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A study about Sustainable Fashion Brands in Portugal

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Abstract

The concern for sustainable consumption had a considerable increase during the COVID-19 pandemic. But this is not a new trend. Over the past years, the world population is getting day after day more worried about sustainability, and, undoubtedly, the fashion industry is a big contributor to environmental issues. Taking that into consideration, the goal of this work is to understand how Portuguese consumers perceive the sustainable fashion brands present on the national market and whether they are willing to pay a premium for sustainable fashion.

Key Words

Marketing Research, Conjoint Analysis, Sustainability, Slow Fashion, Sustainable Brands, Portugal

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1. Introduction

1.1. Context of the research

"As pandemic restrictions lift in some areas of the world, consumer intention to buy sustainable fashion has increased" (R. Cernansky 2021). Indeed, a BCG study with people across eight different countries has shown that "*in the wake of the pandemic people are more concerned — not less — about addressing environmental challenges and are more committed to changing their behavior to advance sustainability*." (Kachaner, Nielsen and Portafaix 2020) In this study, 72% of the respondents answered to be very/extremely concerned with air pollution and 71% to be very/extremely concerned with unsustainable water resource management. (Kachaner, Nielsen and Portafaix 2020). The fashion *"(…) industry is responsible for 10% of annual global carbon emissions, more than all international flights and maritime shipping combined."* (World Bank 2019) Undoubtedly, the fashion industry is one of the most polluting industries and therefore a big enemy of the environment. (World Bank 2019)

This study might be recent, but the sustainable era is not something new and, around the world, environmental concern grows year after year. According to a study about environmental trends conducted between 2014 and 2021, the number of people worried about damage caused to the planet by humans increased from 71% to 79% (Glocalities 2021). Also, in 2008, only 53% of the N100[1] companies worldwide reported on sustainability. This number climbed to 80% in 2020 (KPMG Impact 2020). As it is possible to see, consumers and companies are now more aware of sustainability and the impact it has on the future of the world. Furthermore, having a more sustainable behavior and keep thinking about sustainable development can indeed provide solutions towards planning economic activities and growth in a way that the

[1] The N100 refers to a worldwide sample of 5,200 companies. It comprises the top 100 companies by revenue in each of the 52 countries and jurisdictions researched in the KPMG Survey of Sustainability Reporting 2020.

environment is preserved (or less damaged), paving the way for future generations to maintain and build societies and economies that do not neglect the environment (Sustainable Organizations, 2021).

Concerning Europe, *"Engagement in sustainability has deepened during the COVID-19 crisis, with European consumers wanting fashion players to act responsibly and consider the social and environmental impacts of their businesses."* (Granskog, et al. 2020). Consumers have also stated that their habits have changed during the pandemic. According to a study done by McKinsey (2020), 57% of the people reported that they made significant changes to their lifestyles to lessen environmental impact and more than 60% are going out of their way to recycle and/or buy more sustainable products. In the context of fashion, 65% of consumers are now willing to buy more durable items (Sawers, et al. 2020). Also, 37% of Europeans recycle their clothes and 69% would like to understand how their clothes are manufactured (Fashion For Change 2021).

In the Portuguese market, the fashion sector represented 5% of the country's GDP in 2020 (Executiva 2020). According to a study made by BNP Paribas, 52% of Portuguese consumers have bought sustainable products. In the same study, 9 out of 10 people said they value products, brands, and sustainable companies, but only 11% choose exclusively eco-friendly options when facing others that are not (Correia, Distribuição Hoje 2021). Besides, when looking for the sustainability inside of fashion, according to a survey conducted by *showroomprive.pt* a website and online store specializing in fashion – 64.73% of the Portuguese consumers affirmed they were willing to buy from ethical fashion brands irrespective of having to pay a higher price (Comunidades 2021).

Overall, it is possible to state that the world is pointing in a direction where brands – and companies – should strengthen their commitments regarding sustainability, as it is a matter that

is increasing its importance and concerns inside consumers' minds, that are also choosing, each day more, sustainable options – being it related to food, cosmetics, or fashion.

1.2. Problem Definition

The extent to which Portuguese consumers are interested in buying sustainable fashion brands when compared to the rest of Europe and the world and if they are willing to pay a premium for sustainable clothing over a conventional choice. Additionally, their perception of sustainable fashion brands operating in the local market.

1.3. Research Question

To better understand how the sustainable fashion market works in Portugal, some questions need to be addressed: 1) Would Portuguese consumers be willing to pay a premium for sustainable fashion? And 2) How do they perceive the sustainable fashion brands operating in the local market?

1.4. Work Project Overview

Considering all the information presented above, in the course of this Work Project, it will be possible to find, first, a contextual background to provide useful definitions of important concepts used throughout the document, such as slow fashion and sustainable fashion brands, among others. At a certain point, it is going to start a transition from a contextual background/literature review focused on definitions and the context to a different one, which will inform how the analysis that is going to be done will take place. The following is going to be provided the methodology that is going to be used to answer the research questions

previously explained. Aiming to have these answers, the results are then going to be shown and analyzed and it is, finally, going to be possible to have a conclusion and give recommendations, besides the possibility to analyze this study's limitations.

Regarding the findings, some can be addressed, such as: even though consumers do not associate attributes such as price with quality, they associated quality with sustainability. Also, sustainable fashion brands' perceptions were more related to sincerity and transparency, something that the fast-fashion brand present was not, that was more related to trendy. On the conjoint analysis performed, although Portuguese consumers tend to give importance to price, they are still willing to pay a maximum price premium of 20 euros for more sustainable fashion apparel.

2. Contextual Background/Literature Review

2.1. What is Fashion?

The purpose of this research is to understand Portuguese consumers' perceptions of sustainable fashion brands operating in the Portuguese market. Thus, it is relevant to start by defining what fashion is.

Undoubtedly, the term "fashion" is commonly used. However, its definition can be ambiguous, as it can be understood in two ways: the first being the apparel and luxury industries and the second as a social change (Godart 2012).

On one hand, the apparel and luxury industries involve professionals and firms that develop careers and strategies to produce garments that will please customers. (Godart 2012). Godart defends that although this definition of fashion as an industry can coincide with the

"adornment" themes, are distinct: adornment includes more than apparel; it also combines accessories, jewelry, make-up, etc. and so can exist outside of fashion as an industry (Godart 2012).

On the other hand, social change refers to the constant replacement of goods, attributes, or services. This is done even in the absence of a need to be replaced because they constantly evolve from being fashionable to out of date to old-fashion and then come back to being fashionable again. However, the social change concept of fashion does not only relate to a cycle but also the connection with certain groups in society or tribes (Silveira 2021).

There are three big drivers of social change. First, is the notion of horizontal identity, by which people associate themselves with a certain "tribe" by following certain fashion trends. This is a way to communicate with another individual and the goal is to be recognized as a part of a certain community (Silveira 2021).

Second, is the concept of imitation, without which the horizontal identity concept cannot exist. Imitation occurs when one wants to imitate a group or a specific aspect or identity of a tribe. This is because the need for imitation is in human nature, even without us realizing it. The need for imitation is related to the fact that by imitating and being like others, people belong to a certain group and thus are not seen as outsiders.

Lastly, some people choose to follow, or not, trends to distinguish themselves from others, so it is a phenomenon of opposition (Silveira 2021).

Many scholars tend to agree with the ambiguity of the definition of fashion. In fact, according to O'Neill, "*Fashion isn't just a business that is invested in anticipating what we wear and how we wish to appear to others*" – referring to the definition of fashion and its lapse with the fashion industry. And so, he also believes that fashion is a "(…) *cultural and social*

phenomenon, driven by the desire for the new (…) and that because of this, "(…) *fashion is about being open for change*". (O'Neill n.d.)

2.2. What is the Slow Movement?

The slow movement is an international movement that began in Italy during the 1980s. Initially, it was only related to food, named the "slow food movement", and it defended regional food traditions, going against values associated with an impersonal and massive fast-food culture. The movement started with a manifestation due to a McDonald's opening in the heart of Rome, where activists tried to defend good quality food and gastronomic pleasure (Slow Living ldn n.d.).

Today, "slow food" is a global movement that involves many other aspects such as living, travel, and fashion, and is a whole philosophy of life that challenges the culture of speed, excess, and quantity over quality. It is related to the concept of sustainable development and living in a 'slow' rhythm to pursue a life in a more balanced way (Slow Living ldn n.d.) (Slow Movement Portugal 2018).

"*In a world addicted to speed, slowness is a superpower*", says Carl Honoré, one of the most well-known speakers on slow movement and author of the book "*In Praise of Slow*", where he explores exactly how the slow food movement picked up in detail (Honore n.d.).

2.3. Slow Fashion Definition

Taking the two previous points into consideration, the focus of the project will be on Slow Fashion.

The term "slow fashion" was coined by Kate Fletcher, a Professor of Sustainability, Design, and Fashion at the Centre for Sustainable Fashion after the slow food movement (Hill 2021). Given the fact that it is a more recent concept than the wider commonly known (and much related) concept called fast fashion, it is important to define this to easily understand what slow fashion is and is not.

"Fast fashion is the term used to describe clothing designs that move quickly from the catwalk to stores to take advantage of trends" (Hayes 2021). It is known to be mass-produced and highly standardized, by maximizing economies of scale and minimizing costs (Fletcher 2010). Fast fashion is, from its start, designed to be cheap, easy, and rapid to produce, assenting on low-cost materials and labor, short lead times, and efficient large volume production (Fletcher 2010). With this business model assented to growth, in which the adjective "fast" serves as a lever to increase productivity and profits, fashion is created to be distributed, sold, and consumed in constantly increasing quantities. (Fletcher 2010). Thanks to economies of scale, fast fashion can be low priced and brought to the market quickly. Style novelties arrive in the stores weekly, derived from inspiration from catwalks of high-end labels. (Fletcher 2010) In this sense, Fletcher defends that "(…) Fast fashion is shaped not by speed but by a set of business practices focused on achieving continual economic growth; the most universally accepted goal in the world." (Fletcher 2010)

However, even though fast is the antonym of slow, most scholars agree that slow fashion is not the literal opposite of fast fashion, meaning that it is not "(…) *slow[ing] down the textile and apparel supply chain* (…)" (Pookulangara and Shephard 2013) (Fletcher 2010).

It is widely accepted that slow fashion incorporates more than the mere reduction of the time it takes for a piece of garment to be available for consumers, from the start of production. And in this sense, slow fashion is a "(…) *fashion activity that promotes variety and multiplicity*

of fashion production and consumption that celebrates the pleasure and cultural significance of fashion within biophysical limits. (…) It requires a changed infrastructure and a reduced throughput of goods" and "(…) *a break from the values and goals of fast (growth-based) fashion. It is a vision of the fashion sector built from a different starting point.*" (Fletcher 2010)

In this sense, the concept of slow fashion must be interpreted in a more holistic approach, such as a mindful philosophy that respects the needs of the parties involved, from designers to workers to consumers. (Fletcher 2008) (Pookulangara and Shephard 2013). It is also important to note that, by mentioning the stakeholders involved in this new fashion philosophy, slow fashion is also about consuming fashion better. (Nakano 2009) (Pookulangara and Shephard 2013)

Clark defends that this ''*slow approach offers more sustainable and ethical ways of being fashionable that have implications for design, production, consumption and use*'' (H. Clark 2008), and there are three components to slow fashion: "(…) *placing value on local resources and economies, transparency in the production system, and creating products with a longer usable life.*" (H. Clark 2008)

The fashion industry is being chased by growing environmental and social concerns. This industry is responsible for a significant percentage of all world exports, with most of the workers being women, many of whom are not paid well (H. Clark 2008). Because of this, one strategy is to take a local approach to design and making fashion items. (H. Clark 2008)

"*In fashion, transparency is the practice of openly sharing information about how, where, and by whom a product was made.*" (Rauturier 2021) Since the collapse of the Rana Plaza in 2013, an increasing number of people have pressurized the fashion industry to be more accountable for the workers, the planet, and animals. (Rauturier 2021)

Lastly, the selection of materials used to produce a piece of clothing can be considered the most critical step to reducing the (negative) environmental impact that the fashion industry is known for. The materials selected will have a considerable impact on the life cycle of the garment produced, influence its usage, maintenance, and eventually, disposal. (Clark, et al. 2009).

All in all, slow fashion is more quality-based than time-based (Stanton s.d.). It *"(...) encourages slower production, unifies sustainability with ethics, and ultimately invites consumers to invest in well-made and lasting clothes.*" (Stanton s.d.)

In this sense, sustainable fashion brands belong to this slow fashion movement.

2.4. What is a sustainable brand inside the Fashion World?

The concept of sustainability according to the World Commission on Environment and Development (1987) was comprehended as "*meeting the needs of the present without compromising the ability of the future generations to meet their needs".* Recently, sustainability is becoming more and more a megatrend (Mittelstaedt, et al. 2014) however when applied to the fashion business, this concept can be misleading and hard to delimit. The sustainable fashion idea seems self-contradicting, since sustainability entails a long-term perspective, while fashion supposes that something goes out of style within a relatively short period (Walker 2006).

Sustainable fashion first appeared in the 1960s, when consumers realized the effects fashion production had on the environment and required changes in the processes (Park and Lin, Exploring attitude-behavior gap in sustainable consumption: comparison of recycled fashion products 2020). The concept of sustainable fashion is seen as an integrating part of the slow

fashion movement whose definition is understood as eco-, ethical-, and green fashion (Carey and Cervellon 2014).

Although there is no single way to define what sustainable fashion brands represent, "*local sourcing and production, transparency across the supply chain, traceability of work processes and (ideally) raw materials, environmentally friendly raw materials, and social aspects such as safe working conditions and fair wages.*" (C. Henninger 2015).

With the concept of sustainability gaining more importance in the consumers' minds, many traditional organizations started communicating their products as being composed of organic, eco-, green, and environmentally friendly materials (Chen and Chang 2013). Nevertheless, promoting sustainable collections does not mean the whole system behind is sustainable since a transparent supply chain working behind borders is not viable as manufacturers are pressured to cut prices or corners; the increased item production and availability can lead customers to buy more often, going against their sustainable principles and, finally, companies need to affirm themselves as being more green than others in the competitive fashion industry (Du 2015).

Consequently, consumers assume that they are purchasing consciously, when in fact they are suffering from greenwashing by brands. Greenwashing is described as "*misleading advertising of green credentials"* (Delmas and Burbano, 2011). In other words, brands that intentionally communicate positively about their poor environmental performance (Du 2015). As a consequence of greenwashing, consumers tend to be skeptical about brands that promote actual social and environmental credentials and practices, which ultimately can extend the period to create, nourish and preserve trusted relationships with those brands (Rahman, Park and Chi 2015).

2.5. Major players in the sustainable fashion market (world)

Clothing today is produced quickly, and the process is aided by a seamless supply chain that ensures customers have garments that look similar to their favorite models and influencers almost instantly. With growing concerns over the viability of this process in the long term, brands today are trying to move towards implementing cleaner manufacturing practices, protecting their workers, and educating shoppers on conscious consumerism.

The following are some of the major companies leading the way in sustainable clothing and it is possible to see what they are doing to be considered that (The Good Trade 2022):

- **Patagonia:** This is a well-known American clothing company focused on outdoor apparel. They are distinguished for creating long-lasting pieces. Patagonia accepts merchandise returned in good condition for new merchandise credits. Also, the brand is known for repairing items that are not in perfect condition anymore, trying to, in this way, incentivize consumers to buy less. (Scherer 2015)
- **Pangaia**: Pangaia takes pride in calling itself a material sciences company. Scientists, technologists, and designers have been brought together to create essential products with innovative technology and bio-engineered materials. Apart from selling to consumers, they are also working towards making the technology and materials accessible across different industries.
- **Tentree**: As the name suggests, Tentree plants trees every time a purchase is made from them. They also provide a tracking ID that enables consumers to see how many trees have been planted. The goal is to have a billion trees planted by 2030. Raw materials are naturally sourced and the processes they undergo are done with minimal usage of water and emissions of CO_2.

- **Pact**: called itself the 'Earth's favorite company'. Their apparel is made from non-genetically modified organisms. The supply chain is transparent to ensure the well-being of its farmers and workers. Their factories are certified by Fair Trade to ensure safe working conditions, while the shipping is carbon offset and delivered in recyclable boxes that can be donated.
- **Alohas**: Alohas produces clothes only when demanded by the customers in a bid to minimize wastage. Clothes drop every week. Production levels depend on the number of pre-orders three weeks before the drop. When production starts, customers can still order but they are encouraged to buy earlier through discounts which are 30% during the pre-order phase and 15% during the production phase.
- **Organic Basics:** based out of Copenhagen, Organic Basics focuses on being sustainable while expanding its size range and making its clothing accessible to all. The focus is on being transparent and building clothing that lasts while educating the consumers on responsible living.

The section above was to give an idea of how leading sustainable brands around the world work, with their unique selling propositions stacking up against each other. The following section dives deeper into the Portuguese market and the brands it has, providing a comparison between brands in the local and international markets.

2.6. Sustainable Fashion Market in Portugal

When considering the Portuguese sustainable fashion market, it is worth noting the growth in size and the entry of several new players over the past few years (Brito 2020). Besides, it is also important to take into consideration that according to a study made with 700 Portugueses (50% men and 50% women), it was considered that Portuguese citizens are willing to pay more

for sustainable and ethical fashion brands. (Correia, Distribuição Hoje 2021). Also, according to the same study, sustainability is the fourth priority for them when choosing clothes, being after price, quality, and fit.

Some of the many Portuguese Sustainable fashion brands currently present in the market are the following:

- **ISTO.:** Created in 2017 to curb the fast consumption tendency of the fashion industry. The brand has no seasonal collections and launches new products based on the needs and demands of its clients. Clothes are made of organic and natural materials, and the tags on their garments provide consumers with a clear breakdown of the price, as well as its website page (figures 1 and 2). (ISTO. n.d.)

Figure 1 - Price Breakdown of an ISTO's men's shirt

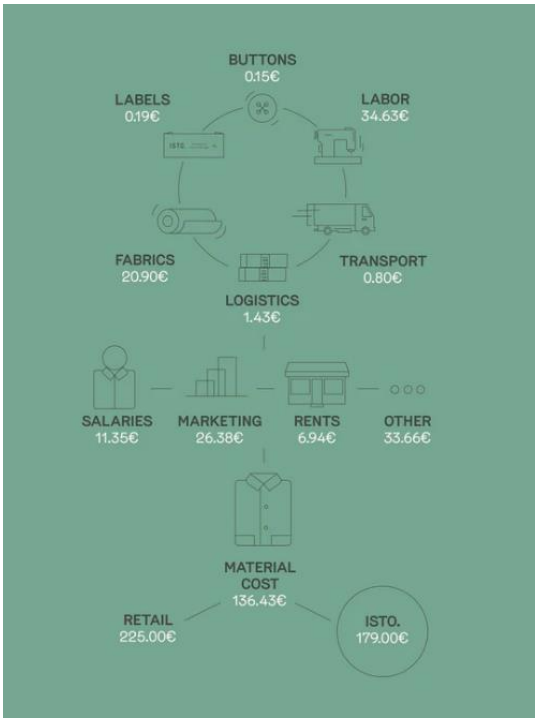
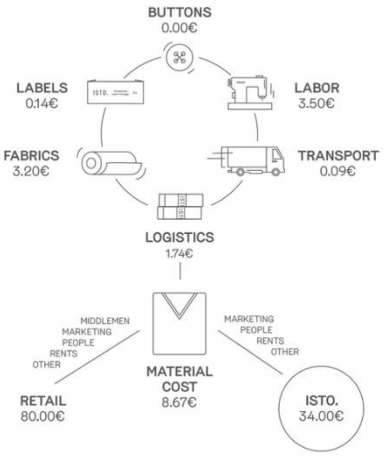


Figure 2 - Price Breakdown Women's V neck t-shirt



- **+351:** +351 is a 100% Portuguese brand inspired by the Atlantic Ocean. Special care is given to where their cotton comes from and it is cultivated without chemicals, making the lives of their workers healthier. The CO_2 emissions are reduced by 45% compared to conventional cotton, while also reducing water consumption by 90% (+351 n.d.).

- **Guaja:** founded in 2019, Guaja focuses on high quality, timelessness, and sustainability in all its clothes. The founders aim to create long-lasting pieces owing to their organic, recycled, and biodegradable materials. They also have a zero-waste policy, which implies thorough planning for all its processes and limited editions in a way to have the least possible waste. (GUAJA n.d.)

- **Conscious:** the brand is focused on beachwear outfits and uses Econyl on its bikinis, a fabric made of regenerated nylon. In this way, they can help to turn trash into high-quality swimming wear. Packaging is also considered, and, for instance, there is the

usage of plastic. Besides, it is also offered carbon-neutral shipping worldwide. (Conscious n.d.)

2.7. Consumer Behavior

Understanding how consumers react to and consume different products and services is critical for the success of businesses. Therefore, it is important to understand consumers' behavior and learn how to anticipate and plan to manage the 'environment' in which the products or services are being offered to final customers.

"Consumer behavior reflects the totality of consumers' decisions concerning the acquisition, consumption, and disposition of good, services, time, and ideas by (human) decision-making units (over time)" (Hoyer and Maclinns 2003), which means that consumer behavior is not only present in the buying decision-making process, but it is also a dynamic process that has an impact on how consumers act during the whole lifecycle of the product or service. The consumer decision-making process consists of five sequential stages: problem recognition, information search, alternative evaluation, purchase decision, and post-purchase evaluation (Workman and Studak 2005).

Recognizing that consumer behavior might change over time leads to understanding that it is influenced by different internal and external factors. When referring to internal influences, these are mostly linked with information that customers have access to, their personalities, and their psychological motives during the decision-making process. *"While motives direct behaviors toward objectives, personality relates to characteristic patterns of behavior. Personality is generally considered to reflect a consistent pattern or responses to a variety of situations. However, the important role played by the situation itself is also recognized"* (Hawkins, Best and Coney 1983). On the other hand, when considering external influences,

"*consumer behavior is the product of a particular culture. Our culture provides us with what we know to be "true". Our knowledge of "how things are" as consumers come to us from our culture through our families, friends, and institutions"* (Hawkins, Best and Coney 1983).

Consumer behavior differs across industries, including complex evaluative processes for each of them. Although consumers care more about sustainable solutions, this does not translate into sustainable consumer behavior concerning fashion items (Park y Lin, Exploring attitude-behavior gap in sustainable consumption: comparison of recycled fashion products 2020). Consumers' decision-making process in the sustainable fashion industry is more complex since unethical clothing does not personally "harm" consumers, and it has been demonstrated that consumers show more ethical behavior when its result has a positive influence on their health (Joergens 2006).

Consumers of sustainable clothes are driven to purchase mainly due to their favorable evaluations of product attributes that are beneficial for them to express fashion trends, personalities, and/or identities (Xu, et al. 2021). Also, the five phases of the product lifecycle that worry them the most are the location of manufacturing, product processing, the lifetime of the product, transportation, and cultivation of fiber (Niinimäki and Hassi 2011).

2.8. Conjoint Analysis

When developing market research, it is key to understand the attributes that consumers value the most in different kinds of products and services. For this, conjoint analysis is commonly used as a survey-based statistical study. "Conjoint analysis is used to understand the attributes that guide preferences by having consumers compare products across levels of evaluative criteria and the expected utility associated with the alternatives" (Babin y Harris 2012).

Conjoint analysis helps understand which “agreements” are more acceptable for consumers, therefore, “this technique is built on the assumption that consumers make complex decisions based not on one factor at a time but several factors “jointly” (Shao 1999). Considering the price of the clothes as one of the attributes in the purchase decision-making process will allow driving results about survey participants' willingness to pay a premium for sustainable fashion brands as part of the research question previously presented,

Three main phases need to be followed when conducting conjoint analysis (Popović, Kuzmanović1 y Savić 2018):

1. **Determining relevant attributes and the levels of each attribute.** Lists of attributes describing single alternatives are called profiles (real or hypothetical) being presented to respondents who are invited to express their preference by rating or ranking them.
2. **Design data collection of measuring individual preferences and estimating respondent’s utility functions**. For this, the linear additive model is the most used when determining the relationship between the attributes’ utility, this model assumes that the overall utility is the result of the sum of separate partworths of the attributes.
3. **Market simulation**. Used to predict how buyers will choose among competing products and how this choice can be impacted by the variances of the product’s features.

- **Attributes and levels of choice**

According to Iwanow, McNeill, and Moore, clothing consumption decisions are less influenced by sustainability, particularly among fashionable consumers, than price, quality, style, and brand image. (Iwanow, McEachern e Jeffrey 2005) (McNeill e Moore 2015) (Xu, et al. 2021).

Nonetheless, considering the interviews conducted with experts from the sustainable fashion industry, attributes such as material origin, certification label, and production location were considered relevant when deciding to purchase a fashion item.

In this sense, the attributes chosen for the conjoint analysis were as follows:

- **Price:** The amount a customer is willing to pay for a product or service is the price. (Murphy 2021). The reason why the price is an important attribute relies on the fact that Portugal is a very price-sensitive country, combined with the fact that normally when compared to non-sustainable apparel brands, sustainable apparel brands' price is higher. This is mainly because manufacturers face a higher cost to produce the goods, as well as to purchase the raw materials (such as organic cotton, for example) (Ritch 2015) (Xu, et al. 2021). The different price levels attributed were defined based on the price of a shirt in a fast fashion brand versus the price of a shirt in a sustainable fashion brand (table 1). An intermediate price was added to have an average choice between these two extremes.

Table 1 - Price Attribute Conjoint - Comparison between brands' prices

Brand	Average Price
Primark	15€
Zara	25€
ISTO.	80€
Patagonia	90€

Source: Brands' websites

- **Quality:** In general, quality is "a characteristic or feature of someone or something" (Dictionary n.d.). According to Garvin, by identifying the different dimensions of a

product, such as performance, features, durability, and aesthetics, among others, we can analyze the quality of a product. (Garvin 1988) (Niinimaki and Aako 2020).

One widely discussed strategy that aims to reduce the environmental impacts of the fashion industry is the extension of the lifetimes of the pieces of garments, by producing better quality ones. (Niinimaki and Aako 2020) Moreover, in the interview with Mariana, when asked about the consumption behavior of Portuguese sustainable brands, she mentioned that she identifies an increasing trend from the Portuguese consumers to look not necessarily for sustainable products, but rather for products with better quality, thus, longer durability.

- **Style**: *"Fashion is most often used as a synonym for the current style in clothing"* (Fashion Dictionary n.d.). Many studies have proven that fashion, as well as style, are pertinent attributes for apparel consumption decisions (Shaw, et al. 2006) (Read 2017). Moreover, it is perceived that *"the style and fashion of ethical clothing are undesirable and often described as dull and unstylish"* (Read 2017) (Kirsi 2010) (Joergens 2006). Thus, this is a very important attribute to perceiving the consumption behavior of sustainable fashion brands.

  The different style levels attributed were defined based on previous studies by Reading and North et al, that divided style into "trendy", that aligns with the latest trends in the industry, is inspired by leading brands, models and is showcased at the top fashion shows around the world; "comfortable", that is focused on the fitting and feeling good, in which soft fabric are chosen to create basic clothing that can be worn on most occasions and paired with almost any other garment; and lastly "classic" which can be defined by timeless pieces that are always in style regardless of the occasion or age.

- **Material Origin/Content:** As explained above, the materials used to produce a piece of clothing can be considered the most critical step to reducing the fashion industry's negative environmental impact. (Clark, et al. 2009).

  In this sense, it is common to use attributes such as fiber and fabric content to evaluate sustainable fashion items. (Rothenberg e Matthews 2017) Sustainable materials such as organic cotton and recycled materials are becoming more popular among sustainable fashion brands, to reduce the environmental impact of textile production, as well as to minimize its waste in the early stages of production. (Bick, Halsey e Ekenga 2018) (Xu, et al. 2021)

  Without a doubt, the selection of the materials used to produce a piece of closing can be considered the most critical step to reducing the (negative) environmental impact that the fashion industry is known for. Indeed, the materials selected will have a considerable impact on the life cycle of the garment produced, it will influence its usage, maintenance, and eventual disposal (or not). (Clark, et al. 2009).

  The different material origin levels attributed were defined based on only two levels, whether the fabrics are sustainable or not.

- **Production Location:** Some studies have shown that the location of the manufacturing is one of the aspects that worries the most sustainable consumers, the main reason behind this is that consumers are most concerned about the environmental impact of the textile production at the same time that they value the "home" made aspect in textiles and garments, meaning that they are mostly worried about their environmental impact (Niinimaki and Aako 2020).

  Even though proximity location is meant to improve the supply chain transparency, sustainability, and efficiency during the whole product lifecycle, as well

as benefiting from governmental support and cluster and business collaboration to propose long-lasting solutions in the industry, it is not yet demonstrated how proximity manufacturing may be related to improving product design development capabilities (Ekwall and Hjelmgren 2018).

The different production location levels attributed were defined based on only two levels. As this research has at the base Portuguese consumers, the local production must be in Portugal. The production location chosen was Bangladesh as this country is one of the world's largest garment exporters, with the RMG (ready-made garment) sector accounting for more than 80 percent of Bangladesh's exports.

- **Certification Label:** This attribute was chosen based on the importance transparency has for sustainable brands, regardless of the industry. Indeed, social responsibility, which deals with subjects such as fair wages, labor rights, safety measures, etc. is relevant for consumers when deciding to make a purchase. (Henninger, Alevizou e Oates 2016) (Xu, et al. 2021).

  The first level chosen was The Fair Trade Label, which focuses on addressing social and ethical concerns such as safe working conditions and environmental protection, among others. (Fair Trade Certified n.d.) (Xu, et al. 2021).

  The second label – PETA (People for the Ethical Treatment of Animals) - has to do with another increasing trend that was mentioned above, that was for the fashion industry to not only care for the people but also the animals. By having a PETA-certified label, brands assure the consumer that they did not conduct "(…) *any animal tests on ingredients, formulations, or finished products and that they pledge not to do so in the future*." (PETA n.d.)

3. Methodology

In this research, both qualitative and quantitative research methods were used. In the qualitative approach, preliminary in-depth interviews were conducte The quantitative research was performed by carrying out different surveys, where we were able to collect important data from the perspective of the participants (Portuguese or people who live in Portugal for at least five years) that are going to help with the development of personas, perceptual map, and conjoint analysis.

3.1. Conjoint Analysis Survey

This conjoint analysis survey was designed to understand the consumers' behavior towards sustainable clothing and to answer the RQ2: Would Portuguese consumers be willing to pay a premium price for sustainable fashion? Six attributes were considered and the levels to be chosen from are mentioned in brackets: price (Up to €20, €21 – 40, €41 – 60, Above €60), quality (good, average, and poor), style (fashionable, comfortable and classic), material origin (sustainable fabrics and non-sustainable fabrics), certification labels (PETA, Fair Trade, none) and production location (Portugal and Bangladesh). The full survey is attached in Appendix 1.

Conjoint analysis can measure two aspects of consumer purchase decisions - the importance of each product attribute and the degree of preference for each of these attributes (Kapur, et al. 2008). Conjoint analysis is a realistic overall decision model as it forces consumers to assess products in a simulated actual purchase situation (Bajaj 1999). It has been frequently used in previous studies to evaluate how consumers value different attributes of a specific product or service and to identify the preferred combination of attributes (Jung E. and Pamela S. 2011).

In this survey, questions were designed to understand the preferences of Portuguese consumers while purchasing garments. To help the consumers visualize a product better and thereby provide better information, a shirt was chosen. Shirts are very common and found in most wardrobes, making it easier for consumers to recall the purchasing process. Secondly, this product allows the inclusion of the 'style' attribute and helps consumers relate to the multiple variations that come along with it.

Among the attributes related to the consumption of sustainable fashion, previous research has identified price and attributes related to sustainability (e.g., the material of the clothing, certification labels, production location, etc.) as the dealbreakers in consumers' decision-making (Dekhili and Mohamed Akli 2012); (Rothenberg e Matthews 2017). There is a common tendency to assume that sustainable clothing comes at a premium price. The levels mentioned include the typical cost of a shirt in a fast fashion brand, all the way up to the price range in a premium clothing store or website. Quality was differentiated into three levels based on color, fabric, stitching, fit, and durability. These qualities are generally looked at when determining if a garment is built to last (Mitrokostas 2019). With shirts coming in different patterns and designs, the style was chosen as an attribute to evaluate its influence among the other parameters. Multiple research points toward consumers' willingness to buy apparel made from recycled fibers and fabrics (Dekhili and Mohamed Akli 2012); (Park and Lin 2020); (Wang, Sun and Song 2017). Therefore, the material origin is chosen as an attribute with sustainable fabrics comprising at one level and non-sustainable fabrics at the other. Similarly, (Rausch and Kopplin 2021) suggested that there has been a rise in material traceability issues in the apparel industry because of increased consumer concerns about environmental and social sustainability. Given the characteristics of apparel, it is essential to incorporate certification labels as an attribute considering consumers' perception of the label as a tool to communicate the environmental performance of a product (Thogersen 2002). Lastly, the production location

variable was considered an attribute due to its positive effect on consumer buying decisions. The levels chosen include Portugal as respondents are locals, and Bangladesh due to lower costs of labor and consistently high levels of quality.

The conjoint data was collected via *Conjoint.ly*, an online choice-based conjoint platform that randomizes the product attributes levels and provides respondents with multiple scenarios to choose their preferred product from. These scenarios closely resemble a real-life situation wherein products might not be available due to a stockout or because, customers do not identify themselves with any of the presented options, so a "None of the above" option was available. The conjoint questions were followed by some demographic questions about respondents' gender, age, the region they hail from, educational background, professional situation, and household income.

The survey was disseminated through the researchers' social media accounts (*Facebook, WhatsApp, and Instagram*), social media groups that aimed to share academic surveys, and groups related to the topic at hand, e.g., Sustainable Fashion and Ecological groups, targeting consumers who were Portuguese or lived in Portugal for over five years to fulfill the requirements of the research question. However, this sampling method might affect the quality of the representativity of the Portuguese population, since it is limited to the researchers' social media communities.

4. Results

4.1. Conjoint Analysis

As already mentioned in the methodology section, a conjoint study was conducted via the survey platform *Conjoint.ly* to answer research question 1: "Are Portuguese Consumers Willing to Pay a Premium for Sustainable Fashion?"

The study collected 272 responses between the 6th May 2022 and the 15th May 2022. Of the 272 respondents, the majority opened the survey link and left the page immediately (73.5% of the respondents), 3.7% of the respondents started the survey but did not complete it and 22.8% of the respondents completed the survey, which accounted for 61 responses (see figure 5 in Appendix 2). However, considering only the 61 completed surveys, only 57 will be taken into account for the sample, since 4 were low-quality responses because these respondents did not scroll through all the shown options.

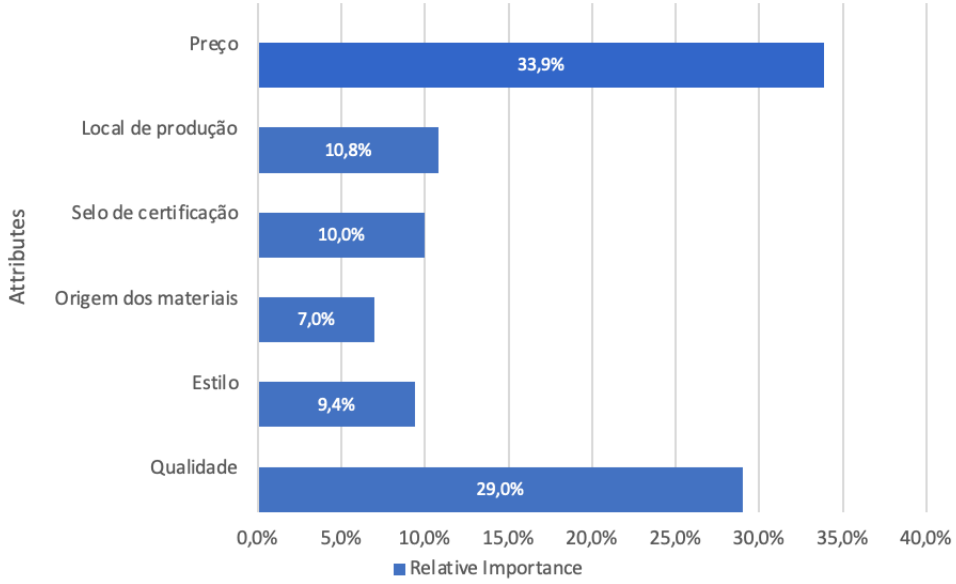
Preliminary Analysis

Attribute Importance

On analyzing the population sample, 33.9% and 29% of the respondents prioritized the price and quality of the shirt, respectively (see Figure 3). This was followed by the production location, certification labels, style, and origin of materials. The average percentage of importance for the four previously mentioned attributes is 9.3% with a range of 3.8%, indicating that these attributes were not considered to be as important as the price and quality, and were almost equally less important.

Regarding the levels in which clothing attribute is divided, the respondents have a preference for prices up to €40 compared with the highest prices, for higher quality, trendy pieces, for clothes made of sustainable materials, made in Portugal and that have some certification label (see figure 6 in Appendix 2).

Figure 3 - Importance of attributes (in%)



Ranked List of Concepts

The ranked list has shirts made up of 103 combinations out of 210 that have left a positive impact on the customers. Among those, the first 75 of them are shirts of medium or high quality, indicating that quality plays a major part in the purchasing process. Customers are also extremely sensitive to price, willing to sacrifice and purchase a shirt of medium quality if that would mean that their shirt is going to be cheaper. The willingness to pay more than €40 is seen only when the shirt is of high quality and sustainable. A similar trend is seen further down the ranking list as well, roughly indicating that consumers are willing to pay about €20 more for a sustainable shirt if it is of high quality. The same cannot be said about a shirt that is €60 or higher as the first mention of it is on the 98th rank. Style, Production Location, and Certification Labels seem to vary throughout, so there does not seem to be a particular level that customers are keen on. The first 20 results on the ranking list are shirts made locally in

Portugal, suggesting that customers would prefer a locally produced garment. This tendency begins to shift as the price rises above €40, with more importance being given to price and quality.

- **Willingness to pay**

Preliminary calculations

In this section, the conjoint results will be analyzed and used as a basis to calculate the willingness to pay for sustainable fashion, which will ultimately answer research question 1: Would Portuguese consumers be willing to pay a premium price for sustainable fashion? For this willingness to pay calculation, the results on the average preferences for levels (level partworths), shown below in table 10, will have the main role.

Table 2 - Average preferences for levels (level partworths)

Attributes	Levels	Average preferences for levels (level part-worth)
Quality	High quality	13.2%
	Average quality	6.0%
	Low quality	-19.2%
Style	Trendy	3.2%
	Comfortable	-0.9%
	Classic	-2.3%
Materials origin	Sustainable	3.3%
	Not sustainable	-3.3%
Certification label	PETA	1.6%
	Fair Trade	2.6%
	None	-4.2%
Production local	Made in Portugal	5.2%
	Made in Bangladesh	-5.2%
Price	Up to €20	14.6%
	Between €21 and €40	10.7%
	Between €41 and €60	-1.6%

	Above €60	-23.7%

Firstly, as the attribute "price" had ranges of prices as levels (< €20; €21-40; €41-60; > €60) and not specific prices, it was necessary to calculate the midpoint of these ranges to use as specific prices. For the last range (> €60), the upper price considered was €80. With this, the price midpoints obtained were €10, €30, €50, and €70 (see figure 7 in Appendix 2). Then, as a next step, the gap between one price midpoint's part-worth (average preference) and the next one was calculated successively until the last price midpoint (€70), to achieve the correspondent utility. For example, from €10 to €30, the gap between their partworths was 3.9%, which is equal to the absolute value of 10.7% - 14.6%. The results for all the gaps between price levels' partworths are 3.9% from €10 to €30; 12.3% from €30 to €50 and 22.1% from €50 to €70, as can be seen in the following table.

Table 3 - Calculation of the gap between the price levels' partworths

Attribute	Levels	Price Midpoint	Price levels' partworth	Distance (gap) between price levels' partworth
Price	Up to €20	€10.0	14.6%	
	Between €21 and €40	€30.0	10.7%	3.9%
	Between €41 and €60	€50.0	-1.6%	12.3%
	Above €60	€70.0	-23.7%	22.1%

Since these gaps between price levels' partworths are different (3.9% ≠ 12.3% ≠ 22.1%) and the increase from one price midpoint to the next one is always €20, for analysis simplicity, a simple average gap was calculated as follows:

$$Average\ gap\ for\ €20\ increase\ in\ price = \frac{(3.9\% + 12.3\% + 22.1\%)}{3} = 12.77\%$$

The result can be interpreted as: for each €20 increase in the price of the product, there is an average negative effect of 12.77% on utility. In the same line of thinking, by doing a direct proportion, for each €1 increase in the price of the product there is a +n average negative effect of 0,64% on utility:

$$Average\ gap\ for\ €1\ increase\ in\ price = \frac{€1\ \times 12.77\%}{€20} = 0.64\%$$

Then, as a next step to calculate the willingness to pay for each level of each attribute (quality, style, materials origin, certification label, and production location), the gaps between the lowest level's partworth and each one of the upper level's partworth were computed, as seen in the 4th column of table 12 below. The lowest level's partworths of each attribute (in orange), are normally related to fast fashion products (except for the style that can have common levels to sustainable and fast fashion), which will be the standing point to estimate the willingness to pay for sustainable fashion products, in other words, to see if customers are willing to pay a premium for sustainability over fast fashion products' prices. Afterward, to calculate the willingness to pay for each level of each attribute, a direct proportion was again done, using the already known average gap for a €1 increase in price (0.64%). To better understand the calculation behind it, as an example, let's consider the production location and its levels ("Made in Portugal" and "Made in Bangladesh"). It is easy to verify that, a shirt "Made in Portugal" has a higher partworth level (5,2%), when compared to a shirt "Made in Bangladesh" (-5,2%), which corresponds to a gap of 10,4%. Then, the direct proportion to reach the willingness to pay for the shirt made in Portugal was computed this way:

$$Willingness\ to\ pay\ for\ a\ shirt\ made\ in\ Portugal = \frac{€1\ \times 10.4\%}{0.64\%} = €16.29$$

This result can be interpreted in the following way: Portuguese consumers are willing to pay €16.29 more for a shirt that was made in Portugal than the price of a shirt that was made

in Bangladesh. According to a study done by Diário de Notícias (2020), since Covid-19 appeared, Portuguese consumers have been giving priority to national products over international ones, even when consumers purchase online, which can justify the €16.29 premium for shirts made in Portugal, compared to the ones made in Bangladesh. Alternatively, Portuguese consumers can just perceive the €16.29 premium as the shipping costs, customs taxes, and the cost of not having immediate gratification by acquiring a shirt from Bangladesh.

Finally, this step was repeated for all the other attributes, leading to the results in the 5th column of table 12.

Table 4 - Summary of the calculations of the willingness to pay for each attribute

Attributes	Levels	Average preferences for levels (level partworths)	Distance (gap) between the lowest level's partworth for each attribute and the other levels' partworth within the same attribute	Willingness to pay
Quality	High quality	13.2%	32.4%	€50.76
	Average quality	6.0%	25.2%	€39.48
	Low quality	**-19.2%**	**0.0%**	**€0.00**
Style	Trendy	3.2%	5.5%	€8.62
	Comfortable	-0.9%	1.4%	€2.19
	Classic	**-2.3%**	**0.0%**	**€0.00**
Materials origin	Sustainable	3.3%	6.6%	€10.34
	Not sustainable	**-3.3%**	**0.0%**	**€0.00**
Certification label	PETA	1.6%	5.8%	€9.09
	Fair Trade	2.6%	6.8%	€10.65
	None	**-4.2%**	**0.0%**	**€0.00**
Production location	Made in Portugal	5.2%	10.4%	€16.29
	Made in Bangladesh	**-5.2%**	**0.0%**	**€0.00**

Besides the already analyzed attribute (production location), an analysis of the remaining attributes should be conducted. To start with quality, Portuguese consumers are willing to pay more than €50.67 for a high-quality shirt and more than €39,48 for an average level shirt for a low-quality one. As already seen in the conjoint survey results (see Figure 10 above) quality is the most important attribute after price, and consumers have a major preference for high-quality clothes (Appendix 2, Figure 6), which justifies why they are willing to pay a much higher premium for quality when compared with the remaining attributes.

As for the style, Portuguese consumers are willing to pay a premium of €8.62 for a trendy shirt, and a premium of €2.19 for a comfortable shirt, above the price of a classic shirt. These consumers do not see style as a priority when deciding to buy clothes (table 12).

Regarding materials origin, Portuguese consumers are disposed to pay an extra €10.34 for a shirt made with sustainable materials (organic cotton, linen, Tencel, or organic hemp), on top of a non-sustainable shirt (made with polyester, acrylic, nylon, rayon). Finally, concerning the certification label, Portuguese are willing to pay a premium of €10.65 for a shirt with Fair Trade certification and a premium of €9.09 for a shirt with PETA (People for the Ethical Treatment of Animals) certification, when compared with the price of a shirt without certifications. In reality, a study conducted by *Showroomprive. pt* found that 64.73% of the Portuguese are willing to purchase ethical and sustainable fashion, even if the prices are higher than fast fashion ones. This goes in hand with the fact that 95.18% of Portuguese consumers consider it important “to take care of the planet’s health” (Comunidades Lusófonas 2021).

Results

After deconstructing each attribute’s willingness to pay, and since each shirt is presented to the market as a combination of attributes, it is relevant to estimate what would be the

premium that Portuguese consumers would be willing to pay for a shirt with all these characteristics combined (quality, style, materials origin, certification label, and production location). In this line of thinking, since the main goal of this section is to answer the RQ1: Would Portuguese consumers be willing to pay a premium price for sustainable fashion?, all the attributes' levels should be sustainability-oriented.

For this purpose, a hypothetical shirt, called shirt X, was created with the following characteristics: high quality, comfortable, made with sustainable materials, Fair Trade certified, and made in Portugal. This combination of attributes corresponds to the top 4 ranked shirts from the ranked list of product concepts as preferred by customers extracted from conjoint survey results. The 4th most preferred combination of attributes was chosen since the 3 first ranked products had a feature that was not so associated with sustainable fashion, which was the trendy style. Normally sustainable fashion products tend to be more basic or comfortable to be always in style and avoid over purchases, as ISTO.'s, for example. Thus, the estimated willingness to pay for shirt X would be the sum of all the individual attributes' willingness to pay (high quality = €50.76; comfortable = €2.19; sustainable materials = €10.34; Fair Trade = €10.65; made in Portugal = €16.26):

$$\boldsymbol{Willingness\ To\ Pay\ for\ shirt\ X} = \ \mathbf{€50.76 + €2.19 + €10.34 + \ €10.65 + \ €16.26}$$

$$\boldsymbol{Willingness\ to\ pay\ for\ shirt\ X} = \mathbf{€90.23}$$

Ideally, Portuguese consumers would be willing to pay a premium of €90.23 for a sustainable fashion shirt (like the shirt X), above the price of a non-sustainable shirt. As seen before, the lowest partworth levels, in orange, in table 12 correspond to the characteristics of a

non-sustainable choice (low quality, classic, made with not-sustainable materials, without certification label, and made in Bangladesh).

However, based on research made by Jung and Jin (2016), even the *highly involved in slow fashion persona* would only be disposed to pay 30% to 40% more to buy slow fashion items compared to fast fashion items. Therefore, considering that the price of a non-sustainable option would be around €26 like the one presented below in figure 1 from Zara, consumers would be willing to pay between €33.8 to €36.4 for the sustainable option, by adding a premium of 30%-40% to Zara's shirt price. Thus, in reality, Portuguese consumers might not be willing to pay €26 plus a premium of €90.23, totalizing €116.23 for a sustainable shirt.

Figure 44 - Price of a not-sustainable shirt from Zara

Source: Zara

The previous conclusion might indicate that the willingness to pay a premium for a shirt with multiple characteristics, should not be calculated solely based on the sum of each character's individual willingness to pay and that the interactions between these characteristics should be considered in the equation.

Simulations

To analyze how the characteristics of the shirts interact between them, some simulations using a Conjoint.ly tool were done. First, two hypothetical products A and B with price points of €20 or lower and €21 – 40 were considered respectively. The other attributes were the same (high quality, trendy style, sustainable materials, Fair Trade certification label, and made in Portugal). This resulted in preference shares of 58.6% for A and 41.2% for B (see figure 8 in Appendix 2).

On altering the quality of A to medium while retaining the quality of B at high (the other attributes remain the same), shares of B rise to 61.4% and reduce A's shares to 38.5%. The drastic change in shares indicates the importance of quality concerning the other attributes.

On a second simulation, the price of B was moved up to €41 – 60. Quality and all other attributes had not been changed. Shares of A increased to 54.9% and B's shares reduced to 44.9%. On pushing the price of the product A up to €21 – 40, the preference shares were almost equal. Quality was the attribute that affected purchasing power the most, closely followed by Price.

The attributes were reset again. Product A was sustainable while B was not. Product A cost the consumers between €21 – 40 while B was €20 or less. The preference shares for A stood at 57.1% and 42.9% for B, indicating that based on the surveyed sample, consumers were willing to pay at least €20 more for sustainable clothing if there was no difference or reduction in quality. This trend however changed when the price for A was moved up to €41 – 60. 60% of the people were happier buying non-sustainable clothing. This shows that people were

unwilling to pay more than a premium of €20 for sustainable clothing over conventional clothing.

For some of the attributes, the levels did not seem to have much of an impact on the respondents as they did with price or quality. With the certification labels for example, on simulating two products with different certification labels (with all other attributes remaining the same), the preference shares stood at 49.3% for PETA and 50.6% for Fair Trade. The trend was very similar for style as well when the price and quality remained the same.

To conclude, although the conjoint survey had a small sample (57 respondents) which was not the most representative of the Portuguese population, it was possible to infer that the national consumers give more importance to price and quality than other attributes, which might indicate that they normally look for average price-quality clothing and do not give much importance to sustainable attributes. On the contrary, by looking the at the willingness to pay a premium for each sustainable characteristic when compared with the least preferred characteristics, connected with fast fashion, it is possible to conclude that Portuguese consumers are disposed to pay more for sustainable options, meaning that they give importance to sustainable aspects of fashion.

Considering the combination of all the sustainable characteristics in a shirt, showed that Portuguese customers would be willing to pay more €90.23 for a sustainable shirt than for a fast-fashion shirt, which would not totalize a reasonable final price that customers would be willing to pay since they give higher importance to the price attribute. After running some simulations, it is possible to conclude that consumers were willing to pay a maximum premium of €20 for sustainable clothing if it was made with high quality, being sensitive to price changes above that level.

5. Conclusions

This research allowed us to find meaningful results about the Portuguese consumer behavior in the sustainable fashion industry by analyzing a significant sample taken from different surveys focused on personas, perceptual maps, and conjoint analysis individually.

First, Portuguese consumers can be considered as average sustainable consumers in the fashion industry, meaning that they have recently started to make changes (including the attributes they now value the most when buying different types of products) in their daily habits to become more sustainable consumers since they are concerned about the short- and long-term impact on the environment.

Portuguese consumers that consider themselves to be sustainable (in general, not only referring to fashion brands), are not always willing to pay a premium for sustainable fashion brands. The willingness to pay a premium for a sustainable fashion brand demonstrated to be negatively correlated to how sustainable the consumers consider themselves, the probability of choosing a sustainable fashion brand when buying new clothes, and the age of the consumer (older people are less willing to pay a premium for this kind of products). The willingness to pay a premium for a sustainable fashion brand demonstrated to be negatively correlated to how sustainable the consumers consider themselves, the probability of choosing a sustainable fashion brand when buying new clothes, and the age of the consumer (older people are less willing to pay a premium for this kind of products).

On the other hand, when targeting consumers, sustainable fashion brands with premium prices should focus on targeting those consumers that have bought in sustainable fashion brands in the last 3 years, since they demonstrated to be more willing to pay a premium for their products.

Regarding the sustainable fashion brands, the ones included in this research were less associated with the attributes of trendy and excitement, as seen in the analysis of the perceptual maps. Also, these brands were more associated with attributes related to the sustainable approach of business, such as sincerity, material origin, transparency, and work conditions. It was also possible to conclude that consumers do not associate price with quality (in fact, the correlation of these attributes is -0.31), however, they associate quality with sustainability since there is a high and positive correlation of quality with the attributes: sincerity, material origin, transparency, and work conditions.

As result, consumers might be willing to pay a premium for sustainable fashion brands if the brand is committed to having a more efficient supply chain and product lifecycle, and if they offer clothes with good quality that matches their taste (which does not necessarily match with the fashion trends). The efficiency of the supply chain and product lifecycle might be hard for consumers to understand if they cannot access the information needed to make fully informed decisions; therefore, sustainable fashion brands are recommended to be transparent with each step of their supply chain by sharing as much information as possible with their current and potential consumers. As mentioned, this information should be mostly linked with the origin of the materials and the work conditions.

As a last analysis of the perceptions maps, it was concluded that sustainable fashion brands have been focused on men's fashion since men correspond to an easier target when designing clothes that can last time and match different style preferences, nonetheless, even though women are believed to value more unique pieces that can make then stand out, they have also demonstrated to be concern about sustainability in the fashion industry and willing to consider sustainable fashion brands for future purchases. Therefore, these brands are recommended to also target women innovatively, meaning by creating pieces that can be long lasting but also matchable with sustainable accessories that allow women to have unique outfits. Even though

the sustainable fashion accessories industry was not the objective of this investigation, just a few of the brands under analysis have already entered this market.

Based on the conjoint analysis, it was possible to infer that the national consumers give more importance to price and quality than other attributes, which might indicate that they normally look for average price-quality clothing and do not give much importance to sustainable attributes. On the contrary, the willingness to pay a premium for each sustainable characteristic when compared with the least preferred characteristics, connected with fast fashion, indicates that Portuguese consumers are willing to pay more for sustainable options, so they are concerned with the sustainable side of fashion.

Considering the combination of all the sustainable characteristics in a shirt, showed that Portuguese customers would be willing to pay more €90.23 for a sustainable shirt than for a fast-fashion shirt, which would generate a final price tag that customers would not be disposed to pay since they give major importance to the price attribute, so they are more price sensitive. Finally, after running some simulations by changing one attribute level of the products at each time, it was possible to conclude that consumers were willing to pay a maximum premium of €20 for sustainable clothing if it was made with high quality, being sensitive to price changes above that level.

6. Study Limitations

The main limitation of this investigation corresponds to the sampling method. Since the different surveys were spread by the group members mostly on their social media accounts, the sample population is not fully representative of the Portuguese population, meaning that there are some groups excluded from the results previously presented, and some demographic data could not be analyzed or used to drive results. For instance, one of the main limitations was

that for all the surveys the population was mostly composed of people between 18 and 34 years old, whilst the Portuguese population is mostly composed of older people as previously presented. For future investigation on this topic, it would be recommended to use a random sampling method to reach the most diverse population possible.

The previous limitation led to having common attributes for all the three different personas profiles obtained. All the personas share the consumers' brand awareness (they know at least one of the brands shown in the survey), gender (female), educational level (bachelor's degree), professional situation (employed), and correspond to consumers that have bought in a sustainable fashion brand in the last 3 years. As mentioned, this could be improved by having a random sampling method in future investigations.

On the other hand, for the conjoint survey, there was a limitation in regards to the sample size. Even though it was recommended to have at least 150 responses in *Conjoint.ly*, the data presented correspond to a sample size of 57 people. The reason behind this is that even though the survey was opened by 272 people, most of them just opened the survey and did not provide any answers. For future investigations, it would be recommended to evaluate the possibility of considering fewer attributes or levels per attribute so the survey takes less time to be completed or explore other tools that might be more interactive when presenting the different options to the respondents.

Even though it does not represent a limitation regarding the results presented, for the preliminary survey used to analyze the different personas in the sustainable fashion industry, the results presented correspond to a 90% confidence level, leaving a 10% of chance. As previously mentioned, this confidence level is given by the number of responses reached in the survey, meaning that future investigators could consider having bigger samples to increase the confidence level.

Finally, to calculate the willingness to pay for sustainable fashion, it would be important, besides considering bigger samples in the Conjoint Analysis, as already mentioned, to analyze the available literature review and theory on how the interactions between the clothing attributes will operate when combined, to provide a more reliable price premium estimate

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8. Appendices

Appendix 1 – Conjoint Survey

Introduction

This study is designed to understand Portuguese consumers' preferences while buying apparel items and it will take no longer than 10 minutes of your time. If you are Portuguese or live in Portugal for at least 5 years, please proceed to complete the survey and provide us with your valuable input.

Observation: The data collected will only be used by our team for this study.

Thank you for your participation!

Q1: Imagine that you are buying a shirt and that you have the options that will be shown throughout this survey. From the assorted options, you should select the shirt that pleases you the most based on the group of characteristics of each one of them. The shirts differ in terms of price, quality, style, material origin, certification labels, and production location.

Please note that the combinations shown are all hypothetical, not reflect reality.

Block of conjoint questions

Which white shirt would you choose from the options below?

Price	**Up to €20**
	€21 – 40
	€41 – 60
	Above €60
Quality	**Good quality** The colors and fabrics of the item match the description and the item is sewn well. It fits the customer comfortably and allows him/her to feel more confident about themselves.
	Average quality The colors and fabrics of the item match the description, and the fitting is average. There could be an odd loose thread at the ends or a small stain that can be washed away. These aspects do not damage the clothing or deem it unwearable, so they do not affect the customer psychologically.
	Poor quality

	The colors and fabrics of the item vary greatly from the description. The item does not fit properly to the customer's body, and it is less durable compared to a good quality one, but still wearable.
Style	**Fashionable** The item aligns with the latest trends in the industry. It is inspired by leading brands, and models and showcased at the top fashion shows around the world.
	Comfortable The item is focused on fitting and comfort. It is made of soft fabric woven to create basic clothing that can be worn on most occasions and paired with almost any other garment.
	Classic The item is a timeless piece, which is always in style irrespective of day and age. It is most often stitched to fit perfectly and meet costumer's needs.
Materials origin	**Sustainable fabrics** (e.g.: organic cotton, linen, Tencel, organic hemp)
	Non-sustainable fabrics (e.g.: polyester, acrylic nylon, rayon)
Certification Labels	**PETA -** People for the Ethical Treatment of Animals
	Fair Trade – Focus on values of social sustainability, namely the assurance of fair salaries and safe and respectable working conditions, and environment protection.
	None
Production location	**Made in Portugal**
	Made in Bangladesh

Demographic section

1. How old are you?

a. Under 18 years old
b. 18-24 years old
c. 25-34 years old
d. 35-44 years old
e. 45-54 years old
f. 55-64 years old
g. 65+ years old

2. With which gender do you identify yourself?

a. Female
b. Male
c. Other

3. What is the highest educational degree you received?

a. Less than a high school degree
b. High school degree
c. Bachelor's degree
d. Master's degree
e. PhD

4. What is your employment status?

a. Student
b. Employed
c. Self-employed
d. Unemployed
e. Retired

f. Other

5. What is your household income? Consider it liquid

a. Up to 750€
b. Between 751€ and 2250€
c. Between 2251€ and 3750€
d. More than 3751€

6. Which district are you from?

a. Açores
b. Aveiro
c. Beja
d. Braga
e. Bragança
f. Castelo Branco
g. Coimbra
h. Évora
i. Faro
j. Guarda
k. Leiria
l. Lisboa
m. Madeira
n. Portalegre
o. Porto
p. Santarém
q. Setúbal
r. Viana do Castelo
s. Vila Real
t. Viseu

Appendix 2 - Conjoint Survey Results

Figure 5 - Respondent counts by status

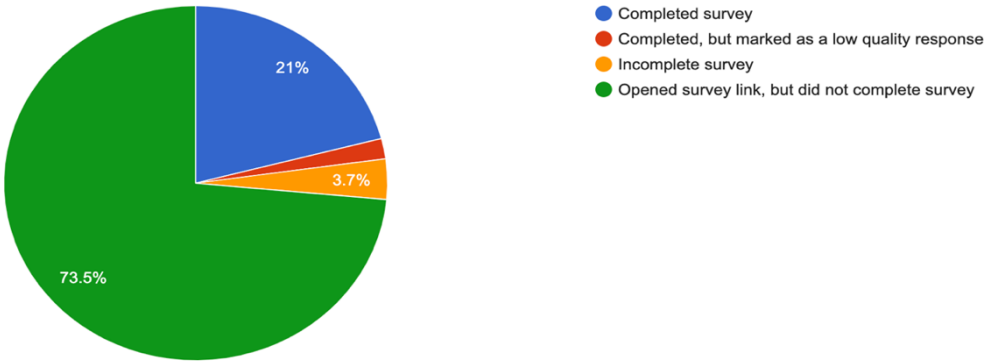

Figure 6 - Relative preference for levels (in %)

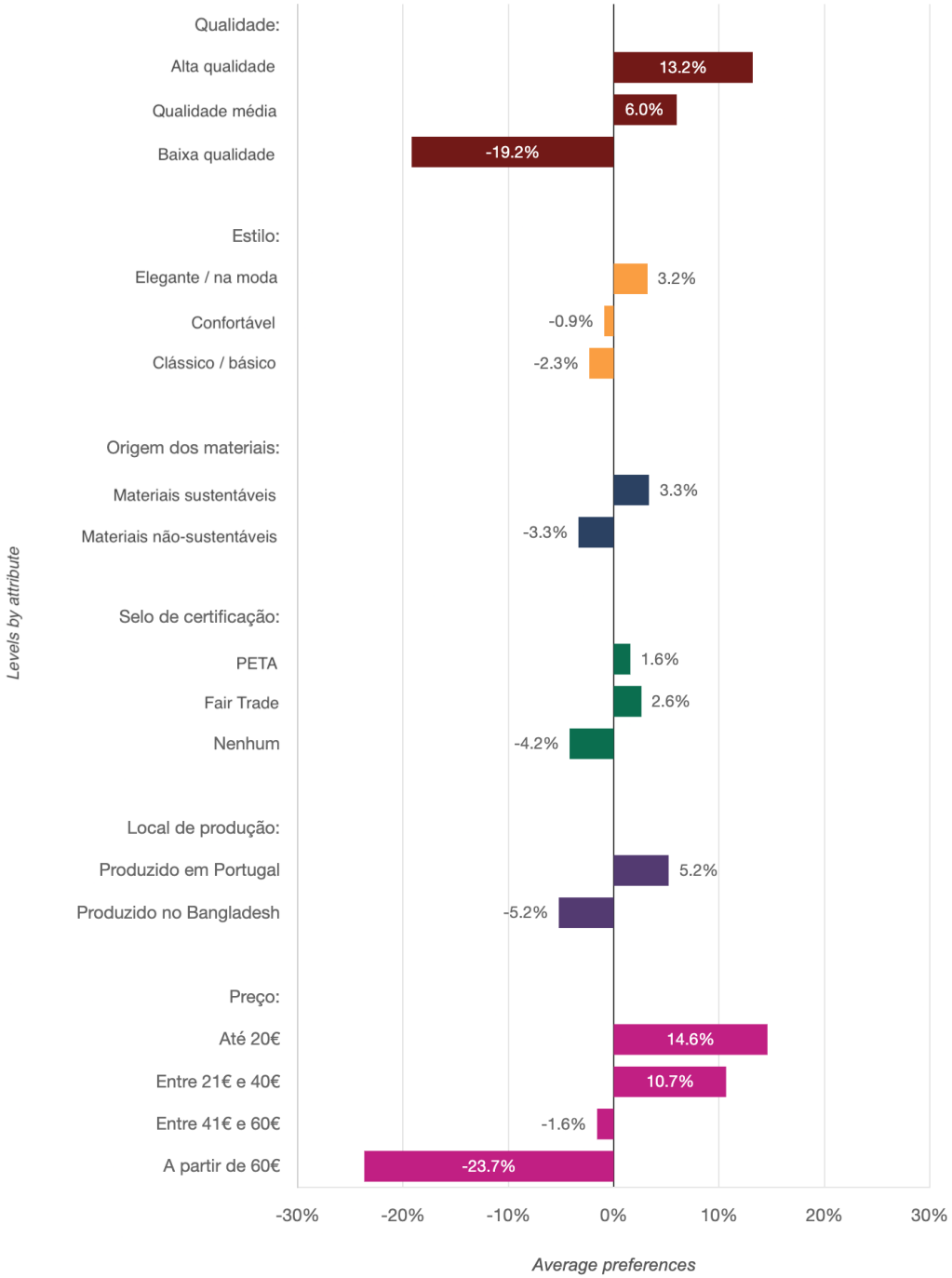

Figure 7 - Updated preference for price levels with price midpoints

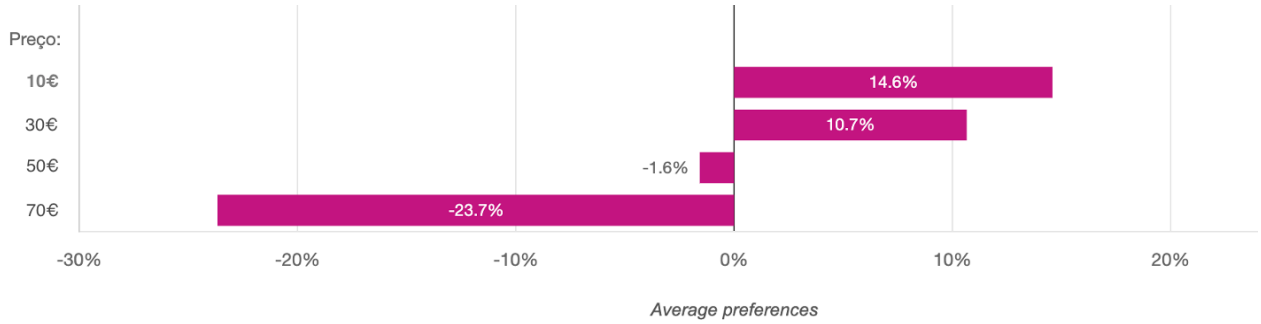

Figure 8 - Preference Shares for price difference