis in this study, which will be further explained in chapter 6.

Clustering techniques are primarily divided into two types: hierarchical and partitioned clustering. In hierarchical clustering, "data are not partitioned into a particular cluster in a single step, but a series of partitions takes place (…) which may run from a single cluster containing all objects to n clusters each containing a single object." (Vora and Oza, 2013). On the other hand, when partitioned clustering is used "the algorithms typically determine all clusters at once, it divides the set of data objects into non-overlapping clusters, and each data object is in exactly one cluster." (Vora and Oza, 2013).

In this study, the hierarchical clustering was performed to determine the correct number of clusters to use and then a K-means cluster analysis was performed. In this type of cluster analysis "The algorithm proceeds by assigning each data value to the nearest centre. This creates K clusters. Then a new cluster centre is selected based on the data in the cluster. For the K-means algorithm, the distance is always Euclidean distance, and the new center is the component-wise mean of the data in the cluster. To use correlation distance, the data are input as z-scores." (Pensylvania State University, n.d).

Additionally, this type of cluster analysis was proven to be the best one to use for the purpose of this work since it has been very helpful to determine different segments of fashion consumers in previous studies. Andreea-Ionela (2020) used the k-mean analysis to differentiate groups of individuals with different demographic characteristics and fashion purchasing habits. The k-means cluster analysis identified eight different groups of consumers: casual consumer, quality-seeker consumer, illogical consumer, indifferent consumer, regular consumer, occasional consumer, fashion aware consumer and passive consumer (Ionela, 2020). The study helped to better understand the type of validity of consumer-style inventory.

Harsandaldeep Kaur, and Sahiba Anand (2008) also performed the k-means cluster analysis in their work and were able to distinguish distinct Generation Y groups of consumers according to their fashion consciousness level, consumption and materialism (Kaur & Ananad,2018). Additionally, Wencke Gwozdz, Kristian Steensen Nielsen and Tina Müller (2017) used k-means clustering and were able to find 5 clusters, that helped them understand better the segments related to how often the consumer buys budget brands, median brands and premium brands (Gwozdz, Nielsen and Muller, 2017).

3. Preliminary Research

In this study, in order to gather relevant information about the fashion market in Portugal and consumers' behaviour regarding sustainability in fashion, qualitative and quantitative approaches were used. First, in order to comprehend the Portuguese fashion market, interviews with industry experts were done. All the experts interviewed work in the fashion business in Portugal and therefore, all have significant knowledge regarding consumers' perceptions and preferences of fashion products. Then, a survey was designed and distributed among Portuguese consumers to understand their fashion purchasing habits, their thoughts and perceptions regarding sustainable fashion and fast fashion brands. The qualitative and quantitative information will then be used to perform the perceptual map analysis, the conjoint analysis and cluster analysis, which are the main marketing research methods applied in this work.

3.1 Expert Interview

The first research method used in this study is a qualitative approach. The information collected with this type of research allows the support or contradiction of existing theories (May, 1997). This way, "Qualitative research involves a process known as induction, whereby data is collected relating to a specific area of study and from this data the researcher constructs different concepts and theories" (Conroy, 2010). Furthermore, this approach permits researchers to analyse social research (Babbie, 2011) by understanding people's opinions regarding social and human problems (Creswell, 2014). After analysing the literature review, qualitative research through interviews was the method chosen to confirm and compare with the information previously collected regarding consumers' perceptions and behaviours towards fast fashion and sustainability and to further understand the Portuguese fashion market according to the interviewees' experience and opinions.

This part of the study consists of conducting interviews with experts in the field of fashion in order to obtain insights about the research topic. In this way, this stage is the starting point of the research and will lead the study, because through these interviews it will be possible to obtain the following information: possible personas on the market; reasons for buying fast fashion; consumers' associations to fast fashion products; attributes of fast fashion products; barriers Portuguese consumers find when purchasing sustainable products; if Portuguese's are headed towards environmental sustainability and who is more concerned in this society; reasons to buying fast fashion; and the future of the relationship between fast fashion and sustainability. Hence, it is extremely important that the experts interviewed have a high level of knowledge about Portuguese consumer preferences and behaviours in relation to fast fashion brands, the products produced by them and the relationship between fast fashion brands and environmental sustainability.

Interviewees

Therefore, it is essential to choose the sample wisely because if the sample chosen is incorrect, it will not be possible to gather the information needed for the study. Two types of sampling methods are convenience sampling and purposive sampling. Convenience sampling consists of collecting information from a specific sample due to being close, easily accessible or available (Etikan, Musa and Alkassim, 2016). On the other hand, Purposive sampling is the strategic choice of a sample according to the participant's knowledge and experience regarding what is being studied (Etikan, Musa and Alkassim, 2016). In this study, the method used was the purposive sampling since various experts from the fashion industry in Portugal were contacted due to their experience and knowledge acquired by working in this area. In the end, only four answers were received and therefore, four interviews with fashion experts were conducted in this work. To conduct the interviews, only one script of questions was constructed and shared among the four interviewees in order to compare the different answers and opinions regarding the questions asked.

The first interviewee (I1) the Marketing Experience Manager of a Portuguese fashion brand that is inspired by the slow-fashion movement and uses 100% organic textiles. It was also considered relevant to interview the Marketing & E-commerce Director of a Portuguese fashion brand (I2). The third interviewee (I3) is a former investor and owner of several clothing stores in Portugal and Brazil, so it was considered relevant to have his perspective for our research. Finally, the fourth interviewee (I4), who is currently working at a University as Teaching Assistant for the course Luxury and Fashion Marketing and coordinator of research projects on the topic of fashion. The fourth interviewee is also founder and CEO of a Portuguese brand. Through these interviews, it was possible to obtain important insights to the research. For detailed information about the interviewees, please see Appendix 2 Table 2.

Preliminary Interview Structure

The qualitative data collection approach chosen was open-ended interviews, for which an interview structure that was previously prepared was used. Semi-structured interviews were used in this work due to their purpose being the collection of the interviewees' knowledge regarding the topic that is being studied as well as due to the fact that these interviews allow people to answer the questions how they want to (McIntosh and Morse, 2015).

The interview (Appendix 2) had nine open questions, in the first question we tried to understand the characteristics of the typical Portuguese fast fashion consumer and with the second question we wanted to comprehend why Portuguese consumers buy products from fast fashion brands.

In questions three and four, we wanted to understand the associations that Portuguese consumers make to products from fast fashion brands, and what are the main attributes of the products of these brands, for the experts. In question five, we sought to find out if the experts consider that Portuguese consumers are aware of environmental sustainability and who they believe is most concerned with this issue in the Portuguese society.

Regarding questions six and seven, we wanted to understand, in the opinion of the experts, what are the barriers that consumers face for not buying sustainable products and why Portuguese consumers buy products from fast fashion brands if they are concerned about environamental sustainability.

Finally, with questions eight and nine, we wanted to understand whether experts consider it worth it for brands to be concerned about sustainability and to take actions in favour of it and their opinion about the future of the relationship between fast fashion brands and environmental sustainability.

Results

In order to organize all the data that emerged from the interviews and to facilitate the qualitative analysis, a table with the information gathered was created (Appendix 2 Table 3). This table is organized into three topics, the first is the question code, the second is the question asked to the interviewees and finally the excerpt of the answers. The codes presented in the table are keywords that aim to distinguish the information by categories and are considered to be fundamental when using a qualitative approach (Sarantakos, 1998). After organizing all the information gathered, the task of interpreting the data was easier and was done by comparing the responses of each interviewee regarding each question and category which allowed to make conclusions about the topic that is being studied.

Considering the first question, in which we asked the experts about the typical Portuguese fast fashion consumer, the answers obtained were very different, one of the interviewees replied that they are consumers who are constantly looking for cheaper styles of fashion items and variety, who prefer quantity over quality, are people who belong to a younger generation because it is the generation with less purchasing power and who do not have environmental concerns. The other interviewees answered that they are people between 20 and 40 years old, mostly women and people who use social networks, finally, one interviewee considers that everyone buys clothes from fast fashion brands but at different levels.

In the second question, in which we asked about why Portuguese consumers buy fast fashion, in general, the experts consider that the low price, the price-quality ratio, the ease of finding, buying and returning products, the variety, convenience and the fact that these brands have the newest trends in the stores, are the main reasons for them to buy products from fast fashion brands.

To the question, "What do you think Portuguese consumers associate to fast fashion products?", in general, the experts answered that Portuguese people associate fast fashion brand products with value for money, cheap, trendy, variety of styles, immediate and consumerism. Only one of the experts replied that he considered that the Portuguese were not familiar with the term fast fashion.

In question four, in which we asked about the main attributes of fast fashion brands' products, the experts considered that low price, trendiness, immediateness, low quality, accessibility and disposability are the core attributes of these products.

In the fifth question, we asked the interviewees if they considered that the Portuguese people are headed towards environmental sustainability, as well as who they think is more environmentally concerned in Portuguese society. In general, the experts consider that the Portuguese are aware of environmental sustainability, despite the recent pandemic having reduced concerns. They also consider that younger generations, people with high education and people from the middle and upper class are more concerned with this issue. One of the interviewees also agrees that the younger generations are the ones who are more concerned, however, older people are the ones who have the most financial ability to consume sustainable products, as these are more expensive.

To the question "Which barriers do you think Portuguese consumers find when purchasing sustainable products?", in general, the experts answered that the main barriers are price, lack of awareness and knowledge of sustainability practices, scepticism, lack of information, trendiness and brand recognition/status. The opinion of the experts in relation to the main barriers founded by Portuguese consumers when purchasing sustainable products is in line with the barriers mentioned in the literature review. It is possible to conclude that, in general, these barriers are faced by all consumers worldwide and not only by Portuguese consumers.

Regarding the question: "Why do you think Portuguese consumers buy fast fashion if they have concerns about sustainability?". The interviewees consider it to be because of the ease of shopping, variety, and quantity of products available in fast fashion brands and because Portuguese consumers want the latest trends and fashions that this type of brands have, and because of the low price-quality ratio. They also mentioned that what the Portuguese consumers want does not correspond to their attitudes. That is, most Portuguese consumers are aware that they have to make more sustainable choices and they want to do so, but in fact, they do not do. One of the experts interviewed considers that some Portuguese consumers might not be aware of the sustainability issues of fast fashion or might not understand the severity of it. Also, they mention the fact that fast fashion brands are doing sustainability campaigns and actions so that consumers believe that these brands are moving towards sustainability.

In question eight, we asked the experts to what extent they think it is worthwhile for brands to engage in sustainability efforts, in general, they answered that it is worth it because sustainable fashion consumption will continue to grow and brands being more sustainable can start to become a legal requirement, also they consider that customers will more likely choose a brand that makes sustainable products and actions over a brand that do not do when faced with the same type of products. One of the experts also mentioned that, in the short term, investing in sustainable efforts may not be financially worth it, however, in long term might be a key success factor for fast fashion brands.

Lastly, respondents were inquired about the future of the relationship between fast fashion brands and sustainability. Interviewee one answered that fast fashion brands have to keep environmental sustainability in mind when designing their collections because it will become a requirement, and that fast fashion brands need to add to their offer a service that enhances the circularity economy in this industry, like second-had platforms, recycling programs and repair programs. Interviewee two said that the relationship between fast fashion brands and sustainability will get closer and closer, as brands are starting to have environmental concerns, also mentioned that these brands just need to transform the green communication they do into real and impactful sustainability efforts. Interviewee three predicts that fast fashion brands will have more durable products and launch fewer collections, still, more than fast fashion brands, in order to be more sustainable. Also, said that innovation and new technologies will help fast fashion brands to find cheaper and more sustainable production methods to maintain their products at a low-price range. The last interviewee mentioned that due to the market weight of fast fashion brands and their financial importance for their suppliers, these brands have a huge influence on the sustainability paradigm. This interviewee also agrees that technology can play an important role in the relationship between fast fashion and environmental sustainability.

It is possible to conclude that the expert's opinions in relation to the research topic are in line with the research carried out in the literature review chapter. Fast fashion brands have a negative impact on the environment and most consumers are aware of this problem. However, studies indicate that the Portuguese are increasing the consumption of fashion products every year since 2017, and it is possible to estimate that more than half of this consumption is in fast fashion brands. Portuguese consumers continue to buy products from fast fashion brands even if they have sustainability concerns and the main reasons for this seem to be the fact that these brands have low prices, variety, and are affordable, among other reasons. Furthermore, the preference for fast fashion products over sustainable ones might also be explained by the fact that Portuguese consumers still find barriers when purchasing sustainable products such as the higher price of these products, lack of awareness and information regarding the sustainability efforts of fashion brands, scepticism towards the brands' motivations and the fact that these products are usually not considered trendy. Nevertheless, it was emphasized in the interviews the importance of fashion brands investing in changing their strategies and becoming more sustainable since environmental concerns seem to be increasing among consumers and in the future they might prefer to purchase clothes from a brand that considers sustainability compared to non-sustainable ones, even though this process might not be profitable in the short term.

3.1.1 Personas

A persona is a representation of consumers' characteristics obtained by doing research about them (Cooper, 2003). In other words, a Persona "represents patters of users's behaviour, goals and motives, compiled in a fictional description of a single individual" (Blomkvist, 2002). Creating personas is used to help decisions regarding, system, product and service design (Brangier and Bornet, 2011).

Through the experts interviews, it was possible to identify three types of personas (Table 2). Persona 1, symbolizes consumers who belong to a younger generation (12-30 years old), who are students or at the beginning of their professional careers and highly educated. The income of this group of consumers is low, given that they are still studying or receiving their first salary. Regarding fashion preferences, they prefer quantity over quality, look for cheaper brands and promotions, buy very often and follow fashion trends. This type of consumer buys their fashion items at second-hand stores or fast fashion brands, as the price is lower, and they have more options to choose from. Finally, these consumers are very concerned about environmental sustainability.

Persona 2, represents a generation older than the generation of persona 1, it belongs to generation Y (30-45 years old). These consumers have an extensive professional careers, they are in the job market for some years. The income of this group is high, as is the level of education. Regarding preferences in relation to fashion, they prefer quality over quantity, buy more expensive brands, only buy when they feel the need and always follow the same style, their style. This type of consumer buys their fashion items from expensive brands and fast fashion brands. These consumers have some concerns regarding environmental sustainability.

Persona 3, represents older consumers, who belong to Generation X (40-60 years old). These consumers are already at the end of their professional careers but, they are still in the job market. This persona's income is low and the level of education is also low. Regarding their preferences in terms of fashion, they always follow the same style, their own style, and they look for low-cost stores, discounts and promotions. This persona buys their fashion items at low-cost stores and from fast fashion brands. These consumers have no concerns about environmental sustainability, mainly because they are not aware of the problems related to climate change and how these problems can affect human life and the planet.

	Persona 1	**Persona 2**	**Persona 3**
Age	12-30 years old	30-45 years old	40-60 years old

Occupation	Student	Employee	Employee
Education	In progress	High	Low
Income	Lower	Higher	Low
Fashion preferences	– Quantity over quality – Cheaper brands – Look for promotions and discounts – Buy very often – Follow trends	– Quality over quantity – Expensive brands – Buy when need – Always follow the same style	– Always follow the same style – Low-Cost stores – Look for promotions and discounts
Where they buy fashion items	Second-hand stores and Fast Fashion brands	Fast Fashion brands and High-end Fashion brands	Fast Fashion brands and Low-Cost stores
Environmental concerns	High	Medium	Low

Table 2 - Personas

The information provided by the industry experts was very helpful to understand the different types of fashion consumers according to their experience in the field and opinions and beliefs: Nevertheless, it is important to confirm this information with an analysis of consumers' fashion habits and behaviours, which will be done later in this work by performing a Cluster Analysis to understand which consumers segments can be defined from the information provided by the Portuguese consumers that participated in this study.

4. Cluster Analysis

4.1 Methodology

In order to discover consumer segments and understand the characteristics of fast fashion consumers that are interested in buying sustainable fashion products, a cluster analysis was performed with a sample of 206 answers from the first survey. Some of the sociodemographic variables were used such as gender, age, the highest level of schooling, occupation and salary. Additionally, some other questions asked in the first survey were used in the analysis such as the frequency of fast fashion purchases; the importance of making the closet more sustainable; current sustainability of the closet; willingness to pay more for sustainable products; preference for green products and consideration of sustainability when shopping. This way, it will be possible to discover if there are already fast fashion consumers that are conscious when shopping for clothes and if they are willing to pay more for sustainable products or if the price is indeed a barrier to sustainable consumption, as we have mentioned before.

Since the variables were all measured in different scales, they were converted into numeric scales (Appendix 6 Table 27) and standardized to allow an accurate analysis. The IBM SPSS platform was used to perform the cluster analysis.

4.2 Results

The k-means cluster analysis was the method chosen to perform the analysis, but to use this method, it is required to previously choose the correct number of clusters. First, an ANOVA was run to analyse the significance and variation of the variables and clusters (Appendix 6 Table 28) and was concluded that the only variable that was not significant was gender since all the others represented low values of variation. Then, a Hierarchical cluster analysis was performed in order to get the optimal number of clusters. By using the Average Linkage Method between groups, it is possible to conclude that the ideal number of clusters is 4 since the largest difference in coefficients is from stage 202 to stage 201 (Appendix 6 Table 29).

After this, we were able to perform a k-means cluster analysis with 4 different clusters: cluster 1 with 66 cases; cluster 2 with 48 cases; clyster 3 with 27 cases and cluster 4 with 65 cases (Appendix 6 Table 30). The only two characteristics that are common in all of the clusters are the gender and the highest level of schooling, being that every cluster is constituted by women with bachelor's degrees, although some other characteristics are the same for more than one cluster as well (Table 5). Additionally, the demographic characteristics are the same for cluster 1 and cluster 4 and also for clusters 2 and 3 in the sense that there are two groups of mainly young full-time students that currently do not have a monthly salary and two groups of employees with high salaries. Even though the sociodemographic characteristics are the same for these pairs of groups, the concerns towards sustainability regarding fashion purchases differ (Table 4). More in-depth descriptive statistics of each cluster are presented in Appendix 6 Table 31.

Final Cluster Centers

	Cluster			
	1	2	3	4
How often do you buy from fast fashion brands?	3	2	3	2
How sustainable is your closet?	2	3	2	3
How important is it for you to make your closet more sustainable?	3	4	2	4
I am willing to pay more for sustainable products/brands.	3	4	2	4
I prefer green products to conventional ones.	3	4	3	4
I consider sustainability when shopping.	3	4	2	4
Gender	2	2	2	2
Age	1	2	2	1
Highest Level of Schooling	3	3	3	3
Occupation	1	3	3	1
Salary	1	4	4	1

Table 5 – Final Cluster Centers

Cluster 1 – Gen Z receptive consumers

This cluster is constituted of people who buy fast fashion quite frequently (every month) and mainly do not have sustainable clothes in their closets as well. They do not necessarily consider sustainability when shopping nor prefers green products over conventional ones but might be interested in buying more of these products and paying more for them, which means that they might potential conscious consumers. These are mainly young consumers between 15 and 24 years old, full-time students with a bachelor's degree that currently do not have a monthly salary.

Cluster 2 – Millennials conscious consumers

This group corresponds to people who do not buy fast fashion often (every 2 or 3 months) and already have some sustainable clothes in their closets. Additionally, these consumers are willing to buy more sustainable fashion and pay a premium price for it since they show preference towards these products compared to fast fashion ones and consider sustainability when shopping. The people in this group are mainly consumers between 25 and 34 years old with a bachelor's degree and that are employees with a monthly salary between 2001 and 3000€.

Cluster 3 – Millennials non-conscious consumers

The consumers in this cluster purchase fast fashion items every month and do not have a sustainable closet. They do not consider sustainability when purchasing clothes and are not interested in buying sustainable clothes nor are they willing to pay a higher price for them, since do not necessarily prefer sustainable products over fast fashion ones. Just like in the previous cluster, the consumers in this group are employees between 25 and 34 years old with a monthly salary between 2001 and 3000€.

Cluster 4 – Gen Z conscious consumers

These customers only buy fast fashion every 2 or 3 months and believe that their closet is already considerably sustainable. This group shows interest in improving the sustainability of their closet by buying more sustainable clothes and paying a higher amount of money for them. Similarly, to cluster 1, these consumers are mainly young full-time students that currently do not receive a monthly salary.

4.3 Discussion

It is possible to conclude that the fast fashion consumers considered in this study can be divided into four groups. The great majority of respondents were young consumers mainly between 15 and 34 years old, therefore the 4 clusters can be further divided into two groups: younger consumers or Gen Z consumers with ages between 15 and 24 years old and slightly older consumers between 25 and 34 years old, that are part of the Millennials generation. Regarding the concern towards sustainability, we conclude that both generations have consumers that are concerned with improving their sustainable purchase habits and others that are not as concerned or not concerned at all.

Starting with the Gen Z consumers (clusters 1 and 4), the first group consists of people that are frequent fast fashion consumers that still show some preference towards these products. Even though they are not extremely concerned with sustainability when they are looking to buy clothes, they might be willing to become more sustainable and change their purchase habits. The second group of Gen Z consumers is constituted of mainly already conscious consumers that only buy fast fashion products sporadically and that already maintain sustainable purchasing habits in their daily lives. According to the existing literature, Gen Z is considered to be the generation with the most overconsumption despite being concerned with the environmental impact of fast fashion. The main explanation for this is that young consumers are more concerned with spending less money than they are with sustainability.

However, with the findings of this analysis, it is interesting to see that even though these consumers are mainly full-time students and therefore don't have a monthly salary, they still demonstrate an interest in becoming more conscious and a willingness to pay more for sustainable products, contrary to the literature. Nevertheless, our findings are also in line with the literature in the sense that young consumers seem to be the most concerned with sustainability due to increasing awareness efforts in school and social media (Fagerhus and Hallqvist, 2020).

In the second age group, the Millennials (clusters 2 and 3), the way consumers view sustainable fashion and behave is significantly different, being that consumers from cluster 2 can be considered conscious and consumers from cluster 3 do not seem to be conscious at all. As it was mentioned before, these two clusters encompass mainly employed people with high salaries between 2001 and 3000€ which means that having a higher income than other groups does not mean that the interest towards sustainable fashion will be higher as well.

In the preliminary interviews, one of the experts mentioned that in Portugal one of the reasons that people still buy fast fashion even though they are concerned with sustainability is because the average incomes are lower compared to other countries. Although this is true, by evaluating Portuguese consumers we can also conclude that there are still consumers that are not willing to pay a premium price for sustainable clothes even though they have a considerably high salary compared to the country's average. This shows, once again, that price is a barrier to sustainable fashion for some consumers (McNeill and Moore, 2015), as mentioned in the before and previous analysis, even for consumers with higher levels of income. For conscious consumers though, price does not seem to prevent them from buying sustainable clothes, since these consumers are already aware the prices of sustainable products will not be the same as conventional ones and therefore, they adapt in order to guarantee that they do not further contribute to harming the environment (Fagerhus and Hallqvist, 2020).

Furthermore, the consumer segments found can be compared with the personas formed before according to the information collected from the interviews with experts from the fashion industry in Portugal. First, in the interviews, three different generations of consumers were found: Generations Z, Y and X. However, in this analysis, the groups of consumers corresponded only to people from Generation Z and Y, which might be explained by the fact that the survey distributed was mainly answered by young consumers and the answers from people older than 35 years old were few. Nevertheless, most of the consumers' characteristics found in the groups are in accordance with the experts' opinions since it was confirmed that young consumers (Generation Z) seem to be more concerned with environmental sustainability than older consumers (Generation Y), despite the last ones having a higher income and therefore a higher capacity to spend more money more expensive clothes.

This way, it can be concluded that young consumers, mainly from Generation Z, are the target consumers for the sustainable collections of fast fashion brands. These consumers purchase fast fashion items frequently and value what the brands have to offer them. But the concern for environmental sustainability is arising, with the awareness efforts spread through not only social media but also in schools around the world, which might significantly change even more the habits of these consumers in the future, since, as was mentioned, they have already stated changing in the last few years. The younger generations are significantly aware of the urgency to reduce environmental harm since they are the generations that will live through the consequences of today's actions. Therefore, it is important that fast fashion brands understand these consumers' needs and offer products accordingly, in order to keep them satisfied and loyal.

5. Further Research

5.1 Introduction

The question of this dissertation "Why do Portuguese consumers buy fast fashion if they have environmental sustainability concerns?" is now answered. Despite buying for different reasons, the research confirmed that Portuguese consumers still have environmental sustainability concerns. In addition, the study theory of the "green consumption effect" (Tezer and Bodur, 2019) explains that consuming green products enhances the consumer experience: the use of these products, as opposed to conventional ones, increases customers' enjoyment. The investigation revealed, for example, that participants who listened to music using green headphones experienced it more favourably than those who listened to it with conventional headphones (Tezer and Bodur, 2019). This highlights how significant sustainability is for consumers: to match their existent concerns and to make them have a better post-purchase experience.

It is now clear that one can recommend fast fashion brands to focus more on sustainability efforts (something important for consumers and for the planet, in general). Beyond that, one can try to go even further by asking:

> Q1: Are Portuguese consumers aware of the ongoing fast fashion brands' sustainability efforts? - Before recommending brands to focus more on sustainability efforts to match Portuguese consumers' concerns, it is important to first understand if they know about the current efforts at stake. If there is a communication issue, it must be solved.

Otherwise, even if more efforts are made, Portuguese consumers will not acknowledge their concerns are being matched.

Q2: What sustainability efforts are more important for Portuguese consumers? / What sustainability efforts do Portuguese consumers value the most? - The answer to these questions can represent a great contribution to fast fashion brands, helping them understand which efforts they should focus on.

Q3: Are Portuguese consumers willing to pay a higher price for sustainable products at fast fashion brands? Does the thought of "greenwashing" have an influence on their answer? - Understanding Portuguese consumers' willingness to pay is key for brands to understand how far they can go in terms of costs. Checking if "greenwashing" comes to Portuguese consumers' minds when considering their willingness to pay may also give brands insights about their consumers' trust in them and the possible need for more transparent communication.

5.2 Survey

Theoretical matters about a survey's purpose, principles, etc. were already cleared previously at the preliminary survey's "Theoretical Introduction". In this survey, the same building tool and sharing vehicles were used. The survey was shared from December 6th, 2022, to December 8th, 2022. 128 answers were collected, which guarantees a level of confidence with ±10% of sampling error. This number is not ideal but is satisfying for a first approach to this further research.

5.2.1 Methodology

The survey starts with a brief descriptive presentation of the topic, a time prediction (of 2 minutes), a request for transparency, and a secrecy compromise. Respondents are also informed that the study is for academic purposes only. Finally, they are told the word "sustainability" always refers to "environmental sustainability", as the work project topic specifically focuses on this type.

Once more, the survey is mostly composed of closed-ended questions, all grounded, as well as the answer-options, based on well-known scales. The survey was divided into 5 sections and has a total of 13 questions (Appendix 7).

The first section, "Requirements to Proceed", asks respondents if they are Portuguese and if they buy at fast fashion brands. These are, again, two essential requirements, as the research question focuses on Portuguese consumers who buy fast fashion. If respondents answer "no" at any of the two questions of this section, they are immediately directed to the end of the survey.

The second section, "Sustainability Efforts' Awareness", precisely asks respondents how aware they are about the five fast fashion brands' sustainability efforts: Inditex Group (Zara, Pull & Bear, Stradivarius and Bershka), H&M, Primark, Mango and Shein – the ones the dissertation focuses at. Respondents can pick one of the Likert's scale levels for each brand's efforts, from "not at all aware" to "extremely aware". This is the only question in this section.

The third section, "Sustainability Efforts' Valuation", attempts to understand what sustainability efforts are more important for Portuguese consumers. In the first question of this section, respondents are offered a list of efforts to pick from: "using natural materials on clothing (banana Fibre, hemp, etc.)", "using recyclable materials on clothing", "having second hand initiatives (to reuse and recycle)", "using sustainable packaging (for online orders)", "using sustainable vehicles for deliveries", "investing in innovation to reduce the waste and pollution in production process", and "other". As revealed in "Literature Review", these are the most common efforts a fast fashion brand can adopt. The second question of this section allows respondents who previously picked the answer-option "other" to specify what they refer to.

The fourth section, "Willingness to Pay and Other Considerations" focuses on respondents' willingness to pay for sustainable products at fast fashion brands and eventual thought of greenwashing when making their option. The first question of this section asks respondents if they are willing to pay more for a sustainable t-shirt than for a non-sustainable t-shirt, considering both are sold by the same fast fashion brand. They can only either pick "yes" or "no". The second question of this section asks respondents if the thought of "greenwashing" came to their minds while answering the previous question. A brief definition of the "greenwashing" concept is offered for respondents to name the thoughts they may have had. This is also a "yes" or "no" question.

The last section is, as usual, dedicated to sociodemographic characteristics of the population. The survey ends, once more, by questioning respondents' gender, age, living area, highest level of schooling, occupation and salary.

5.2.2 Results

When the survey was closed on December 8th, 2022, 156 answers were collected. Out of these, 2 answers belong to non-Portuguese respondents and 29 to people who do not buy at fast fashion brands. Therefore, only 125 answers were considered as "complete". As previously explained, this number ensures a level of confidence with only ±10% of sampling error. To see detailed statistical information about the results, please see (Appendix 7, Tables 32 to 39 and Figure 14)

Sociodemographic Profile

28 of the 125 respondents are male (22.4%) and 96 female (76.8%). There is also one respondent who picked "other" as gender (0.8%). The sample includes people from 15-24 to +65 years old. Most respondents (76%) belong to the 15-24 range. The 25-34, 45-54, 55-64, 35-44 and +65 ranges follow with 15, 6, 6, 2 and 1 respondents, respectively.

The most common is that respondents have Bachelor as the highest level of schooling (44% of respondents claim so). The master's degree, high school and basic education levels follow with 36.8%, 16.8% and 2.4% of the answers, respectively.

The 125 respondents are all from Portugal: this number already excludes other nationalities, as previously explained. As expected, the majority is from Lisbon Area (71.2%). However, it was also possible to reach consumers from Great Lisbon (11.2%), Centre Littoral (9.6%), Great Porto (6.4%), North Littoral (0.8%) and South Littoral (0.8%).

Relatively to occupation, it is possible to affirm that most respondents are students (55.2%). The others are employed (23.2%), student workers (12.8%), employers (5.6%), unemployed (2.4%) and retired (0.8%). Following the above "student tendency", 51 respondents (40.8%) answered "does not apply" when questioned about salary. The answer-options "1001-2000", "0-705", "706-1000", "2001-3000" and "+3000" follow with 26, 25, 12, 6 and 5 respondents, respectively.

Behavioural Profile

Concerning respondents' awareness of the different fast fashion brands' sustainability efforts, a clear tendency can be verified: consumers are not very aware of them. Most answers are concentrated in the options "not at all aware" and "slightly aware". In addition, the option "not at all aware" is the most picked. As it is possible to see in the following image, there is a clear deviation of the awareness results to the negative side:

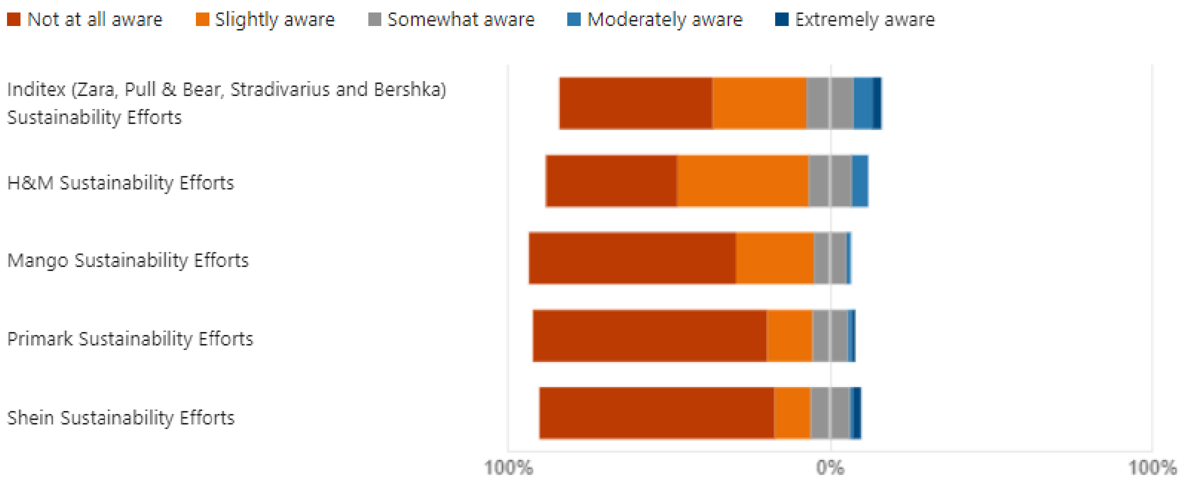

Figure 14: Fast Fashion brands' sustainability efforts awareness

Regarding the sustainability efforts Portuguese consumers value the most, there is a clear winner: "using recyclable materials on clothing" (picked by 89 respondents). The efforts "having second hand initiatives (to reuse and recycle)", "investing in innovation to reduce the waste and pollution in production process", "using sustainable packaging (for online orders)", "using natural materials on clothing (banana Fibre, hemp, etc.)" and "using sustainable vehicles for deliveries" were picked by 76, 76, 73, 55 and 28 respondents, respectively. The answer-option "other" was only picked by 4 respondents. In the following question, they all specified "other" basically as "reducing textile waste".

Relatively to Portuguese consumers' willingness to pay for sustainable products sold by fast fashion brands, results were somewhat positive: 75 respondents (60%) claim they would be willing to pay more for the sustainable option. However, 40% are still left resistant to this price difference. The answers to the following associated question about the thought of greenwashing show worse results: 62.4% of respondents affirm "greenwashing" came to their mind when thinking about their willingness to pay for a sustainable product sold by a fast fashion brand.

5.3 Discussion

As explained, it is clear that one can recommend fast fashion brands to focus more on sustainability efforts in order to satisfy the needs of consumers. Going further, however, allowed more deep understanding:

Q1 allowed to conclude that Portuguese consumers are very little aware of fast fashion brands' sustainability efforts. Even though some of these brands have made a higher effort to become more sustainable in the last few years compared to the others, Portuguese consumers show a similar low level of awareness of the sustainability efforts of every brand. This means a high investment in communication is necessary for consumers to know what brands are doing now and will do, in terms of sustainability efforts.

Q2, the centre and purpose of this future research allowed to specify the most relevant efforts for Portuguese consumers: "using recyclable materials on clothing" is clearly the most important for Portuguese consumers, being followed by "having second hand initiatives (to reuse and recycle)", "investing in innovation to reduce the waste and pollution in production process" and "using sustainable packaging (for online orders)". "Using natural materials on clothing (banana Fibre, hemp, etc.)" and "using sustainable vehicles for deliveries" efforts were only picked by less than 55 and 28 respondents, respectively. "Reducing textile waste" (the specification of the answer-option "other") was also only picked by 4 respondents.

Finally, Q3 allowed to conclude that many Portuguese consumers are willing to pay more for sustainable products at fast fashion brands, a very positive indicator. However, once more, communication is needed to open the dialogue with consumers to clarify the many existent thoughts of “greenwashing”, since consumers seem to associate these brands’ efforts with greenwashing which causes scepticism among them when it comes to buying sustainable products, especially for a higher price.

In sum, the further research allowed concluding: 1) the most important sustainability efforts for Portuguese consumers for brands to implement or reinforce, 2) communication is needed to inform consumers about the ongoing and future sustainability efforts and to open a transparent dialogue about fast fashion's environmental effects and real measures being taken to fight them.

More research would be needed in order to have more solid conclusions about the sustainability efforts the fast fashion companies should focus on as well as to have a greater understanding of consumers’ willingness to pay for sustainable items sold by fast fashion brands and their opinions regarding greenwashing. Furthermore, future research should also study how fast fashion brands can become more transparent, by understanding what efforts would make consumers trust these brands regarding sustainability.

6. Conclusion

6.1 Study’s Findings

This study allowed to understand why most Portuguese fashion consumers still depend on the fast fashion industry to satisfy their needs even though they are concerned with environmental sustainability. The majority of Portuguese consumers still buy from fast fashion brands at least once a year, and some of them even purchase fast fashion items quite frequently. Nevertheless, it is possible to conclude that a common concern with environmental sustainability exists among these consumers since there was a reduction in fast fashion purchases in the last few years. Additionally, a large part also admits to not being satisfied with the level of sustainability of their closet and demonstrates an interest in making more sustainable purchases. However, Portuguese consumers find it difficult to purchase sustainable clothes because most of them are not aware of the current sustainable offers on the market, and the ones that are aware, feel that these offers do not match their needs. The main barriers to purchasing sustainable fashion reported by consumers are the price of the clothes, lack of choice/ sustainable alternatives and lack of knowledge about sustainability alternatives.

With the perceptual map analysis, it was found that consumers perceive Primark and Shein quite similarly, associating them mainly with low prices and bad quality; Inditex is perceived to be the trendiest compared to others and is highly associated with immediateness as well; Mango is mostly associated with immediateness and trendiness, and H&M is associated with immediateness and variety. Despite the fact that these perceptions are not all positive and contrast with the perceptions of sustainable fashion found in the literature, Portuguese consumers still buy fashion products from these brands at least once a year which means that even though they might have sustainability concerns, these brands are able to satisfy their needs.

The conjoint analysis demonstrated the attribute, which Portuguese consumer value the most when purchasing clothes, is the "Quality" of the products, followed by the "Price" which gives the impression that consumers are not as concerned with the environmental impact of fashion as they are with the quality of the clothes they purchase and how much they spend. Nevertheless, by analysing the consumer's choices it was possible to conclude that they might be willing to choose the sustainable options and even pay a higher price for it if the difference in price is not significant and if the quality is not compromised, which once again shows the consumer's sensitivity to price as well as to quality. The ideal products for Portuguese fashion consumers are fashionable or trendy clothes, of average or high quality and with affordable prices (5€ and 10€), and if there is a sustainable alternative with those characteristics, they are willing to purchase that one.

In this study, we found two different generations of consumers that fast fashion companies should focus on, which are Generation Z and Millennials. We have concluded that the people in these two groups despite having similar sociodemographic characteristics have different concerns towards sustainability and different fashion needs. On one hand, the consumers that belong to Generation Z, despite mainly being students with no income, demonstrate a higher concern towards sustainability than the older generation. These young consumers are concerned with the negative impact of their purchases and are willing to make more sustainable choices as well as pay more for them, even though some of them still purchase fast fashion quite frequently. Regarding the Millennials, even though the majority of consumers also demonstrate an interest in progressively changing their fashion purchase habits in order to make them more sustainable, there is still a significant part that does not want to change and that is not willing to pay higher prices for sustainable products despite having a considerably high income. This shows that there are consumers that are still sceptical and not interested in spending more money on sustainable clothes because fast fashion ones are cheaper and satisfy their needs. This way, younger consumers are the ones that already show more interest in becoming more sustainable which gives an opportunity for fast fashion brands to focus on them and try to offer products that are in line with their needs.

With further research, it was possible to confirm some of the findings and predictions presented before. Most Portuguese consumers reported that they are not aware of the sustainability, efforts of the fast fashion brands analysed which means that the brands are not being successful with the communication strategies of their sustainable collections. Furthermore, consumers stated which environmental sustainability efforts from fashion brands they value the most which will be recommended to the fast fashion brands in the next chapter. Finally, the willingness to pay more for a sustainable t-shirt compared to a non-sustainable t-shirt from the same fast fashion brand was tested in order to confirm once again if Portuguese consumers are willing to pay more for sustainable items and the answers were positive since most consumers showed interest to opt for the sustainable option. Nevertheless, most consumers also reported having thought of greenwashing when asked to choose between t-shirts, which confirmed that consumers are sceptical about fast fashion brands' true motivations and do not fully trust them to be honest about their sustainability efforts.

The paradox between fast fashion and sustainability is visible in the findings of this work. Portuguese fashion consumers want to become more sustainable and extend their environmental concerns to their fashion purchases. However, on average they are still avid fast fashion consumers because they believe that there are still significant barriers to sustainable fashion and that in order to purchase sustainable items it is necessary to sacrifice the benefits provided by fast fashion. Therefore, fast fashion companies should take action to overcome these barriers and to secure and satisfy customers.

6.2 Recommendations

Due to the rise of sustainability concerns among consumers, it is crucial that fast fashion brands keep up with their needs and be able to provide the products they are looking for. A large part of consumers in this study has demonstrated interest in purchasing sustainable clothes and has already decreased their purchases at fast fashion brands in the last few years, which means these brands have been losing customers for quite some time now due to not meeting their needs. Furthermore, some Portuguese consumers showed that they are slightly sceptical towards the honesty and motives of the fast fashion brands since they tend to associate these brands with greenwashing when considering buying the sustainable clothes they offer instead of conventional ones. This way, it is essential that fast fashion brands rethink their strategies in order to meet their customers' expectations and attract new ones as well since the number of conscious consumers keeps increasing. Therefore, based on the analyses performed in this study and the conclusions presented before, the following efforts are recommended:

Improvement of supply chain processes

Based on the conclusions of the analyses performed in the study, it is recommended that fast fashion brands invest in improving their supply chain processes in order to offer a wide variety of sustainable clothes that meet consumers' needs by having the attributes they value the most. This means that these brands should maintain, to some extent, the way they are perceived by their loyal customers, such as being trendy, immediate, affordable and having a variety of products. Nevertheless, they should also try to be perceived as sustainable to attract conscious consumers and maintain the ones that are starting to look for a more sustainable option. Therefore, the brands should focus their efforts on producing fashionable sustainable clothes that have reasonable prices, due to the importance of price for consumers, but of great quality as well, contrary to most fast fashion products, because most consumers value quality significantly when purchasing clothes and are not willing to sacrifice it for lower prices. It is then important that when consumers go to fast fashion stores, they can easily find sustainable clothes that satisfy their environmental concerns while offering the benefits provided by fast fashion products.

Sustainability efforts

Fast fashion brands are already making an effort to invest in changes to make their production and delivery processes more sustainable. However, consumers do not seem to be recognizing their efforts. As mentioned before, in order to make accurate recommendations to fast fashion brands that are in accordance with consumers' expectations, Portuguese consumers were given some options of environmental sustainability efforts and were asked to choose the ones they value the most. This way, it is recommended that fast fashion brands invest in the use of recyclable materials; second hand initiatives; sustainable packaging; natural materials; sustainable vehicles for deliveries and reducing textile waste. Even though some brands might already be doing some of the practices, it is highly recommended to invest in the ones that they are not doing yet in order to meet consumers' needs and therefore attract their attention to the products offered.

Communication of sustainable offers

Investing in the sustainability efforts mentioned above might be crucial for fast fashion brands to meet the needs of conscious consumers, but it is not enough. Some of these brands have been trying to become more sustainable in the last few years by implementing some sustainability measures, but consumers are still decreasing their purchases from these brands. This way, investing in the communication of their sustainable offers is one of the most important tasks that fast fashion brands need to accomplish. The reality is that most consumers probably do not expect to find sustainable products at fast fashion stores and most of them are not even aware that these collections exist, as was confirmed by further research performed. This lack of awareness might have contributed to the change in consumers' fashion habits in the last few years, by decreasing their purchases of fast fashion products. Therefore, these brands are once again losing the opportunity to satisfy the needs of consumers that have arising concerns towards sustainability, which leads them to choose more sustainable alternatives. Investments in marketing campaigns for sustainable collections are an example of how these brands can make consumers aware of their sustainable alternatives. Furthermore, it should be easy for consumers to identify which clothes are sustainable when they are shopping either at the stores or online, so these products should be properly marked and differentiated from the non-sustainable ones.

Transparency

The lack of transparency of fast fashion brands regarding sustainability in their supply chain processes still leaves consumers sceptical about whether or not the clothes from their sustainable collections are effectively sustainable since these brands are often accused of greenwashing. These assumptions were confirmed with the further research done in this study since most consumers stated that they think about greenwashing when they have to make a choice between sustainable and non-sustainable options offered by a fast fashion brand. This way, it is crucial that brands invest in new and better ways to demonstrate how they are changing their production processes as well as their business models to become more sustainable brands with less harmful impact on the environment because the information presented in the sustainability reports does not seem to be sufficient to convince consumers that changes are being made. Total transparency about every step of the supply chain process is required to inform consumers about everything these companies do until the selling stage.

Therefore, brands should disclose information about how much they produce; how they produce their products, including full disclosure about who their suppliers are and how they work; and what are the goals to be achieved as well as what is being done to achieve them. It is not enough anymore to only say that the products are sustainable, so it is necessary to know exactly which materials are being used in the clothes production. Finally, consumers need to be informed about objective results these companies achieve every year to reduce their negative impact on the environment regarding, for example, the reduction of waste; water usage; pollution; carbon footprint, among others.

6.3 Limitations

This dissertation study is based on the group's research and scientific information from other research papers. In every study, findings may include some limitations. By identifying them, future research can address them and develop better work:

Survey samples' limitations

Gender, age, location and occupation – many of the conclusions of the present dissertation are based on the three surveys carried out. However, these results include some flaws. Firstly, there's a gender tendency in all three surveys: most respondents are female (81% in the preliminary survey, 70% in the conjoint analysis survey, and 76.8% in the further research survey). Secondly, all three surveys mostly reached young respondents, which can bias the conclusions: most respondents belong to the 15-24 age range (86.9% in the preliminary survey, 75% in the conjoint analysis survey, and 76% in the further research survey). Thirdly, the surveys' answers are not as representative of Portugal's geographic area as desired: most respondents are from the Lisbon area (68% in the preliminary survey, 64% in the conjoint analysis survey, and 71.2% in the further research survey). Fourthly, there is also a common absolute majority winner in "occupation" in all surveys: full-time student (picked by 55.9 in the preliminary survey, 61% in the conjoint analysis survey, and 55.2% in the further research survey). Although the surveys also reached males, other age ranges, other Portuguese geographical areas, and Portuguese consumers with different occupations, the present flaws cannot be denied. A wider sample in terms of the mentioned four categories would allow more solid conclusions.

Margin of Error – the number of answers obtained in the preliminary survey guarantees a reasonable margin of error (+/- 7%), as previously explained. In the conjoint analysis survey and in the further research survey, this margin of error increased to +/- 10%. These numbers are not as great as desired. A larger number of answers would allow more confident conclusions about the topic at stake. This limitation is somehow related to time constraints, typical of the academic context. In order to get more answers and be closer to a 100% confidence level, more time would be needed.

Perceptual Map's and Conjoint Analysis' limitation

The Perceptual Map built and the Conjoint Analysis made were also important parts of this dissertation, essential to reach the conclusions stated above. Unfortunately, one main flaw can also be recognized here: more perceptions and attributes could have been included in the process. The Perceptual Map only used five perceptions: "trendiness", "variety", "bad quality", "low price", and "immediateness". The Conjoint Analysis went the same way, only considering four attributes: "price", "sustainability", "quality", and "style". A larger list of perceptions and attributes would, once more, guarantee more confident conclusions. This limitation is somehow related to the effort in making simpler surveys for respondents to answer. With the existent means and time constraints mentioned above, one cannot risk missing respondents due to offering them complex surveys to answer.

Consumers bias limitation

One must also consider that part of the answers from Portuguese consumers may be biased. The topic at stake deals with an ethical issue. Some respondents might answer ideally and not truthfully about their habits, intentions or beliefs. This can play in the conclusion's benefit or not. There can be more consumers with negative fast fashion habits than results show, for example, which would support once more that "Portuguese consumers buy fast fashion".

However, consumers may be less concerned about sustainability than they claim, which would contradict the pronounced tendency and respective conclusions and recommendations.

Cluster Analysis' limitation

Once again, due to the similarity of the sociodemographic characteristics of the respondents of the preliminary survey, the results of the cluster analysis might not be the most accurate and the most representative of Portuguese fashion consumers. Even though the four clusters represent different groups of consumers with different environmental concerns they consist only of people of two generations with similar ages, genders and incomes. Future research should be done with a more diversified sample and with other relevant variables.

7. References

10 Ethical Fashion Certifications and Labels for the Conscious Consumer. (2022). Ethos. Available at: https://the-ethos.co/ethical-fashion-certifications-and-labels/

A Lecta Company. (2021). *Mango's Winning Strategy*.

Aakko, M., & Koskennurmi-Sivonen, R. (2013). Designing Sustainable Fashion: Possibilities and challenges, *Research Journal of Textile and Apparel*, vol. 17, no. 1, pp. 13-22, Available at: https://www.emerald.com/insight/content/doi/10.1108/RJTA-17-01-2013-B002/full/html

Allenby, G., Fennell, G., Bemmaor, A., Bhargava, V., Christen, F., Dawley, J., ... & Yang, S. (2002). Market segmentation research: beyond within and across group differences. *Marketing Letters*, *13*(3), 233-243.Available at: http://mrvar.fdv.uni-lj.si/pub/mz/mz19/zabkar.pdf

Alriksson, S., & Öberg, T. (2008). Conjoint analysis for environmental evaluation. *Environmental Science and Pollution Research*, *15*(3), 244-257. Available at: https://link.springer.com/article/10.1065/espr2008.02.479

Andreea-Ionela, P. U. I. U. (2020). Clustering Consumers Through their Consumption Behavior: Analysis on the Fashion Industry. *Management and Economics Review*, *5*(1), 23-32. Available at: https://www.researchgate.net/profile/Andreea-Ionela-Puiu/publication/342182112_Clustering_Consumers_Through_their_Consumption_Behavior_Analysis_on_the_Fashion_Industry/links/5ee8dc8692851ce9e7e82416/Clustering-Consumers-Through-their-Consumption-Behavior-Analysis-on-the-Fashion-Industry.pdf?_sg%5B0%5D=started_experiment_milestone&origin=journalDetail

About Us | Primark. (n.d.). Available at : https://www.primark.com/en-gb/about-us

Arriaga, J. L. D. O., Andreu Domingo, D., & Berlanga Silvente, V. (2017). Facebook in the low-cost fashion sector: the case of Primark. *Journal of Fashion Marketing and Management: An International Journal*, *21*(4), 512–522. Availble at: https://doi.org/10.1108/jfmm-08-2016-0069

Astoul, E. (2022, November 2). *A List Of Fast Fashion Brands to Avoid & Why*. Sustainably Chic. Available at : https://www.sustainably-chic.com/blog/fast-fashion-brands-to-avoid

Babbie, E. (2011). The Basics of Social Research (5th ed). Australia: Wadsworth / Cengage Learning.

Barnes, L., & Lea-Greenwood, G. (2010). Fast Fashion in the Retail Store Environment, *International Journal of Retail & Distribution Management*, vol. 38, no. 10, pp. 760-772, Available at: https://www.emerald.com/insight/content/doi/10.1108/09590551011076533/full/html 760-

Batina, L., Hogenboom, J., & van Woudenberg, J. G. (2012). Getting more from PCA: first results of using principal component analysis for extensive power analysis. In *Cryptographers' track at the RSA conference* (pp. 383-397). Springer, Berlin, Heidelberg.Available at: https://www.geo.fu-berlin.de/en/v/soga/index.html

Bick, R., Halsey, E., & Ekenga, C. C. (2018). The Global Environmental Injustice of Fast Fashion, *Environmental Health*, vol. 17, no. 93, pp.1-4, Available at: https://ehjournal.biomedcentral.com/articles/10.1186/s12940-018-0433-7#citeas 93, pp.1-4,

Blomkvist, S. (2002). Persona–an overview. Available at: https://www.it.uu.se/edu/course/homepage/hcidist/vt05/Persona-overview.pdf

Brandão, A., & Costa, A. G. D. (2021). Extending the theory of planned behaviour to understand the effects of barriers towards sustainable fashion consumption. *European Business Review, 33*(5), 742–774. Available at: https://doi.org/10.1108/ebr-11-2020-0306

Brangier, E., & Bornet, C. (2011). Persona: a method to produce representations focused on consumers' needs. In Human factors and ergonomics in consumer product design (pp. 37-61). CRC Press. Available at: https://d1wqtxts1xzle7.cloudfront.net/50134848/J._D._Booker__M._Raines__K_G_Swift-Designing_Capable_and_Reliable_Products-Butterworth_Heinemann_2001_1-libre.pdf?1478409852=&response-content-disposition=inline%3B+filename%3DJ_D_Booker_M_Raines_K_G_Swift_D

Bruce, M and Daly ,L. (2006), "Buyer behaviour for fast fashion", *Journal of Fashion Marketing and Management*, Vol. 10 No. 3, pp. 329-344. Available at: https://doi.org/10.1108/13612020610679303

Bruin, J. (2006). newtest: command to compute new test. UCLA: Statistical Consulting Group. Available at: https://stats.oarc.ucla.edu/stata/ado/analysis/.

Byun, S., & Sternquist, B. (2008). The Antecedents of In-Store Hoarding: Measurement and application in the fast fashion retail environment, *The International Review of Retail, Distribution and Consumer Research*, vol. 18, no. 2, pp. 133-147, Available at: https://www.tandfonline.com/doi/abs/10.1080/09593960701868241 133-147

Carmo, H., & Ferreira, M. M. (2008). Metodologia da investigação: Guia para auto-aprendizagem. Universidade Aberta (2 ed). Lisboa.

Charter, M., Peattie, K., Ottoman, J., & Polonsky, M. J. (2002). Marketing and Sustainability, Available at: https://pdfs.semanticscholar.org/8408/0b5fffcfc4ab2a77962c76b8112516a27ed0.pdf Marketing and Sustainability

Chipoco, M. (2016). Perceptual map teaching strategy. RIDU, 10(2), 83-91. Available at: file:///Users/maria/Downloads/Dialnet-PerceptualMapTeachingStrategy-5746716%20(1).pdf

Chowdhury, T. A., & Akter, T. (2018). Fashion attributes preferred by young Bangladeshi consumers while buying casual clothes: A multi-dimensional approach. Journal of Fashion Marketing and Management: An International Journal. Available at: https://www.researchgate.net/profile/Tania-Akter-5/publication/326190251_Fashion_attributes_preferred_by_young_Bangladeshi_consumers_while_buying_casual_clothes_A_multi-dimensional_approach/links/5b960ee0299bf14739380554/Fashion-attributes-preferred-by-young-Bangladeshi-consumers-while-buying-casual-clothes-A-multi-dimensional-approach.pdf

Churchill, G. A., Brown, T. J., & Suter, T. A. (1996). *Basic marketing research*. Fort Worth: Dryden Press.

Collett, M., Cluver, B. and Chen, H.-L. (2013), "Consumer Perceptions the Limited Lifespan of Fast Fashion Apparel", Research Journal of Textile and Apparel, Vol. 17 No. 2, pp. 61-68. https://doi.org/10.1108/RJTA-17-02-2013-B009

COMO CONSUMIR SUSTENTÁVEL EM PORTUGAL?: Fashion Revolution. (n.d.). Available at: https://www.fashionrevolution.org/portugal-blog/como-consumir-sustentavel-em-portugal/?fbclid=IwAR1PPfQgXAMkxmw9-2p5ENDeLqdtECDajGhAr8X4D26SWvIGClzMlefwJKE%C2%A0

Conroy, M. (2010). A qualitative study of the psychological impact of unemployment on individuals. Dublin, Ireland: Dublin Institute of Technology, 1-65.
consumer shopping behaviour: Generational cohort perspective. *Journal of Retailing and Consumer Services*, *61*, 102542.

Cooper A. 2003. The Origin of Personas. Available at: http://www.cooper.com/journal/2003/08/the_ origin_of_personas.html

Cooper A., Reimann R., Cronin, D. 2007. About Face 3: The Essentials of Interaction Design. Indianapolis, Wiley.

Creswell, J. W. (2014). Research design: qualitative, quantitative, and mixed methods approaches (4th ed., Vol. 136). Sage Publications.

Crumbie, A. (2021) What is fast fashion and why is it a problem? Available at: https://www.ethicalconsumer.org/fashion-clothing/what-fast-fashion-why-it-problem

Customer Perception - Clootrack. (n.d.). Retrieved October 21, 2022. Available at: https://www.clootrack.com/knowledge_base/customer-perception

Dalibozhko, A., & Krakovetskaya, I. (2018). Youth entrepreneurial projects for the sustainable development of global community: evidence from Enactus program. *SHS Web of Conferences, 57,* 01009.Available at: https://doi.org/10.1051/shsconf/20185701009

Daniel, N., Sebastian, J. M., Rawal, J., & Verma, N. (2021). Fast Fashion. *Consumer Perception and Buying Practice*, *7*(4-V7I4-1639). Available at: https://www.ijariit.com

Danziger, P. N. (2018, February 4). *Why Fast-Fashion H&M Is Losing Favor With American Fashionistas: It's A Mess*. Forbes. Available at https://www.forbes.com/sites/pamdanziger/2018/02/04/why-fast-fashion-hm-is-losing-favor-with-american-fashionistas-its-a-mess/?sh=32ed822f10ca

Daxue Consulting. (2022). *Shein's market strategy: how the Chinese fashion brand is conquering the We*st. Daxue Consulting - Market Research China. Available at: https://daxueconsulting.com/shein-market-strategy/ https://daxueconsulting.com/shein-market-strategy/

Deloitte (2022) *Sustainability & Consumer Behaviour 2022*. (n.d.). Deloitte United Kingdom. Available at: https://www2.deloitte.com/uk/en/pages/consumer-business/articles/sustainable-consumer.html

DiLeonardo, M. J. (2022). *What Is Fast Fashion—and Why Is It a Problem?* Treehugger. Available at: https://www.treehugger.com/fast-fashion-environmental-ethical-issues-4869800

do Monte, A. L. A. (2012). Clustering para apoio à decisão na indústria da moda. Available at: https://repositorio-aberto.up.pt/bitstream/10216/76362/2/25440.pdf

Eckhardt, G. M., Belk, R., & Devinney, T. M. (2010). Why don't consumers consume ethically*? Journal of Consumer Behavio*ur, 9(6), 426–436.Available at: https://doi.org/10.1002/cb.332 https://doi.org/10.1002/cb.332

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American journal of theoretical and applied statistics, 5(1), 1-4.

Eger, L., Komárková, L., Egerová, D., & Mičík, M. (2021). The effect of COVID-19 on
Eggers, F., Sattler, H., Teichert, T., & Völckner, F. (2022). Choice-Based conjoint analysis. In Handbook of market research (pp. 781-819). Springer, Cham. Available at: https://link.springer.com/content/pdf/10.1007/978-3-319-57413-4.pdf

Fagerhus, A., & Hallqvist, S. (2020). Sustainable Fast Fashion: Paradox or Possibility? From Consumer Insight to Sustainable Marketing.

Fan, Y. (2018). Buying behaviors of generation x women on fast fashion products: A mixed methods study. Available at: https://digitalcommons.unl.edu/textilesdiss/11/

Fashion & Environment. (n.d.). SustainYourStyle. Available at : https://www.sustainyourstyle.org/en/whats-wrong-with-the-fashion-industry

Fashion and greenwashing: all you need to know. (n.d.). Staiy. Available at: https://staiy.com/blogs/staiy-edit/quick-guide-to-make-your-investments-greener?article=articlepage

Fashion Gone Rogue. (2020, June 3). *Fashion History: The Evolution of Fashion Designing*. Retrieved December 4, 2022, Available at: https://www.fashiongonerogue.com/fashion-history-evolution-fashion-designing/

Fashion waste index. (n.d.). LABFRESH. https://labfresh.eu/pages/fashion-waste-index

Fressynet, I. (2022). *An inside look at Shein: The $100 billion fast fashion brand where factory staff work 75-hour weeks*. Euronews. Available at: https://www.euronews.com/green/2022/04/05/welcome-to-the-dark-side-shein-is-the-biggest-rip-off-since-fast-fashion-was-born https://www.euronews.com/green/2022/04/05/welcome-to-the-dark-side-shein-is-the-biggest-rip-off-since-fast-fashion-was-born

Gigauri, I. (2019). Perceptual mapping as a marketing research tool for brand positioning. *International Journal of Economics and Management Studies*, *6*(4), 73-79.Available at: https://www.researchgate.net/profile/Iza-Gigauri/publication/334089201_Perceptual_Mapping_as_a_Marketing_Research_Tool_for_Brand_Positioning/links/5eb96e55299bf1287f7d49d9/Perceptual-Mapping-as-a-Marketing-Research-Tool-for-Brand-Positioning.pdf

Greenpace. (2016). After the Binge, After Hangover, Insight into the Minds of Clothing Consumers. Retrieved October 21, 2022. Available at: https://www.greenpeace.de/sites/default/files/publications/2017-05-08-greenpeace-konsum-umfrage-mode.pdf

Gwozdz, W., Steensen Nielsen, K., & Müller, T. (2017). An environmental perspective on clothing consumption: Consumer segments and their behavioral patterns. *Sustainability*, *9*(5), 762. Available at: https://www.mdpi.com/2071-1050/9/5/762

H&M Group. (2021). *H&M Group Sustainability Disclosure 2021*. hmgroup.com. Retrieved October 9, 2022. Available at : https://hmgroup.com/wp-content/uploads/2022/03/HM-Group-Sustainability-Disclosure-2021.pdf

Hanley, Q. (2022). Supply Chain Sustainability in the Fashion Industry.

Hines, T., Bruce, M., 2007. Fashion Marketing: Contemporary Issues. [e-book] Amsterdam: Elsevier Ltd. Available at: https://www.academia.edu/6428586/Fashion_Marketing_Contemporary_Issues_Secon

Homburg, C., Klarmann, M., & Vomberg, A. (Eds.). (2019). *Handbook of market research*. Springer International Publishing. Available at: https://link.springer.com/content/pdf/10.1007/978-3-319-57413-4.pdf

How to Interpret Marginal Willingness To Pay (MWTP) (n.d.). Conjointly. https://conjointly.com/guides/how-to-interpret-marginal-willingness-to-pay/

Hrúz, M., Pecho, P., Socha, V., & Bugaj, M. (2021). Use of the Principal Component Analysis for Classification of Aircraft Components Failure Conditions Using Vibrodiagnostics. *Transportation Research Procedia*, *59*, 166-173.Available at: https://www.sciencedirect.com/science/article/pii/S2352146521008693

Inditex. (2020). *Inditex Annual Report 2020*. Available at: https://static.zara.net/static/joinlife/2020_Inditex_Annual_Report.pdf

Inditex. (n.d.). Design and selecting of Material. In *statistic.inditex.com*. Available at: https://static.inditex.com/annual_report_2021/en/documents/design-and-selection-materials.pdf

Is SHEIN worse than Primark? [Solved] (2022). Fashionguiding. Retrieved September 22, 2022. Available at : https://fashionguiding.ngontinh24.com/articles/is-shein-worse-than-primark

Jadott, S. (2022). Gen Z Wants Sustainable Clothes But Still Buys Fast Fashion
Jain, A. K. (2009), "Data clustering: 50 years beyond K-Means", Pattern Recognition Letters, Elsevier B.V. Available at: https://www.sciencedirect.com/science/article/pii/S0167865509002323

Jaganmohan, M. (2022b, June 15). *Sustainability - statistics & facts*. Statista. https://www.statista.com/topics/7845/sustainability/

Jansen, M. (2021). *All about Zara and how the Iconic Logo Has Evolved Over the Years*. The Design Blog by DesignBro. Available at : https://designbro.com/blog/industry-thoughts/zara-iconic-logo-evolution/ https://designbro.com/blog/industry-thoughts/zara-iconic-logo-evolution/

Jegethesan, K., Sneddon, J. N., & Soutar, G. N. (2012). Young Australian consumers' preferences for fashion apparel attributes. *Journal of Fashion Marketing and Management: An International Journal*, *16*(3), 275-289. Available at:

https://www.emerald.com/insight/content/doi/10.1108/13612021211246044/full/pdf?title=young-australian-consumers-preferences-for-fashion-apparel-attributes

Joy, A., Sherry Jr, J. F., Venkatesh, A., Wang, J., & Chan, R. (2012). Fast fashion, sustainability, and the ethical appeal of luxury brands. Fashion theory, 16(3), 273-295. Available at: https://www.tandfonline.com/doi/abs/10.2752/175174112X13340749707123

Kaur, H., & Anand, S. (2018). Segmenting Generation Y using the Big Five personality traits: understanding differences in fashion consciousness, status consumption and materialism. *Young Consumers*.Availabe at : https://www.emerald.com/insight/content/doi/10.1108/YC-03-2018-00788/full/html *Young Consumers*.

Key Success Factors in a Fashion Firm. (n.d.). Retrieved September 22, 2022. Available at: https://440industries.com/hm-fast-fashion-case-study-the-secrets-to-success/
Kohli, C. S., & Leuthesser, L. (1993). Product positioning: a comparison of perceptual mapping techniques. *Journal of Product & Brand Management*.Available at: https://www.emerald.com/insight/content/doi/10.1108/10610429310047660/full/html

Kotler, P., & Armstrong, G. (2018). Principles of Marketing, Global Edition, 17th edn, Harlow: Pearson Education Limited

Lectra. (n.d.). Inditex Brands Offer Strategies. In *go.lectra.com*. Available at: https://go.lectra.com/rs/448-ANF-726/images/Retviews-Inditex-Report-EN.pdf

Leung, J (n.d). What Is Perception in Psychology? Available at: https://study.com/academy/lesson/what-is-perception-in-psychology-definition-theory-quiz.html

Luce, R. D., & Tukey, J. W. (1964). Simultaneous conjoint measurement: A new type of fundamental measurement. *Journal of mathematical psychology*, *1*(1), 1-27. Available at: https://www.sciencedirect.com/science/article/abs/pii/002224966490015X

Macrae, C. N., Bodenhausen, G. V., & Milne, A. B. (1995). The dissection of selection in person perception: Inhibitory processes in social stereotyping. *Journal of Personality and Social Psychology, 69*(3), 397–407. Available at : https://doi.org/10.1037/0022-3514.69.3.397

Maiti, R. (2022). *Fast Fashion and Its Environmental Impact*. Earth.Org. Available at: https://earth.org/fast-fashions-detrimental-effect-on-the-environment/

Mango Fashion Zine. (2016, November 22). Issuu. Available at: https://issuu.com/laurenludlow/docs/mango_fashion_zine https://issuu.com/laurenludlow/docs/mango_fashion_zine

MANGO OPENS ITS NEW FLAGSHIP STORE IN LISBON'S PLAZA DOS RESTAURADORES | Mango. (n.d.). Available at: https://press.mango.com/en/mango-opens-its-new-flagship-store-in-lisbon-s-plaza-dos-restauradores_39091

Mango. (2022, February 15). *MANGO BRINGS FORWARD ITS SUSTAINABLE TARGETS AND DOUBLES THE PERCENTAGE OF COMMITTED GARMENTS | Mango*. https://press.mango.com/en/mango-brings-forward-its-sustainable-targets-and-doubles-the-percentage-of-committed-garments_136232

Maroco, J. (2007). Análise Estatística – Com Utilização do SPSS (3ª Edição). Lisboa: Edições Sílabo.
Marsh, J. (2021, October 20). *The Fast Fashion Environmental Impact*. Environment Co. Available at: https://environment.co/the-fast-fashion-environmental-impact/

May, T. (1997). Social Research – Issues, Methods & Process. (2nd Ed.). Buckingham: Open University Press.

MBA Skool Team. (2019, February 11). *Mango Marketing Strategy & Marketing Mix (4Ps)*. MBA Skool. Available at: https://www.mbaskool.com/marketing-mix/products/17779-mango.html

MBA Skool Team. (2021). *Zara Marketing Strategy & Marketing Mix (4Ps)*. MBA Skool. Available at: https://www.mbaskool.com/marketing-mix/products/16999-zara.html

McIntosh, M. J., & Morse, J. M. (2015). Situating and constructing diversity in semi-structured interviews. Global qualitative nursing research, 2, 2333393615597674. Available at: https://journals.sagepub.com/doi/pdf/10.1177/2333393615597674

McKinsey & Company. (2020, December 14). *The future of sustainable fashion*. Available at: https://www.mckinsey.com/industries/retail/our-insights/the-future-of-sustainable-fashion

McKinsey & Company. (2021, February 18). *How COVID-19 has pushed companies over the technology tipping point—and transformed business forever*. Available at: https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever

McKinnon, T. (2021). *Zara's Strategy - 7 Ways it Stays on Top*. Indigo9 Digital Inc. Available at: https://www.indigo9digital.com/blog/zarastrategy

McNeill, L., & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: fashionable consumers and attitudes to sustainability in clothing choice. *International Journal of Consumer Studies*, *39*(3), 212-222. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/ijcs.12169

Michael Myung Jeong, Younghan Jung and Dan Daehyun Koo (2015). Scientific Research Publishing. (n.d.). *College students' perceptions of sustainability: A regional survey*. Journal of Building Construction and Planning Research. Available at: https://www.scirp.org/html/6-1260125_62075.htm

Mirkin, B. (2005). Data Clustering for Data Mining: A Data Recovery Approach, Boca Raton: Chapman and Hall. Available at: https://www.taylorfrancis.com/books/mono/10.1201/9781420034912/clustering-data-mining-boris-mirkin-boris-mirkin

Murphy, Chris. (2021). Investopedia.

Nakalinda, A. (2018). Factors Influencing Consumer Buying Behaviour of Fast Fashion in the UK. *Available at : https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3791377*

Neuman, W. L. (2007). Basics of social research: Qualititative and Quantitaive Approaches (2.ed.). Pearson Education.

Niinimäki, K. (2009). Consumer values and eco-fashion in the future. FFRC eBOOK, (7/2009), 125-134. Available at: https://orgprints.org/id/eprint/16410/1/consumer6.pdf

North, E. J., De Vos, R. B., & Kotze, T. (2003). The importance of apparel product attributes for female buyers. *Journal of Consumer Sciences*, *31*. Available at: https://www.ajol.info/index.php/jfecs/article/view/52834/41437

O'Neill, A. (2022). *Population of Portugal by gender 1864-2020*. Statista. Available at: https://www.statista.com/statistics/1017340/male-female-population-portugal-1864-2020/

Okur, N. (2021). Consumer Adoption of Fast-Fashion, Differences of Perceptions, and the Role of Motivations Across the Adoption Groups. Autex Research Journal, 22(3), 365–372. Available at: https://doi.org/10.2478/aut-2021-0024 https://doi.org/10.2478/aut-2021-0024

Park, H., & Kim, Y. K. (2016). An empirical test of the triple bottom line of customer-centric sustainability: The case of fast fashion. *Fashion and Textiles*, *3*(1), 1-18. Available at: https://fashionandtextiles.springeropen.com/articles/10.1186/s40691-016-0077-6

Park, H., & Kim, Y. K. (2016). Proactive versus reactive apparel brands in sustainability: Influences on brand loyalty. *Journal of Retailing and Consumer Services*, *29*, 114-122. Available at: https://www.sciencedirect.com/science/article/pii/S0969698915301508

Peighambari, K., Sattari, S., Kordestani, A., & Oghazi, P. (2016, April 1). Consumer Behavior Research. SAGE Open, 6(2), 215824401664563. Available at: https://doi.org/10.1177/2158244016645638

Pensylvania State University, n.d Available at: https://online.stat.psu.edu/stat555/node/88/

Popovic, M., Kuzmanović, M., & Savić, G. (2018). A comparative empirical study of Analytic Hierarchy Process and Conjoint analysis: Literature review. *Decision Making: Applications in Management and Engineering*, *1*(2), 153-163. Available at: https://www.dmame.rabek.org/index.php/dmame/article/view/19

Primark Marketing Strategy Case Study – 440 Industries. (n.d.). Available at: https://440industries.com/primark-marketing-strategy-case-study/

Primark. (2022). *Primark Sustainability and Ethics Progress Report 2021/2022*. Retrieved December 6, 2022, from https://primark.a.bigcontent.io/v1/static/Primark-Sustainability-and-Ethics-Report-2021-22

Published by L. Ceci. (2022, June 29). *Portugal mobile internet users 2027*. Statista. Retrieved September 12, 2022. Available at: https://www.statista.com/statistics/567279/predicted-number-of-mobile-internet-users-in-portugal/

Published by Statista Research Department. (2022). *Portugal: Broadband internet penetration 2010-2021*. Statista. Available at: https://www.statista.com/statistics/702526/broadband-internet-household-penetration-portugal/

Punch, K. (1998). Introduction to Social Research: Quantitative & Qualitative Approaches. London: SAGE Publications Ltd.

Randall, T., & Ulrich, K. (2001). Product variety, supply chain structure, and firm performance: Analysis of the US bicycle industry. *Management Science*, *47*(12), 1588-1604.Available at: https://pubsonline.informs.org/doi/abs/10.1287/mnsc.47.12.1588.10237

Rao, V. R. (2014). *Applied conjoint analysis* (No. 2014). New York: Springer. Available at: http://196.190.117.157:8080/xmlui/bitstream/handle/123456789/67963/13.pdf?sequence=1

Remake. (2022). *2021 Fashion Accountability Report*. Available at: https://remake.world/2021-remake-fashion-accountability-report/

Reuters. (2021). *Spain's Mango Takes on Retail Fashion Rivals Inditex and H&M*. The Business of Fashion. Available at: https://www.businessoffashion.com/articles/news-analysis/spains-mango-takes-on-retail-fashion-rivals-inditex-and-hm/

Robertson, L. (2022, August 31). *How Ethical Is Primark?* Good on You. Available at: https://goodonyou.eco/how-ethical-is-primark/

Rummel, R. J. (1967). Understanding factor analysis. *Journal of conflict resolution*, *11*(4), 444-480.Available at : https://journals.sagepub.com/doi/abs/10.1177/002200276701100405

Sainato, M. (2022, October 19). *'Give workers an equal seat': pressure builds for Levi's to protect factory employees*. The Guardian. https://www.theguardian.com/global-development/2022/sep/23/levis-garment-workers-bangladesh-pakistan-international-accord-health-safety

Sarantakos, S. (1998). Social Research. Hampshire: PALGRAVE.
Saunders, M., Lewis, P., & Thornhill, A. (2009). Research Methods for Business Students. Pearson Education.
Scamans, S. (2016). *Fast Fashion and Sustainability*. Available at: https://www.theseus.fi/bitstream/handle/10024/110864/Scamans_FastFashion_Sustainability_Thesis.pdf?sequence=1&isAllowed=y

Shein. (n.d.). *Just a moment.* . . https://www.shein.in/About-Us-a-117.html+https://www.shein.in/About-Us-a-117.html

sheingroup. (2022b, June 13). *Post author: sheingroup*. Available at: https://www.sheingroup.com/corporate-news/2021-sustainability-and-social-impact-report/

Siegle, L., 2011. To die for, Is fashion wearing out the world? London: Fourth Estate.

SHEIN UK. (n.d.). *2021 Sustainability and Social Impact Report | SHEIN UK*. https://www.shein.co.uk/2021-Sustainability-and-Social-Impact-Report-a-1267.html

Sitaro, T. D. (2020). Fast Fashion and Sustainability-The Case of Inditex-Zara.

Social Media Stats Portugal. StatCounter Global Stats. (n.d.).Available at: https://gs.statcounter.com/social-media-stats/all/portugal

Sophie Scaman: Fast Fashion and sustainability

Statista. (2021). *European consumers who consider environmental impact of clothing purchases 2020*. Available at: https://www.statista.com/statistics/973730/eu-consumers-environmental-impact-of-clothing-items-shopping/

Statista. (2022, June 2). *Forecast of the fast fashion apparel market size worldwide from 2021 to 2026*. Available at: https://www.statista.com/statistics/1008241/fast-fashion-market-value-forecast-worldwide/

The Guardian. (2021). Will Gen Z ever give up its dangerous love of fast fashion.Available at: https://www.theguardian.com/fashion/2021/oct/06/out-of-style-will-gen-z-ever-give-up-its-dangerous-love-of-fast-fashion

Vagias, Wade M. (2006). Likert-type scale response anchors. Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University.

VanderStoep, S. W., & Johnston, D. D. (2009). Research methods for everyday life: blending qualitative and quantitative approaches. San Francisco: Jossey-Bass.

Vora, P., & Oza, B. (2013). A survey on k-mean clustering and particle swarm optimization. *International Journal of Science and Modern Engineering*, *1*(3), 24-26. Available at: https://www.ijisme.org/wp-content/uploads/papers/v1i3/C0150020213.pdf

Wedel, M., & Kamakura, W. A. (2000). Market Segmentation: Conceptual and Methodological Foundations.

YINYIN, W. (2011). Consumer behavior characteristics in fast fashion. Available at: http://hb.diva-portal.org/smash/get/diva2:1312256/FULLTEXT01

Zara Marketing Strategy - The World's Top Fashion Retailer. (2022, May 10). AVADA Commerce Blog. Available at : https://blog.avada.io/resources/zara-marketing-strategy.html

Žiberna, A., & Žabkar, V. (2003). Application of end-user market segmentation using statistical methods. *Developments in Applied Statistics, Anuška Ferligoj and Andrej Mrvar (Eds.). metodološki zvezki-Advances in Methodology and Statistics*, *19*. Available at: http://mrvar.fdv.uni-lj.si/pub/mz/mz19/zabkar.pdf

8 Appendices

Interview with Industry Experts

Table 2: Interviewees' Information

Interviewee	Sex	Job Title	Company
1	Female	Marketing Experience Manager.	Portuguese sustainable fast fashion brand
2	Male	Marketing & E-commerce Director.	Portuguese fashion brand
3	Male	Fashion Store Owner (former investor).	Fashion Retailer
4	Female	Digital Teaching Assistant for the course Luxury and Fashion Marketing. Manager and coordinator of research projects on the topic of fashion. Founder & CEO of a Portuguese fast fashion brand	University Portuguese fashion brand

Structure of the Interviews

Our research is all about "Fast Fashion and Sustainability". We are focusing on Portuguese consumers to understand their behaviour in these related topics. For non-bias purposes, we will not share much more information about our intention with this research. Please answer the following questions with transparency and please develop as much as you can. Thank you very much for your time!

1. Who do you think is the typical fast fashion Portuguese consumer? (Please specify characteristics – age, etc.)
2. Why do you think Portuguese consumers buy fast fashion?

3. What do you think Portuguese consumers associate to fast fashion products? (Please develop)
4. What do you think are the main attributes of fast fashion products? (Please develop)
5. Do you think Portuguese are headed towards environmental sustainability? Who do you think is more environmentally concerned in Portuguese society? (Please specify characteristics – age, etc.)
6. Which barriers do you think Portuguese consumers find when purchasing sustainable products?
7. Why do you think Portuguese consumers buy fast fashion if they have sustainability concerns?
8. If Portuguese consumers have their reasons to buy fast fashion (mentioned above), until what extent do you think it is worth it for brands to engage in sustainability efforts? Please specify the reasons.
9. How do you think the relationship between fast fashion and sustainability will be in the future?

Table 3 - Interview Result and Analysis

Code	Question	Answer excerpt
Consumer	1.Who do you think is the typical fast fashion Portuguese consumer?	I1: "…who constantly looks for cheaper styles of fashion items and is on the lookout for discounts and promotions. This type of consumer prefers quantity over quality... not worried about the environmental impact... prefers lower prices and more variety of products. … younger generations tend to shop more at fast fashion brands due to lower income levels… they now prefer second-hand clothing or to purchase a high-quality product that will last longer..." I2: "…between 25 and 44 years old, has a strong engagement with social networks and accesses the internet via mobile phone." I3: "…between 20-40 years old, more women, middle class income level." I4: "Everyone. However, there might be different segments of consumers who buy for different reasons and have different consumption patterns."

Reasons	2. Why do you think Portuguese consumers buy fast fashion?	I1: "...income levels are much lower that many other European countries were people have a different behaviour in terms of sustainability... Portuguese consumers find it hard to pay more for a high-quality garment… easy… skepticism associated..." I2: "…ease of finding the product… ease of return." I3: "…cheap price, good quality to price relationship." I4: "…price/affordability… trends/novelty… include variety of the collection, convenience of store locations, no better fashion/brand alternatives."
Associations	3.What do you think Portuguese consumers associate to fast fashion products?	I1: "Value for money, cheap, trendy, variety of styles." I2: "fashion, immediate, low cost, scarcity and consumerism" I3: "Cheap, simple and trendy style." I4: "I´m not sure if Portuguese consumers are familiar with the concept of what fast fashion is."
Attributes	4.What do you think are the main attributes of fast fashion products?	I1: "Impulse buying, trend replication, imitation of small independent designers, low quality, disposable, competitive pricing." I2: "is their relevance and speed with which they reach the market to respond to consumer demand." I3: "Cheap, great follow of trends, new products weekly." I4: "Relatively affordable products with a very short lifespan."
Environmental Sustainability	5.Do you think Portuguese are headed towards environmental sustainability? Who do you think is more environmentally concerned in Portuguese society?	I1: "I believe Portuguese consumers are slowly becoming more aware of sustainability in general… There isn't a particular group…" I2: "…youngest age group 14-24 years." I3: "Yes, they are aware consumers but with covid, the social situation has gotten worse… leading to less people not having sustainability as a priority. The more concerned people are highly educated people, medium/high class and below 50 years of age." I4: "More informed consumer segments could be more concerned, i.e., higher education, higher income, younger age. Income can yield a higher financial ability to consume sustainable (higher priced) products, which would probably be in the form of an older segment."
Barriers for Sustainability	6.Which barriers do you think Portuguese consumers find when purchasing sustainable products?	I1: "…price. Lack of awareness and knowledge of sustainability practices. … skepticism." I2: "… price." I3: "Lack of information, tends to be more expensive." I4: "Price, trendiness, brand recognition/status."
Paradox (Fast Fashion vs Sustainability)	7.Why do you think Portuguese consumers buy fast fashion if they have sustainability concerns?	I1: "… easier, there are many more options of fast fashion products available. People want the latest trends in fashion, and they want if fast. …what individuals wish to do does not correspond with their actual attitudes." I2: "society is too focused on its rights and too little on its duties. … Although consumers are aware that it is necessary to have more responsible attitudes, they are still very selfish and believe that the "others" should make the efforts... The seriousness of the problem is still far from each individual…"

		I3: "Because they have no choice regarding prices… fast fashion stores are more aware and advertise their sustainability campaigns and actions so that people believe that these brands are moving towards more sustainability also." I4: "Some consumers might not be aware of the sustainability issues of fast fashion, or if they are aware they might not understand the severity of it; … other consumers might not have other options due to their budget/income… Others might have sustainability concerns but other reasons take higher priorities for them - like being in fashion, affordability. "
Brands sustainability efforts	8.If Portuguese consumers have their reasons to buy fast fashion (mentioned above), until what extent do you think it is worth it for brands to engage in sustainability efforts? Please specify the reasons.	I1: "It's worth… sustainable fashion consumption will continue increasing… it will start becoming a requirement by law." I2: "…it is a duty of brands…only with the effort of the big brands can there be significant changes in the short term." I3: "When a customer understands that a specific brand is making more sustainable actions and making their clothes more sustainable overall, then they will more likely choose this brand over a competitor. Besides this, companies should continuously become more sustainable…" I4: "It was not considered a competitive advantage that would yield higher revenues, but rather a cost/investment. Brands should engage in environmental efforts because it is the "right" thing to do. It might not be financially worth it in the short term, but it might potentially be key in the long term – and brands might not be able to afford to "miss the train"."
Future of the paradox (Fast Fashion vs Sustainability)	9.How do you think the relationship between fast fashion and sustainability will be in the future?	I1: "…fast fashion brands will have to develop their collections with sustainability in mind, as it will become a requirement. … implementing other services that enhance circularity in this industry. Second-hand platforms, recycling programs, repair programs, and so on. … keep the industry circular is the most important thing…" I2: "It will get closer and closer. …leading brands have this concern… In the future we just have to convert these programs from a communication program to a 100% real program." I3: "…fast fashion products will probably be more durable and less collections will be released (still more than other types of fashion stores) to better align the objectives of a fast fashion brand with sustainability. … with innovation and the discovery of cheaper production methods, companies will try to maintain their clothes at a low-price range, and always lower than other types of fashion shops." I4: "I believe that given the market weight of fast fashion brands and their financial importance for their suppliers, they have the power to be a transformative platform for the sustainability paradigm – both for consumers and suppliers. I believe that technology can play an important role in that relationship."

Cluster Analysis

Table 27 – Numerical scale used to convert variables

Gender	1 - Male 2 - Female
Age	1 - 15-24 2 - 25-34 3 - 35-44 4 - 45-54 5 - 55-64 6 - +65
Highest Level of Schooling	1 - Basic Education 2 - Highschool 3 - Bachelor 4 - Master 5 - Doctorate/PhD 6 - Other
Occupation	1- Student 2- Student Worker 3 - Employee 4 - Employer 5 - Unemployed 6 - Retired 7 - Other
Salary	1 - Does not apply 2 - 0-705€ 3 - 706-1000€ 4 - 1001-200€ 5 - 2001-3000€ 6 - +3000€
How often do you buy fast fashion?	1 - Once a year 2 - Every 2 or 3 months 3 - Once a month 4 - Every two weeks 5 - Once a week 6 - More than once a week
How important is it for you to make your closet more sustainable?	1 – Not important at all 2 3 4 5 – Absolutely essential
How sustainable is your closet?	1 – Not at all 2 3 4 5 – Extremely
I am willing to pay more for sustainable products/brands	1 – Strongly disagree 2 – Disagree

	3 – Neither agree or disagree 4 – Agree 5 – Strongly agree
I prefer green products to conventional ones	1 – Strongly disagree 2 – Disagree 3 – Neither agree or disagree 4 – Agree 5 – Strongly agree
I consider sustainability when shopping	1 – Strongly disagree 2 – Disagree 3 – Neither agree or disagree 4 – Agree 5 – Strongly agree

Table 28 - ANOVA

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
How often do you buy from fast fashion brands?	11.090	3	.720	202	15.403	<.001
How sustainable is your closet?	20.858	3	.455	202	45.821	<.001
How important is it for you to make your closet more sustainable?	24.117	3	.701	202	34.409	<.001
I am willing to pay more for sustainable products/brands.	36.232	3	.557	202	65.039	<.001
I prefer green products to conventional ones.	15.476	3	.647	202	23.922	<.001
I consider sustainability when shopping.	33.759	3	.546	202	61.795	<.001
Gender	.002	3	.156	202	.013	.998
Age	5.683	3	.492	202	11.557	<.001
Highest Level of Schooling	1.489	3	.550	202	2.705	.047
Occupation	47.915	3	.448	202	106.913	<.001
Salary	77.328	3	.483	202	160.246	<.001

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Table 29 – Hierarchical Clustering with Average Linkage Method (Agglomeration Schedule)

196	51	60	22.620	0	0	199
197	1	4	26.344	195	191	200
198	61	96	27.535	192	0	200
199	51	134	30.132	196	185	203
200	1	61	30.482	197	198	202
201	20	175	30.720	0	186	204
202	1	55	36.186	200	0	203
203	1	51	39.589	202	199	204
204	1	20	41.795	203	201	205
205	1	17	48.572	204	174	0

Table 30 – Number of Cases in each Cluster

Number of Cases in each Cluster

Cluster	1	66.000
	2	48.000
	3	27.000
	4	65.000
Valid		206.000
Missing		.000

Table 31 – Descriptive Statistics of each Cluster

Descriptive Statistics

Cluster Number of Case		How often do you buy from fast fashion brands?	How sustainable is your closet?	How important is it for you to make your closet more sustainable?	I am willing to pay more for sustainable products/brands.	I prefer green products to conventional ones.	I consider sustainability when shopping.	Gender	Age	Highest Level of Schooling	Occupation	Salary
1	Mean	2.70	2.15	3.05	2.73	3.15	2.52	1.80	1.02	2.94	1.14	1.35
	N	66	66	66	66	66	66	66	66	66	66	66
	Std. Deviation	.877	.662	.902	.735	.769	.728	.401	.123	.653	.388	.511
	Minimum	1	1	1	1	2	1	1	1	2	1	1
	Maximum	5	3	5	4	5	4	2	2	4	3	3
2	Mean	2.21	3.00	3.83	3.98	3.83	3.77	1.81	1.60	3.27	3.00	3.52
	N	48	48	48	48	48	48	48	48	48	48	48
	Std. Deviation	.922	.715	.808	.758	.834	.751	.394	1.067	.765	1.072	.899
	Minimum	1	2	2	2	1	2	1	1	1	2	1
	Maximum	4	4	5	5	5	5	2	4	5	7	5
3	Mean	3.04	1.85	2.26	2.00	2.78	2.07	1.81	1.67	2.96	2.63	3.56
	N	27	27	27	27	27	27	27	27	27	27	27
	Std. Deviation	.854	.718	.903	.620	.934	.829	.396	1.271	.808	.839	1.050
	Minimum	1	1	1	1	1	1	1	1	1	1	1
	Maximum	4	3	4	3	5	4	2	5	4	5	6
4	Mean	1.92	3.25	3.95	3.85	4.05	3.77	1.82	1.05	3.22	1.15	1.31
	N	65	65	65	65	65	65	65	65	65	65	65
	Std. Deviation	.756	.638	.759	.795	.759	.702	.391	.211	.780	.364	.465
	Minimum	1	2	2	2	2	2	1	1	2	1	1
	Maximum	5	5	5	5	5	5	2	2	6	2	2
Total	Mean	2.38	2.66	3.41	3.28	3.54	3.15	1.81	1.25	3.11	1.77	2.13
	N	206	206	206	206	206	206	206	206	206	206	206
	Std. Deviation	.934	.868	1.022	1.039	.929	1.016	.393	.753	.751	1.069	1.268
	Minimum	1	1	1	1	1	1	1	1	1	1	1
	Maximum	5	5	5	5	5	5	2	5	6	7	6

Further Research

Survey Structure

It is simply a fact that portuguese consumers buy fast fashion. Even with sustainability concerns, they have their reasons for buying fast fashion. However, it was proven that sustainability is still important for them (and for the planet, of course). Let's help fast fashion brands understand what they can do better!
Please answer the following survey with transparency. It will take you no more than 2 minutes to answer! Please know there are no wrong answers and that your results are anonymous and will not be shared. It is for academic purposes only.
Notice that every time the word "sustainability" appears, it refers specifically to "environmental sustainability".
Thank you very much for your time!

Section 1
Requirements to Proceed

1. **Are you Portuguese?**
   a. Yes
   b. No

2. **Do you buy products at fast fashion brands?**
   a. Yes
   b. No

Section 2
Sustainability Efforts' Awareness

3. **How aware are you of these brands' sustainability efforts?**

	Not at all Aware	Slightly Aware	Somewhat Aware	Moderately Aware	Extremely Aware
Inditex Group					
H&M					
Primark					
Shein					
Mango					

Section 3
Sustainability Efforts' Valuation

4. **What sustainability efforts do you value the most (from fashion brands)?**

   a. Using Natural Materials on Clothing (Banana Fibre, Hemp, etc.)

b. Using Recyclable Materials on Clothing
c. Having Second Hand Initiatives (to reuse and recycle)
d. Using Sustainable packaging (for online orders)
e. Using Sustainable Vehicles for deliveries
f. Investing in innovation to reduce the waste and pollution in production process
g. Other (please specify after)

5. **If you answered "other", please specify.**

Section 4
Willingness To Pay and Other Considerations

6. **Are you willing to pay more for the t-shirt on the right (sustainable) than from the t-shirt on the left (not sustainable), considering both are sold by the same fast fashion brand?**

   a. Yes
   b. No

7. **When answering the previous question did "greenwashing" come to your mind?** ("Greenwashing" = behaviour or activities that make people believe that a company is doing more to protect the environment than it really is)

   a. Yes
   b. No

Section 5
Socio-demographics

8. **What is your gender?**
   a. Male
   b. Female
   c. Other

9. **What is your age?**
   a. 15-24
   b. 25-34
   c. 35-44
   d. 45-54
   e. 55-64
   f. +65

10. **Where do you live?**
    a. Lisbon Area
    b. Great Porto
    c. Great Lisbon
    d. North Littoral
    e. Centre Littoral
    f. South Littoral

g. North Interior
h. South
i. Islands

11. What is your highest level of education?

a. Basic Education
b. Highschool
c. Bachelor
d. Master
e. Doctorate/PhD
f. Other

12. What is your occupation?

a. Student
b. Student Worker
c. Employer
d. Employee
e. Unemployed
f. Retired
g. Other

13. What is your salary?

a. 0-705€
b. 706-1000€
c. 1001-2000€
d. 2001-3000€
e. +3000€
f. Does not apply

Table 32 – Statistics regarding the gender of respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	96	76.8	76.8	76.8
	Male	28	22.4	22.4	99.2
	Other	1	.8	.8	100.0
	Total	125	100.0	100.0	

Table 33 – Statistics regarding the Age of respondents

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	+65	1	.8	.8	.8
	15-24	95	76.0	76.0	76.8
	25-34	15	12.0	12.0	88.8
	35-44	2	1.6	1.6	90.4
	45-54	6	4.8	4.8	95.2
	55-64	6	4.8	4.8	100.0
	Total	125	100.0	100.0	

Table 34 – Statistics regarding the Place of Living of respondents

Place of Living

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Centre Littoral	12	9.6	9.6	9.6
	Great Lisbon	14	11.2	11.2	20.8
	Great Porto	8	6.4	6.4	27.2
	Lisbon Area	89	71.2	71.2	98.4
	North Littoral	1	.8	.8	99.2
	South Littoral	1	.8	.8	100.0
	Total	125	100.0	100.0	

Table 35 – Statistics regarding the Highest Level of Schooling of respondents

Highest level of schooling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor	55	44.0	44.0	44.0
	Basic Education	3	2.4	2.4	46.4
	Highschool	21	16.8	16.8	63.2
	Master	46	36.8	36.8	100.0
	Total	125	100.0	100.0	

Table 36 – Statistics regarding the Occupation of respondents

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	29	23.2	23.2	23.2
	Employer	7	5.6	5.6	28.8
	Retired	1	.8	.8	29.6
	Student	69	55.2	55.2	84.8
	Student Worker	16	12.8	12.8	97.6
	Unemployed	3	2.4	2.4	100.0
	Total	125	100.0	100.0	

Table 37– Statistics regarding the Salary of respondents

Salary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	+ 3000	5	4.0	4.0	4.0
	0-705	25	20.0	20.0	24.0
	1001-2000	26	20.8	20.8	44.8
	2001-3000	6	4.8	4.8	49.6
	706-1000	12	9.6	9.6	59.2
	Does not apply	51	40.8	40.8	100.0
	Total	125	100.0	100.0	

Figure 14 – What sustainability efforts do you value the most (from fashion bands)?

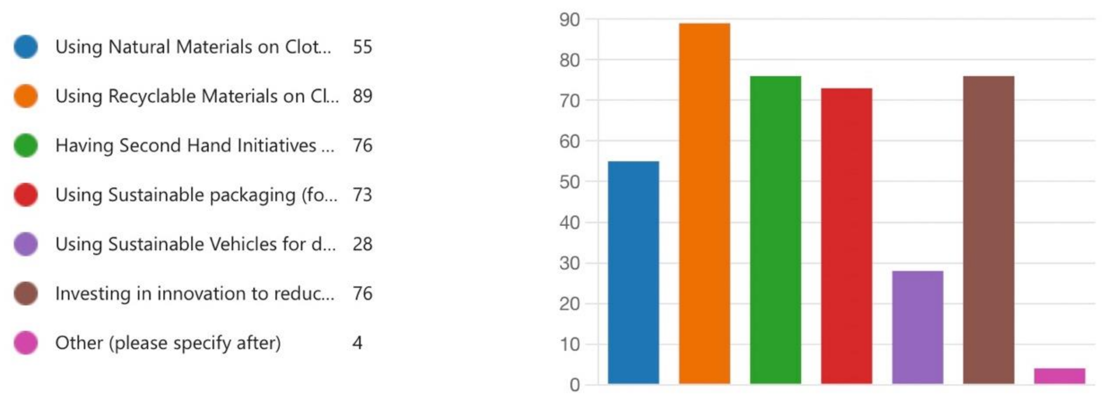

Table 38– Willingness to pay more for a sustainable t-shirt sold by a fast fashion brand

Are you willing to pay more for the t-shirt on the right (sustainable) than for the t-shirt on the left (not sustainable), considering both are sold by the same fast fashion brand?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	50	40.0	40.0	40.0
	Yes	75	60.0	60.0	100.0
	Total	125	100.0	100.0	

Table 39– Association of fast fashion brands with greenwashing

When answering the previous question did "greenwashing" come to your mind?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	47	37.6	37.6	37.6
	Yes	78	62.4	62.4	100.0
	Total	125	100.0	100.0	