The effect of consumer knowledge on sustainable clothing behavior

A quantitative study of the effects of knowledge on environmental issues related to the fashion industry on purchase intention, and recycling activities among millennials

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Abstract

Purpose: This thesis aims to investigate how knowledge on environmental issues caused by the fashion sector influences sustainable behavior among millennial fashion consumers. To support the data collection process, a comprehensive analysis of the existing literature was performed to investigate topics concerning the fashion industry and sustainability including sustainable behavior, slow fashion, and fast fashion. Moreover, a conceptual framework was constructed from which five hypotheses were tested as a means to answer the research questions of the thesis.

Method: The method utilized throughout this study follows a quantitative approach, thus collecting data through a self-administered web survey. The survey was allocated to individuals within communities on social media platforms including Facebook and LinkedIn. After cleansing the dataset in terms of the valid age range for this study, 74 participants remain, with the majority of participants being females or 60.8%. The analysis of the collected data was done with the support of IBM SPSS software. Moreover, the data analysis included statistical methods such as multivariate linear regression, ANOVA test, and variable coefficient testing.

Findings: The SPSS analysis of the data showed that environmental knowledge has a significant influence on sustainable clothing behavior. Hence, knowledge about the environmental impact of fashion and clothing production has a positive effect on purchasing intention for sustainable clothing. Additionally, knowledge about the environmental impact of fashion has a positive effect on sustainable behavior. Consumer attitude also proved to positively affect purchase intention on sustainable clothing. These findings were similar to the findings discovered in previous studies. However, the findings also revealed that participants' behavior to recycle such as donating clothing are negatively influenced by their knowledge of the environmental impact of clothing production.

KEYWORDS: Sustainable fashion, consumer behavior, sustainable behavior, enviornmental knowledge

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1 Introduction

The introduction chapter aims to demonstrate the purpose of the underlying thesis and provide a deeper understanding of the necessity of the research. The chapter is further divided into sub-sections, starting with the research background, followed by the problem formulation and the research questions, and concluded with the outline of the thesis.

1.1 Research background

Interest in sustainability has gained increased attention in the past. Moreover, it is expected to grow even further in the coming years, due to environmental challenges such as growing human population, global warming and depletion of resources. As stated by the World Commission on Environment and Development (1987), sustainability as a concept seeks to meet the needs of the present generation without jeopardizing the needs of future generations (Brundtland, 1987). The concept can also be defined in terms of the triple bottom line, taking into account the environment, people and the economy (Purvis et al., 2018).

Recently, sustainability has become a mainstream concept within the fashion industry, due to growing concerns among consumers on the environmental impact caused by overconsumption and unsustainable business practices of fast fashion (Joy, Sherry et al., 2012). One of the main environmental issue affecting sustainability in today´s textile and apparel industry concerns impulse consumption behavior. It is caused by a growing appetite for fast fashion and change in consumer behavior. Modern consumers no longer see clothing as only something we need to cover our body, but rather as a symbol of self-identification. As a consequence, consumers have built up an appetite for constantly renewing its wardrobe with the latest trends from the fashion catwalks in order to update their looks (Fletcher, 2014). These consumption habits drive textile manufacturers to mass-produce low-quality clothing at a faster pace in order to satisfy the fast-changing consumer needs. This impulse buying culture is especially evident within the fast fashion, which focuses on quantity over quality. As a result, building up a massive amount of clothing that is disposed after a short period of time from purchase (Niinimäki, 2013).

In context, every year, the average American consumers dispose of 31 kilograms of clothing and textiles which ends up in landfill (Fletcher, 2014). In fact, the fashion sector is one of the most polluting industries worldwide, exploiting water resources and filling landfills with massive waste

(Niinimäki, 2013). According to a recent study conducted by the European Environment Agency (2022) in 2020, the textile industry contributed as the third highest consumer on water and land resources and the fifth largest producer of greenhouse gas emissions. The study also argues that in order to reduce the environmental impact from the textile industry, a shift towards a more sustainable solution is necessary (Manshoven & Grossi, 2022). As a response to the environmental as well as social implications caused by the traditional fashion industry, many clothing brands are turning their attention to slow fashion (Henninger et al., 2017). Fast fashion retails such as H&M, Zara, Espirit and Uniqlo are among the brands that have introduced sustainability within their business activities (Henninger et al., 2017). Slow fashion or sustainable fashion is defined as a manufacturing process of clothing that is produced in respect to the environment and the working conditions of employees as well as sourcing eco-friendly materials (Henninger et al., 2017). The slow fashion movement emerged as a sustainable alternative to the environmental challenges faced by the fast fashion industry. However, despite the growing awareness among consumers, the fashion industry is still faced with challenges by the consumption of fast fashion. A recent study shows that young female consumers are unaware of the environmental impact of their fast fashion consumption and the need for recycling clothing (Morgan & Birtwistle, 2009). Which indicates that more information and education of environmental issues and the impact of fast fashion on the environment is necessary in order to promote more sustainable decisions among fashion consumers.

The notion of sustainability and ethics within the fashion industry has caught the attention of many researchers and practitioners in recent years which can be seen in the vast amount of studies conducted on the topic for example (Birtwistle & Moore, 2007; Harris et al., 2016; Lundblad & Davies, 2016; Morgan & Birtwistle, 2009; Pookulangara & Shephard, 2013). However, previous research has focused on consumer perception and attitude towards sustainable fashion and its influence on consumer buying behavior, with less attention of the influence of environmental knowledge on sustainable clothing behavior. Based on previous research, consumers lack understanding and knowledge on sustainability, especially on what sustainable consumptions means to the individual and the environment (McNeill & Moore, 2015). By analyzing consumers understanding of sustainability within the fashion industry as well as the environmental impact of fashion consumption, apparel companies can more effectively market sustainable fashion to consumers. Thus, educating consumers on the environmental benefits of

sustainable clothing and potentially influence sustainable consumption among fashion consumers. In that case, this study aims to investigate consumers understanding and knowledge on sustainable practices within the fashion industry and identify how information on environmental issues within fashion influence sustainable clothing behavior.

1.2 Research questions

In this section, the problem formulation will be addressed along with presenting the research questions that have been designed as a means to answer the problem formulation.

As human beings, we are all consumers. However, we have choices to make in terms of our consumption, including what we buy and how much we buy. These choices can significantly impact the environment and the society we live in. As once quoted by Anna Lappé; "Every time you spend money, you´re casting a vote for the kind of world you want". The solution to the growing environmental impact of consumption is to become a more conscious consumer. Adapting to a conscious consumer´s lifestyle is not about avoiding buying clothing but rather making more mindful decisions regarding clothing purchases. This means that knowledge on environmental issues, the impact of different types of clothing manufacturing processes, and understanding of the fashion industry are necessary for consumers to make more informed choices. However, as mentioned previously, studies have shown that consumers lack knowledge and understanding of the term sustainability and even have difficulties associating sustainability with the fashion industry. Therefore, this results in lower consumption of sustainable goods, which increases the environmental impact caused by the fashion sector. Thus, the primary aim of this master thesis is to investigate the degree of knowledge consumers have on environmental issues and how this knowledge leads to sustainable consumption. In this thesis, sustainable consumption not only refers to purchasing behavior and the use of sustainable fashion but also in respect to the concept of recue, reuse, and recycle.

Therefore, the relevant problem formulation has been designed to understand the level of environmental knowledge consumers have towards sustainability as a concept:

How does environmental impact knowledge within the fashion industry influence millennials sustainable clothing consumption ?

In order to answer the previously mentioned problem formulation, five research questions have been established to oversee the course of the analysis. Moreover, each research question has been designed in a way that the corresponding answer provides a building block for later questions.

1. *What is the meaning of sustainability with the fashion industry?*

In order to answer the first research question, a literature review was conducted to address an overall meaning of the concept of sustainability in general and in respect to the fashion industry.

2. *How does consumer understand sustainability in general and in connection to the fashion industry?*

The second research question is answered by examining previous studies that have been performed on the topic in order to gain insights on how consumers understand and associate sustainability with the fashion industry. Additionally, the researcher will conduct a web-survey to identify consumers further understanding and perception of the concept.

3. *Are consumers aware of the environmental benefits of recycling and do they actively participate in recycling activities of clothing?*

In order to provide an answer to the third research question, a web survey will be carried out and tested on a sample of millennials fashion consumers. This research question is essential for answering the problem formulation. It provides a clear understanding of how knowledgeable consumers are of the fashion industry´s environmental issues today. Additionally, it gives a better idea of how informed consumers are of the importance of recycling and reusing practices for the health of the environment.

4. *Are consumers aware and informed of the environmental impact of clothing production and sustainable business practices?*

5. *Do participants identify themselves as sustainable consumers and actively engage in sustainable practices ?*

To answer the following research questions, questions four and five, the researcher examines data collected from an online survey that seeks to ask relevant questions that might shed light on participants' knowledge, awareness, and opinions regarding clothing production, sustainable business practices, and sustainable purchase intention.

Furthermore, this thesis intents to contribute to the literature on sustainability and the fashion industry by providing relevant insights on the importance of environmental knowledge on sustainable consumption behavior. More specifically, by investigating how knowledge of the environmental impact of fashion production influences consumers' sustainable purchase intentions.

1.3 Outline of the thesis

This master thesis consists of eight chapters as illustrated in figure 1.
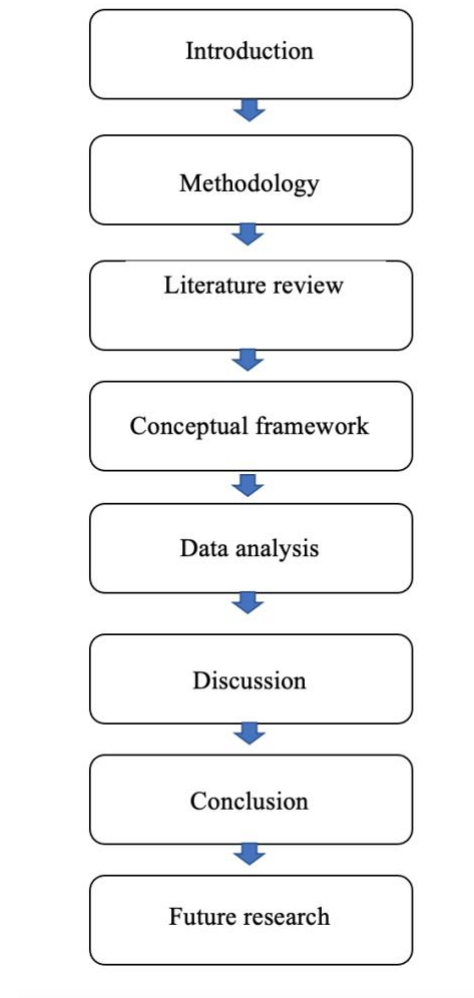
Figure 1: Outline of this master thesis (Own creation, 2022)

First, an introduction to the thesis is presented. Additionally, the introduction chapter presents the background of the research along with the problem formulation and the established research questions. The methodology chapter aims to introduce the reader to the ideology of philosophy of science and present the researcher's philosophical viewpoint applied throughout this thesis. Followed by the literature review, where existing literature on the research topic is investigated

and introduced.   Furthermore, this part of the master thesis aims to provide a structured presentation of the main concepts, theories, and elements related to sustainability and consumer behavior which are used as guidance for the research. Based on the literature review results, a conceptual framework is designed and introduced in the following chapter. Several hypotheses are developed and tested through an online survey of the research sample as a means to answer the research questions. The analysis chapter examines the data collected from the web survey in harmony with the previously mentioned research questions. The sixth chapter discusses the study´s findings using the research questions as guidance. The conclusion part of the thesis presents the overall findings of the thesis. Lastly, the main limitations of the research are presented and provide suggestions regarding future research on the topic of the paper.

2 Methodology

The following chapter presents the methodological viewpoint applied throughout this paper as well as the research process. The methodological approach must be explained because it demonstrates the researchers' perspective when conducting the research and the philosophy behind the data and analysis process. First, the philosophy of science will be introduced, emphasizing epistemology and ontology. Furthermore, the research strategy and research design of this study, and the data gathering process, will be discussed. Overall, this chapter aims to provide a comprehensive framework for the structure and execution of this thesis.

2.1 Methodological viewpoint

The methodological viewpoint should be developed to account for the numerous aspects that influence how the thesis is conducted and its outcome to better comprehend the research process (Arbnor & Bjerke, 2009). In order to organize the process of this thesis, the structure of the methodology chapter is depicted in figure 2, which further identifies the necessary course of action for this project.
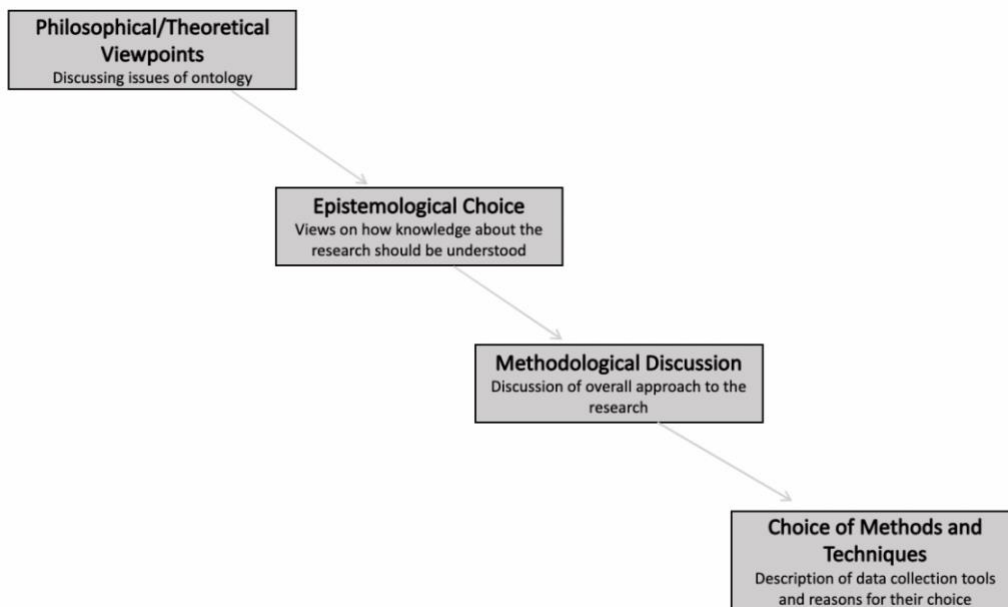
Figure 2: Structure and Levels of Discussion in a Methodology Chapter (Kuada, 2012)

Moreover, individuals perceive the social world differently from each other and interpret results differently because reality is a construct that is primarily reliant on assumptions based on personal experiences. Therefore, it is critical to examine the philosophical and theoretical perspectives to comprehend the parameters and methods used to achieve the goals of this research study. Furthermore, the way the analysis is conducted and which data gathering methods are chosen are heavily influenced by whether the approach to a study is subjective or objective in its worldview (Kuada, 2012). Following the determination of the philosophical and theoretical perspectives, the epistemology considerations of the thesis are determined, more specifically, how knowledge should be created and presented. The standpoint of the philosophy of science and the paradigm applied in this research will influence the choice of research design and the method to collect data (Bryman, 2012).

2.2 Philosophy of science

Philosophy of science is concerned with the nature of science and plays an important role in empirical studies by representing a foundation for the research process. This includes, the research approach, strategy and the methods used to carry out the research (Bryman, 2012).

2.2.1 Ontological and Epistemological considerations

Understanding how the philosophy of science can be used in research requires understanding of the concept of paradigm. The research paradigm assists researchers and practitioners in comprehending the underlying problem and identify ways to address it. Thomas Kuhn was an American philosopher that was most known for his scientific revolutions and his contribution to science during the twentieth century. In 1962, he introduced a new approach to science where he argued that science is developed in paradigms (Kuhn, 1962). The term paradigm is defined by Bryman (2012) as:

" a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done [and] how results should be interpreted" (Bryman 2012, 630).

A paradigm can further be described as a collection of characteristics that constitute research. This, amongst others, includes understand the phenomena being studied, what questions the research seeks to gain answers to, what is considered the relevant approach to answer the research question, and how the findings should be interpreted (Kuada, 2012).

Saunders et.al (2007), differentiates between two types of research philosophies, epistemology and ontology. The former is concerned with understanding knowledge and what is seen as adequate knowledge for a particular inquiry, whereas the later seeks to understand the essence of reality (Bryman, 2016). In social sciences, an evidential distinction is made between objective and subjective research approaches (Kuada, 2012). An objective researcher sees social reality as something that is external and objective, meaning that reality is represented by tangible objects and facts rather than individuals beliefs and emotions (Saunders et al., 2007). According to Turyahikakay et.al (2021), a research that is based on the objective approach indicates that individuals values, opinions, and beliefs might be inaccurate unless it is built on the scientific foundation. In contrast, research that follows a subjective approach to reality is typically interested in understanding how certain phenomena is affected by individuals and their emotions (Bryman, 2012). Previously mentioned philosophical approaches can further be classified into different aspects or paradigms depending on how researchers view social reality and acquire knowledge. This includes positivism, realism, interpretivism and pragmatism (Bryman, 2016).

In this thesis, the subject of the matter concerns the relationship between knowledge on environmental impact related to the fashion industry and its effects on sustainable clothing behavior. According to Kuada (2012), the positivist approach suggest that social phenomena can be explained through observing the cause-effect relationship between variables. Thus, this thesis follows a positivist epistemological approach, meaning that the research seeks to explain social reality through observation of causal relationship between the variables (Kuada, 2012). By adopting the positivists approach, the researcher can understand the relationship between knowledge and sustainable clothing behavior by generating measurable data which can be used to generalize the findings. Moreover, the ontological aspect of the positivist research approach is that reality is objective and external (Kuada, 2012). Thus, raising the questions on whether social

entities are constructed within the social actor based on its actions and perceptions or whether it should be considered an objective entity that holds an external reality to the social actors (Bryman, 2016). This means that the researcher is an independent actor to the data collection process and has neither or is affected by the research process (Saunders et al., 2007).

2.3 Research Strategy

A research strategy represents a general direction of the research process. Generally, it is categorized into quantitative or qualitative research approaches (Bryman, 2016). The prior being concerned with the quantification when collecting and analyzing data (Saunders et al., 2007). Whereas the latter refers to the procedure of collecting non-numeric data which cannot be measured through quantification (Kuada, 2012). When conducting research, the selection of appropriate strategy is determined based on the objectives of the underlying research as well as the approach of philosophy adopted for the paper.

In this thesis, the main objective is to understand the relationship between knowledge on environmental impact and sustainable behavior among fashion consumers. Thus, by investigating consumers' attitudes, knowledge, and perspectives toward sustainability in the fashion industry. In that case, it could be argued that the use of hypotheses for testing and analyzing quantitative data is the appropriate research strategy. As a result, this thesis follows a quantitative approach conducted through a web survey. The quantitative method allows the researcher to gain insights on the subject with the support of hypothesis in order to analyze the relationship between consumer attitude, environmental knowledge and purchase intention on one hand and environmental knowledge and sustainable behavior on the other hand (Kuada, 2012).

For this thesis, current theory will be used to construct hypotheses, which will then be tested and either confirmed or rejected based on the results. Moreover, quantitative data analysis has proven to be an effective method to measure the "what" or "how" scenario as it collects numerical data which can be measured (Bryman, 2012). Thus, based on the abovementioned factors, the quantitative method was chosen for this thesis as it suits the overall research purpose, which is to develop and test hypotheses derived from existing theories as well as interpret data based on findings concerning the research topic.

2.4 Research Design

The following chapter aims to present the key concepts surrounding the thesis research design. Along with a detailed description of the conducted approach and its procedure throughout the data collection, including the applied research method for gathering and analyzing data. According to Saunders et.al (2007), a research design can be described as the overall plan for conducting a study in order to answer the selected research questions. Kuada (2012) argues that the research design should deliver a logical sequence of activities that provide a concise connection between the various elements of the thesis. Including the underlying research questions, theories, methods and the research findings. Bryman (2012), differentiates between five types of research designs, including experimental, case-study, cross-sectional or survey, comparative and longitudinal design. As previously stated, this thesis is quantitative in nature, which further aligns with the positivistic philosophical approach. In this context, the cross-sectional research design is employed for this thesis. That is due to the characteristics of the underlying design which is aligned with the objective of the research. In cross-selection research design, data are collected simultaneously from a bundle of subjects in order to gain a reasonable amount of responses which can be quantifiable and further analyzed to detect and interpret the relationship between several variables (Bryman, 2012). This thesis aims to investigate consumers sustainable behavior based on one-time perspectives. More specifically, it aims to detect the relationship between environmental knowledge and sustainable behavior in fashion among millennials.

2.4.1 Research method

On the other hand, a research method is a procedure for gathering data (Bryman, 2012). The methods and procedures applied in an empirical study that intends to answer research questions must be compatible with the adapted research approaches (Saunders et al., 2007). Therefore, the method is heavily influenced by the goal of the research as well as the type of information researchers are looking for. As previously stated, research approaches can be classified as either subjective or objective. For instance, if the goal of the research is to gain insight that is objective in nature, in that case, a survey might be the most appropriate method applied, as it allows the researcher to collect data quantitatively and objectively. Similarly, suppose the researcher seeks to gain insights that are of a subjective manner. In that case, interviews might pose as the appropriate procedure to collect data as it gives the researcher opportunity to gain in-depth insights from

individuals. As mentioned in the previous section, this thesis aims to investigate the influence of knowledge of environmental issues on sustainable behavior among consumers, thus collecting objective data. In this context, it can be argued that survey is the most appropriate method for gathering insights and data for this thesis.

2.4.2 Survey

A survey is one of the many methods that constitute quantitative research. Survey is a set of questions to elicit specific information from a group of people. A questionnaire can be either self-administered or interview-administered, depending on how it is delivered and the level of interaction between the researcher and the respondents (Bryman, 2012). The choice of questionnaire type to address in a survey is influenced by various factors. According to Saunders et.al (2007), this includes the characteristics of the ideal respondent, the number of questions needed to ask in order to get a fulfilling data collection, the type of questions needed to ask in order to obtain the accurate data and the importance of responses not being contaminated or distorted (Saunders et al., 2007). As for this thesis purposes, the use of a self-administered questionnaire was chosen. The reason for this choice is depended on the abovementioned factors suggested by Saunders et.al on the project objectives. Apart from this, the time and cost spent on a self-administered survey is relatively low in comparison to other survey methods. Additionally, as some of the questions have the intention to collect data regarding the attitude and behavior of respondents, the use of closed-ended questions was necessary. Moreover, it was argued that individuals could be more likely to provide honest responses regarding a sensitive topic such as environmental behavior if they are aware that the survey is completely anonymous and cannot be traced back to any individual responses. Furthermore, this also reduces the possibility of the so-called interviewer effect. In which the presence of an interviewer might influence on the respondent's answers and therefore, lead to more biased results. However, this can be eliminated with an self-administered web survey as it allows respondents to participate at their convenience regarding the environmental setting and the time of the day (Saunders et al., 2007). Based on this, a self-administered web survey was the researcher's final questionaries of choice.

2.4.2.1 Construction on survey

In order to answer the research questions, a web survey was developed in May 2022. The survey was created using the platform Google forms. This tool allows the researcher to create a customized web survey using a different format for each of the questions, as well as divide the survey into a few sub-sections that appear on separate pages. For instance, this survey used the five-point Likert scale to measure respondents attitude, knowledge and behavior on the research topic. Moreover, survey questions can either be classified as closed-ended, open-ended questions, or a combination of both. The survey for this project consists of 29 questions, all of which are closed-ended. The choice of this question type is based on the fact that responses can be analyzed quantitatively, which also aligns with the thesis objectivist approach. Closed-ended question has a fixed set of alternatives which participants need to choose from their most appropriate answer (Bryman, 2012). Closed-ended questions have a number of advantages in surveys. For instance, answers are simple to comprehend as well as easy to compare between respondents. This is due to the fixed answer choices possible for each question, making it easier for the researcher to collect and interpret the data. In terms of the participant, responding to close-ended questions is less time-consuming and easier than answering questions that need to provide a written answer (Bryman, 2012). As a result, people might become more motivated to participate in the survey, knowing that the process will be less time-consuming, resulting in a higher response rate (Saunders et al., 2007).

The questionnaire is designed based on constructs and findings derived from the literature review. Moreover, questionnaires used in previous literature are thoroughly examined to provide an idea of how to approach and design the survey properly. As mentioned above, the survey consists of 29 questions which are further divided into seven sections, each focusing on a different construct of the research. In this survey, the use of the five-point Likert scale is evident throughout the questionnaire. This five-point Likert scale ranges from 1- Strongly Disagree to 5- Strongly Agree. The following section will provide a detailed description of each section including key objectives and question format.

The first section of the survey is about knowledge of environmental issues and sustainability. Here the researcher seeks to gain insights into participants' subjective knowledge of environmental concerns. Meaning, by asking respondents how aware they are of the environmental issues in

general, as well as identifying whether participants describe themselves as sustainable consumer. Followed by the section on general knowledge of the fashion industry. Here the researcher aims to investigate participants' objective knowledge of sustainability within the fashion sector, by asking questions related to environmental impact of the fashion industry. The third section refers to knowledge of sustainability within the fashion industry. The main objective here is to identify wheatear respondents are aware of the use of sustainability within the fashion sector. Respondents are asked questions regarding their knowledge of the implementation of sustainability in fashion. Attitude toward sustainable fashion is the fourth section of the survey. In this phase, the researcher seeks to gain an understanding of respondents' attitudes toward clothing that is produced sustainably. Related to this topic, respondents are asked questions concerning their awareness of the impact of purchasing sustainable clothing, their general attitude toward sustainable clothing, and their concerns for sustainability within the fashion industry. The fifth section of the survey concerns participants' purchase intention toward sustainable fashion. In this section, the researcher aims to investigate respondents' likeliness to purchase sustainable clothing, and which factors influence purchasing behavior. Moreover, participants are also asked to state their willingness to pay a higher price for sustainable fashion. The following section of the survey concerns disposal and recycling activities. By implementing this part of the survey, the researcher aims to investigate the later phases of consumers' sustainable consumption in terms of their recycling and disposal behavior. Finally, respondents are asked questions related to their demographics which provides insights on the age, gender, and degree of education participants have, which supports the further analysis process.

The following table illustrates how the questions posed in the web survey are connected to the proposed research questions of the thesis.

Research question	Measuring Questions
How do consumer understand sustainability in general and in connection to the fashion industry?	Questions 4, 5,6,7, 8 and 9
Are consumers aware of the environmental benefits of recycling and do they actively participate in recycling activities of clothing?	Questions 23, 24, 25, and 26
Are consumers aware and informed of the environmental impact of clothing production and sustainable business practices?	Questions 10,11,12,and 13
Do participants identify themselves as sustainable consumers and do they actively engage in sustainable practices?	Questions 1,2,3,14,15, and 16

Table 1 Survey questions in relation to the research questions (Own creation, 2022)

2.4.2.2 Sample and Data collection

The term sample describes the group of people derived from the population that has been selected for the research investigation. When selecting the right segment for the purpose of the research two sampling techniques can be used, a non-probability or probability approach (Bryman, 2012). Although, in some research projects there is a possibility of collecting and analyzing data without having specified a certain sample, this is better known as a census (Saunders et al., 2007). Probability sampling is chosen by a random selection, with each unit in the population having an equal chance of being chosen. Non-probability sampling however is the opposite of probability sampling technique. It refers to the method of using a non-random approach to select the research sample, meaning that some sub-segments of the population have more chances of being selected than others (Bryman, 2012).

The sampling approach adopted for this research is non-probability sampling. However, the non-sampling approach can be further divided into various types of sampling methods. This includes:

convenience sampling, the quota sample and the snowball sample (Bryman, 2012). Moreover, this thesis uses the convenience sampling method to gather data on the research topic. This is mainly due to the accessibility to the sample as well as lower cost and reduced time required to perform (Bryman, 2012). On the other hand, the researcher wanted to gain insights from a diverse group of individuals within the sample, varying in age, gender, education degree and environmental knowledge. This is based on the findings derived from previous studies which suggest that sustainable behavior and consumption is influenced by various factors including knowledge, level of education (Haron et al., 2005), and age (Morgan & Birtwistle, 2009).

A questionnaire was distributed to various groups on social media including Facebook and LinkedIn, to gain access to the sample. A concise description was presented along with the link to the web-survey to the groups to introduce potential participants to the topic of the underlying research along with a short explanation of the survey in general. The social media groups are further separated into two categories: those concerned with sustainable fashion or sustainability in general, and those unrelated to sustainability. This is based on conscious decision as it supports the aim of the research questions. Therefore, the sample consists of consumers who either have interest or sufficient knowledge of the environmental issues related to clothing consumption as well as those who are unaware of the environmental issues caused by the clothing industry and those who even have little care about sustainability issues in general. To gain more representative data, the choice of millennials as the target audience has been chosen. This means individuals with the age ranging from 26 – 42 years old.

In the case of survey research, the larger the sample size the more representative it is likely to be (Bryman, 2012). The survey was active for the duration of 11 days in hope of collecting as many responses as possible to contribute to the survey. At the end of it, the survey generated a total of 96 responses. However, of those responses 22 had to be removed due to the fact that they did not reflect upon the target group of the study. Therefore, resulting in a total of 74 responses being used for further analysis. The survey questions can be found in (Appendix 1) as well as the survey results (Appendix 2). As mentioned previously, the survey was deployed using the Google forms platform, which is a well-known and effective tool to conduct a questionnaire. However, to analyze

the data in accordance with the research questions it is necessary to transfer the data into a statistical analysis tool such as SPSS to get a comprehensive data analysis.

2.4.3 Reliability, and validity

When quantitatively conducting a research, it is critical to evaluate the quality of the performed study. According to Bryman (2016), reliability, replication and validation are among the most important criteria to measure the quality of a research (Bryman, 2016). Attention to these measures is also important to reduce the possibility of getting incorrect responses. Reliability of a research concerns the degree to which the data collection method will provide consistent findings. Whereas, validity refers to the accuracy of the research methods, more specifically how well it measures what it claims to measure (Saunders et al., 2007). In other words, is there an indication of a causal relationship between two variables in the study?. As a result, because of the interconnection between these two factors any research that is deemed untrustworthy is also considered invalid.

According to Saunders et.al. (2007), reliability of a research can be assessed by asking these three questions: "Will the measure yield the same results on other occasions?"; "Will similar observations be reached by other observers?"; "Is there transparency in how sense was made from the raw data?" (Saunders et al., 2007, p.149). Moreover, reliability can be categorized into various factors including internal reliability, stability and inter-observer consistency. Internal reliability refers to the ability to maintain consistency throughout a underlying research. In other words, it assesses if multiple indicators claiming to measure the same basic construct yield similar results (Bryman, 2012). Whereas, stability is concerning the stability of a measure over time so that we may argue with confidence that the results for a sample of respondents for that measure do not fluctuate. Most researchers nowadays employ Cronbach's alpha test to measure the internal reliability of a research (Timming, 2022). Therefore, Cronbach's alpha was used to verify the internal consistency of each item to confirm the questionnaire's reliability.

As mentioned above, Validity refers to whether the research is truly measuring what it states to be measuring (Saunders et al., 2007). According to Bryman (2016), multiple types of validity should be examined in order to reduce bias and increase the quality of research. This includes

measurement validity, internal validity, and external validity (Bryman, 2016). This is further illustrated in table 2.

Measurement Validity
To what extent is it possible to make assumptions from the research?
External Validity
To what extent can the research findings be generalized to other context?
Internal Validity
Does the research demonstrate the conclusion? For example, is there a possibility to draw a conclusion that there is a hypothesized connection between cause and effect?

Table 2 Validity (Own creation, 2022)

Measurement validity comes down to the question of whether a measure accurately reflects the concept that it aims to represent. While external validity raises the question of wheatear the research findings can be generalized outside the research scope. However, this thesis focuses on internal validity, which refers to the causal relationship between independent and dependent variables of the research. For instance, if we suggest that variable A causes variable B, can we be confident that it is variable A that causes the change in B and not some other variable (Bryman, 2012).

3 Literature review

This chapter demonstrates the findings from the conducted literature review. The chapter is further divided into a few sub-sections to provide a clear structure and give a better understanding of the research topic. The underlying literature review focuses on the fashion industry, more specifically the relationship between knowledge of environmental impact and consumer consumption of sustainable clothing.

3.1 Sustainability

Sustainability has been recognized as a growing concern among consumers and businesses in recent years. The concept itself is not considered a new phenomenon as it has been around since as early as the 1970s when it appeared at the United Nation conference in Stockholm in 1972 (Purvis et al., 2019). It originated in response to increased consumer concerns about the environmental impact of their consumption habits. As a concept, sustainability encompasses numerous interpretations and understandings depending on its context (Henninger et al., 2016). For example, Cambridge Dictionary defines sustainability in a business context as:

" the idea that goods and services should be produced in ways that do not use resources that cannot be replaced and that do not damage the environment" (Cambridge dictionary, 2021).

Another way to describe sustainability is by looking at it as an activity that exists indefinitely without causing harm to the environment (Joy et al., 2012). Nevertheless, the most known definition appeared in the Brundtland report by the World Commission on Environment and Development in 1987, where sustainability is defined as:

"*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (Brundtland 1987, 24).
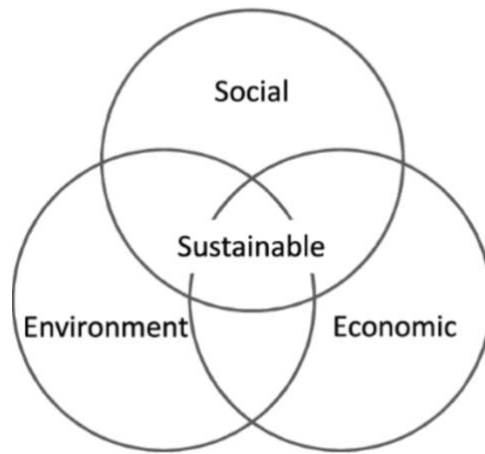
Figure 3 The three pillars of Sustainability (Purvis et al., 2019)

In 1992, at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, "sustainable development" became a dominant phenomenon of the environmental movement. A highlight of the conference was the development of Agenda 21, a concise action plan that was established to achieve sustainable development for the future (UN, 2022). Moreover, "sustainable development" seeks to meet the needs of every human being and provide both present and future generations an opportunity to fulfil their desires for a better life (Brundtland, 1987). As stated by Seidman (2007): "*Sustainability is about much more than our relationship with the environment: it´s about our relationship with ourselves, our communities, and our institutions.*" (Seidman, 2007). The term "sustainable development" can further be explained by looking at it from the connection between three main aspects of society: economic, social, and environmental factors as seen in figure 3 (Purvis et al., 2019). The economic factor of sustainable development refers to the cost and benefits aspect of society, focusing on long-term growth without exploitation of resources. Social sustainability seeks to sustain the environment through economic growth and diminish poverty globally. Lastly, environmental sustainability concerns the idea of maintaining natural resources that enable human survival on earth. Thus, with renewable resources, reduce waste and conserve limited resources (Basiago, 1998). In other words, sustainable development occurs when these three societal aspects collide (Brundtland, 1987).

To understand the implementation of sustainability within the fashion industry it is important to understand how the fashion sector has evolved throughout the years, from the production of fast fashion apparel to a more sustainable approach to clothing, known as slow fashion. Thus, the following section will present the term fast fashion and its main principles, followed by an introduction to slow fashion.

3.2 The fashion industry

The following chapter presents the main ideas and concepts encompassing the clothing industry worldwide. More specifically, fast fashion, slow fashion, and sustainable fashion.

3.2.1 Fast fashion

In recent years, the fashion industry has been dominated by the consumption of fast fashion, a low-cost clothing replicated by the luxury trends of fashion catwalks (Pookulangara & Shephard, 2013). Instead of the traditional four seasons collections every year, fast fashion has a short product life cycle and is therefore not bound to seasonality (Joy, Sherry Jr et al., 2012). Driven by an impulse buying culture, fast fashion allows consumers to purchase the latest fashion trends, often at a time laps as quickly as two weeks from design to floor display with the advantage of low prices (Henninger et al., 2017). This business strategy is characterized by excessive speed, volume, and consumption. Global fashion retailers including Zara, H&M, Primark, and Forever 21 are among the leading manufacturers that follow this fast-paced business model. Due to continually evolving fashion trends, which are driven by social media, influencers and magazines, retailers are forced to accelerate their turnaround to keep up with these dynamic consumer demands. For instance, the leading fashion retailer Zara keeps up with these growing consumer demands by bringing new styles and clothing to its stores weekly. According to Fletcher (2010) fast fashion is not shaped by speed, but rather by a set of business practices to achieve continual economic growth. In order to achieve these unrealistic claims of economic growth, clothing manufacturers cut down the overall cost of production, creating a large amount of disposable fashion. Manufacturers adapt to cheap labor, low-quality materials, and high environmental cost to keep the prices low (Joy et al., 2012). This causes a significant impact on the environment as well as the world's social system. For example, by depleting natural resources, sustain unfair working conditions, increase pollution and

greenhouse gas emission, and grow textile and clothing waste. In a study by McNeill and Moore (2015) they found out that majority of respondents are aware of these environmental and social consequences caused by their fast fashion consumption, however, it did not influence their clothing consumption (McNeill & Moore, 2015). The findings also suggest that respondents find information on sustainable production to be insufficient and not direct enough, therefore they wish to be more informed of the impact of clothing production practices. Hence, this might suggests that knowledge of the environmental impact has little effect on consumers decisions regarding sustainable clothing. It might also indicate that consumers have insufficient knowledge and understanding of sustainable business practices and how it appears in fashion, therefore are not capable of making informed decisions regarding environmentally friendly apparel. Although, it could also suggest that knowledge of environmental impact alone might not be enough to alter consumer behavior toward more sustainable consumption. Furthermore, the term "Fast" also concerns the rate of disposal of clothing. As quoted by Abrahamson (2011): *"Fashion, more than any other industry in the world, embraces obsolescence as a primary goal; fast fashion simply raises the stakes"* (Abrahamson, 2011). The Cambridge dictionary defines obsolescence in terms of business as: *"the process or fact of becoming old-fashioned and no longer useful"* (Cambridge dictionary, 2022b). This indicates, that clothing is designed in a way that it loses its value in the eye of the consumer long before the lifecycle of the product has ended. This change in consumer behavior is influenced by sociocultural norms and the fact that clothing is produced from garments that are not made to last for a more extended time (McNeill & Moore, 2015). Nevertheless, the fast fashion has become more attractive among younger fashion consumers in the past, which are driven by the desire for stylish, fast, and cheap clothes that complement their need for self-expression and self-identity (McNeill & Moore, 2015). Thereby, motivating fashion retailers to produce more clothing to satisfy this growing consumer appetite. This in return, creates a so-called "throw-away culture" where consumers feel pressured to continually purchase new clothing and throw out the old ones long before its life cycle has ended (Morgan & Birtwistle, 2009). Younger generations are the leading consumers of fast fashion. Research suggests that this segment of fashion consumers does not recognize the connection between sustainability and the fashion industry even though possessing high awareness of environmental issues in general (Joy et al., 2012). That could be the reason for the rapidly growing market of fast fashion worldwide. This provides a great opportunity for fashion retailers to better educate younger consumers on the

environmental impact of consumption of fast fashion has and potentially introduce them to alternative sustainable solutions in their clothing consumption. In this regard, changing consumer attitudes and improving knowledge about environmental issues is a key element to accomplishing a more sustainable clothing consumption. In the next section, the concept of slow fashion will be presented, which is often seen as an alternative to the business practices of fast fashion retailers.

3.2.2 Slow fashion

As a response to the fast-paced cycles of fast fashion is the phenomenon of slow fashion. Although slow and fast are seen as opposite in language, this is not the case in perspective of slow culture (Fletcher, 2010). In this context, the term "slow" is not referring to the measure of time, rather the philosophy of attentiveness. Thus, taking into account the needs of the various stakeholders involved in the production process and the impact on consumers, workers and the eco-system (Joy et al., 2012). The concept of "slow" has its roots from the food industry, when it emerged as a response to the rise of fast food chains in the 1980s (Fletcher, 2014). In terms of clothing, the slow fashion movement appeared as a reaction to the environmental impact caused by fast fashion. The purpose was to address the issues of modern fast-pace culture by empowering fashion consumers to slow down their consumption habits by purchasing high-quality clothing less frequently (McNeill & Moore, 2015). By slowing down consumption, sustainability within the fashion sector can be achieved. Furthermore, the slow fashion movement aimed at building more sustainable measures that incorporate various aspects of the manufacturing process including design, production, consumption and consumer education (Pookulangara & Shephard, 2013). Additionally, slow fashion addresses the importance of artisanal production combined with classic designs and styles made through slower processes than traditional fast fashion (Niinimäki, 2013). Slow fashion represents a different viewpoint of the fashion systems than the traditional fast fashion business models. Unlike fast fashion, it favors quality over quantity, environmentally friendly materials, local markets, and traditional craft techniques. Recently, slow fashion has become a widespread topic within the apparel industry, despite being a relatively new concept within the industry (Pookulangara & Shephard, 2013).

Fletcher (2010) describes slow fashion as; "*Slow fashion represents a vision of sustainability in the fashion sector based on different values and goals to the present day. It requires a changed*

infrastructure and a reduced throughput of goods. Categorically, slow fashion is not business-as-usual but just involving design classics. Nor is it production-as-usual but with long lead times. Slow fashion represents a blatant discontinuity with the practices of today's sector; 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, p.262).

Fletcher (2010) argues that to transform fashion into a more sustainable industry, the economic and social aspects that shape and restrain the industry need to be considered. Therefore, the term sustainable fashion is noteworthy to mention in this context, as it is concerning the environmental impact caused by the whole clothing production. Hence, the following section aims to better understand sustainable fashion and what it consists of.

3.2.3 Sustainable fashion

Niinimäki (2013) describes sustainable fashion as the balance between environmental, social, and economic principles in terms of business and fashion design practices (Niinimäki, 2013). Moreover, he argues that sustainable fashion should consider all stages of the product life cycle including: "design, manufacturing, logistics, retail, use and disposal". (Niinimäki, 2013, p. 17). In recent decades, sustainable fashion has become more popular among consumers and the industry overall. Although, there seems to be no one concise definition of sustainable fashion to go by (Lundblad & Davies, 2016). Despite the growing interest in sustainable fashion, consumer awareness and understanding of what the concept of "sustainable fashion" entails, remains low. Research suggests that respondents define the concept in terms of fashion regarding sourcing and production processes without taking the social impact of production into play, such as working conditions and fair wages (Henninger et al., 2016). However, sustainable fashion refers to apparel that is produced with economic, social, and environmental sustainability in mind (Harris et al., 2016b). In order to classify fashion as "sustainable" four main principles must apply. The first principle states that clothing production must be free of child labor throughout the whole supply chain. The second principle indicates that all production materials must be environmentally friendly and thus not harmful to the environment. For example, by using organic materials or aim for recycled, upcycled materials with longer-lasting life cycle. Third principle of sustainable fashion concerns the social and ethical aspect of the production process and states that working

conditions must mind to human rights such as fair wages and the use of local production. Lastly, the importance of building strong and long-term relationship between all parties within the supply chain (Henninger et al., 2017). Recently, consumers attitude toward environmental and social concerns has increased, especially in respect to the fashion industry. In the past, the fashion industry has received criticism for showing a high level of negligence concerning the environment and the social well-being of its workforce (Henninger et al., 2017). This results in mounting pressure on companies to incorporate social responsibility into their business practices. Moreover, the collapse of the Dhaka garment factory in Bangladesh in 2013, has led to rising interest among consumers in sustainability within the fashion industry. With more than 1,000 lives lost and over 2,000 fatal injuries, it is considered the greatest public outcries for improved transparency and social responsibility among clothing manufacturers (Henninger et al., 2017). Resulting in sustainability becoming a high priority for many fashion retailers.

Recognizing the importance of protecting the environment, numerous retailers and clothing companies have implemented sustainable initiatives into their business practices (Niinimäki, 2013). Good example is the well-known company H&M that has in the past been considered one of the major producers of fast fashion clothing worldwide amongst others including ZARA, Forever 21, Primark and GAP. Recently, H&M has been taking a major step towards reducing the fashion footprint of its products and offering solutions to further engage with its customers to become more conscious in their clothing purchases, through their Conscious collection offerings. The Conscious collection focuses on environmentally friendly materials and using recycled materials for their products (H&M, e.d). However, this sudden sustainability change in fashion is not only in the hands of fashion retailers by producing less clothing and sourcing sustainable materials in their productions. Consumers also play a significant role in opting for sustainability in fashion. As long as there is demand for fast fashion there will continue to be a production of fast fashion clothing (Joy et al., 2012). Thus, in the long run, consumers need to change their consumption habits and become more conscious consumers is critical. Adjusting consumer behavior can be done by purchasing more sustainably produced clothing, decreasing the use of low-quality clothing, and purchasing high-quality clothing that is used for more than a few times, and taking better care of their clothing (Harris et al., 2016). By adapting to this new behavior, the demand for unsustainable clothing will decrease, leading to raised pressure on fashion retailers to adapt to new consumer demands and a more sustainable production practices. However, there

seems to be a gap between consumers' attitudes and actual behavior when it comes to sustainable clothing. This can be caused by perceived control behaviors or barriers that consumers experience, preventing them from acting upon their intentions toward sustainable fashion. This barriers include social conditioning (McNeill & Moore, 2015), concerns regarding product performance (Harris et al., 2016), style, quality, current wardrobe, ongoing desire for new clothing and color (Joy et al., 2012). With price oftentimes being the leading concern among consumer regarding sustainable clothing. According to recent studies, consumers argue that sustainable fashion comes at a higher price than mainstream fast fashion due to its use of organic material (Henninger et al., 2016; Lundblad & Davies, 2016). Research has also shown that some consumers see these premium prices as a financial barrier to engaging in sustainable fashion consumption, as much as the willingness to purchase is there (Henninger et al., 2016). As far as clothing is concerned, sustainable fashion is not seen as "fashionable" compared to the stylish designs of fast fashion and therefore is not considered as an clothing alternative to fast fashion by consumers (Henninger et al., 2016). Given the importance of self-identity among many fashion consumers, factors like "being fashionable", style and self-expression often outweigh the need to be ethical or sustainable (McNeill & Moore, 2015). Because of this, it is important to understand the difference between consumers' attitudes and intentions from the actual behavior on sustainable consumption. For that reason, it can be suggested that understanding the level of consumers knowledge on sustainability and environmental issues is critical to understand sustainable consumption. Therefore, the following section aims to gain understanding of the importance of knowledge on consumers' attitudes and purchase intentions toward sustainable clothing. Furthermore, to gain insights into the different types of knowledge associated with the consumer decision-making process.

3.3 Knowledge on sustainability

Brucks (1985) classifies knowledge into two different types: subjective and objective. Knowledge that is subjective in nature refers to individuals understanding of what they think they know. While objective knowledge on the other hand, concerns the actual knowledge that individuals possesses In terms of behavior, it is assumed that both types of knowledge influence the consumers decision-making (Brucks, 1985). Knowledge can play a key role in decision-making towards sustainable clothing. Kaplan (1991) argues that individuals level of knowledge on a certain issue significantly influences their decision-making. This suggest that a person with insufficient knowledge and

information on the environmental impact faced by clothing companies and consumption of fast fashion, is less likely to be motivated to purchase sustainable fashion. As stated by Morgan and Birtwistle (2009) their research findings suggest that consumers are more likely to consider to modify their consumption behavior if they had more knowledge of the environmental impact caused by fast fashion consumption (Morgan & Birtwistle, 2009). Another research found that there is a favorable correlation between consumer´s knowledge and consumer attitude towards sustainable clothing. The research also suggest that there is a positive link between attitude and purchase intention on sustainable clothing (Haron et al., 2005). Similar results can be found by Kong et.al. (2016) which indicates that if consumers have more knowledge on sustainability in general and the impact it has on the environment, consumers become more motivated to engage in sustainable consumption. As mentioned in the previous section, sustainability in general is not a new concept although its history within the fashion industry is rather recent. Consumers also lack understanding of fashion practices, and some even identify sustainable fashion as just another buzzword. Thus, more information on the benefits of slow fashion and the connection between these two concept could improve consumption of sustainable goods among consumers. However, there is little information to be found on how knowledge on environmental issues influences consumer behavior on recycling and disposal activities. In order for consumers to make informed decisions related to sustainable clothing choices, knowledge and understanding of the relevant concepts needs to be present. Yet, past studies highlight that consumers lack knowledge and understanding of sustainability in general as well as in respect to fashion production (Kong et al., 2016).

3.4 Sustainable fashion consumption behavior

As stated by the United Nations, sustainable consumption is defined as the idea of meeting the needs of the human population in regard to both present and future generations in a way that considers economic, social and environmental sustainability (United Nations, 2016). The concept came to light as an legal term during the United Nation Earth Summit in Rio de Janeiro in 1992. Underpinning the environmental risk factors arising from unsustainable production and consumption habits (Amaral Junior et al., 2020). The UN has played a critical role in acknowledging the concept into modern society throughout history. In 1985, a big step forward

was taken to encourages sustainable consumption among consumers, by expressing the need for improved education and knowledge on environmental impact of consumers consumption. As well as encouraging consumer to take conscious decisions in terms of their consumption habits (United Nations, 2016). In recent years, more emphasize has been on sustainable consumption among individuals. Consumerism and consumption are at the core of a functioning society in the western world, with consumption being a big part of everyday life. This impulse consumption can be associated with the industrial manufacturing system and the underlying economic values of societies (Niinimäki, 2013). According to Josh Kaufman (2010) consumers decision-making is based on nine economical values: speed, reliability, status, efficiency, ease of use, cost, flexibility, emotion and aesthetic appeal. Sustainable consumption is a broad concept that covers various aspects throughout the consumer behavior cycle. For instance, it concerns all stages of consumer decision-making process: pre-purchase, purchase and post purchase (Morgan & Birtwistle, 2009). This includes "acquiring, storing, using, maintaining, and discarding" of clothing (Brookshire & Hodges, 2009, p. 179). In other words, sustainable consumption describes the cycle from the moment when the idea of purchasing a product comes to light until the product's life span has ended or the consumers decide there is no longer a need for the product. Hence, for conducting a research on sustainable consumption it is noteworthy to understand consumer behavior throughout the various phases of use. Thus, the following section aims to better understand of the elements included in the last phase of sustainable consumption including reduce, reuse and recycle.

3.4.1 Reduce, Re-use and Recycle

As previously said, sustainable consumption encompasses not only the purchase of sustainable products, but also the way we care for and preserve our clothing, and how we dispose of old clothing. One of the best ways to minimize waste from the textile and clothing industry is to adapt to waste management solutions, known as reduce, reuse and recycle. Reuse means to use clothing on more than one occasion; *reduce* means to minimize the environmental footprint of your wardrobe by purchasing clothing that is produced in an environmentally friendly manner; *recycling* is the process of giving old garments new life (Fletcher, 2014). By implementing these methods, companies can extend the lifespan of garments and materials before the products are thrown out. This waste management is a part of the post-purchase stage of

consumption, which is the final element of the consumer behavior cycle. It concerns the way clothing is disposed of. In other words, it is about whether consumers reduce, reuse, and recycle their clothing or simply throw them away to make room for the latest fashion trends (Morgan & Birtwistle, 2009). Recycling refers to the process of creating new products from materials of existing products that would otherwise be thrown out. The outdoor and sportwear brand Patagonia, is known for its high-quality recycled clothing which they make from old consumer waste. Recently, the brand promoted its Common Thread Program, which collects used polyester clothing and makes new products using the fibre-to-fibre recycling method. Using recycled polyesters rather than virgin polyester has significant impact on the environment by saving up to 76% on energy and 71% of CO_2 in the production process (Fletcher, 2014). Other commonly used recycling methods include downcycling or upcycling (Niinimäki, 2013). During this process one of the major challenges that companies face is the loss of quality acquired from the recycled materials (Henninger et al., 2017). The use of the downcycling method downgrades the value of the product, resulting in a lower in the overall quality of the end product. However, the opposite effects happen during the upcycle method, where the process enhance the perceived value of the original product (Fletcher, 2014). Reusing is another approach for consumers to reduce their clothing consumption's environmental footprint (Fletcher, 2014). For instance, instead of throwing away used clothing that is still in good shape but is no longer useful to the consumer, consider donating it to family and friends or to a charitable organization such as the Red Cross. Moreover, selling old items in secondhand stores or on the internet, has grown more prominent among fashion consumers. According to the Environmental Protection Agency (EPA) textile waste that ended in landfills accounted for 11.3 million tons in 2018 compared to 6.28 million tons in 2000. In the same time period, the estimated volume of recycled textile was just 2.5 million tons in 2018, compared to 1.3 million tons in 2000 (EPA, 2019). This suggests that most clothes purchased end up in landfills rather than being recycled or given away to others. According to a study by Morgan and Birtwistle (2009), young female clothing consumers are unaware of the importance of recycling clothing. The study also highlights that this segment of consumers agrees that there is a lack of understanding of the clothing disposal practices, as well as how clothing is created such as the environmental effects of production from material and fiber (Morgan & Birtwistle, 2009). In Europe, the average consumer purchases approximately 26 kilos of textiles every year and throws away 11 kilos yearly (Manshoven et al., 2019). According to previous studies, consumers who are

concerned about environmental issues are more likely to engage in behavior that helps to reduce their environmental footprint, such as conserving water and electricity, only running the washing machine when it is full, and recycling plastic (Joy et al., 2012; Morgan & Birtwistle, 2009). Yet, these environmental concerns do not appear to be reflected in fashion purchases (Joy et al., 2012). As a result, it's vital to inform consumers on the environmental benefits and consequences of their clothes care, disposal, and recycling activities. Although recycling and reusing have been shown to positively impact the environment, they will not lead to a breakthrough in fashion sustainability on their own because they do not affect consumer purchases and consumption (Fletcher, 2014). With that said, it is critical to examine recycling and reuse practices as a healthier alternative to disposing of clothing waste; nonetheless, a dramatic shift in consumer behavior is still required to develop a more sustainable fashion business (Fletcher, 2014).

3.5 Theories

3.5.1 Theory of planned behavior (TPB)

The theory of planned behavior (TPB) was selected as the appropriate theory for this thesis due to its relevance to the focus of the research paper, which is to investigate how knowledge on environmental issues influences consumer consumption towards sustainable fashion. In addition, to gain insights on how consumers understand the concept of sustainability and their level of knowledge on environmental issues. This theory is widely known application among researchers, especially when studying environmental behavior within the textile and clothing industry. The Theory of planned behavior (TPB) is an addition to the theory of reasoned action (TRA) developed by Martin Fishbein and Icek Ajzen. It is concerned with the relationship between human beliefs and behavior (Ajzen, 1991). In simple terms, TPB suggest that a behavior can be seen as a result of salient information, or beliefs that are significant to a certain behavior (Ajzen, 1991). According to Ajzen (1991) an individual´s intention is a critical element in predicting people´s behavior. Intentions predict how far people are willing to go in order to perform a certain behavior. In theory, the more a person is willing to perform specific behavior the higher the chances are of that intention to lead to an actual behavior (Ajzen & Fisbbein, 1974). Research has shown that when it comes to consumer behavior towards slow fashion, people´s attitude do not necessarily match the actual behavior performed (Kong et al., 2016)This phenomenon is better known as the attitude-action

gap. It implies that despite the fact that consumers are environmentally conscious, doesn´t necessarily translate into purchases on sustainable products (Kong et al., 2016). Instead, consumer´s desire to act in a sustainable manner is often outweighed by other elements such as convenience or other uncontrolled factors. In this context, the Theory of Planned behavior could be applied to explain this mismatch between consumers attitude and behavior. Furthermore, the theory of planned behavior builds on the assumptions three core elements shape individual intention: subjective norms, attitudes, and perceived behavioral control as seen in figure 4 (Ajzen & Madden, 1986).
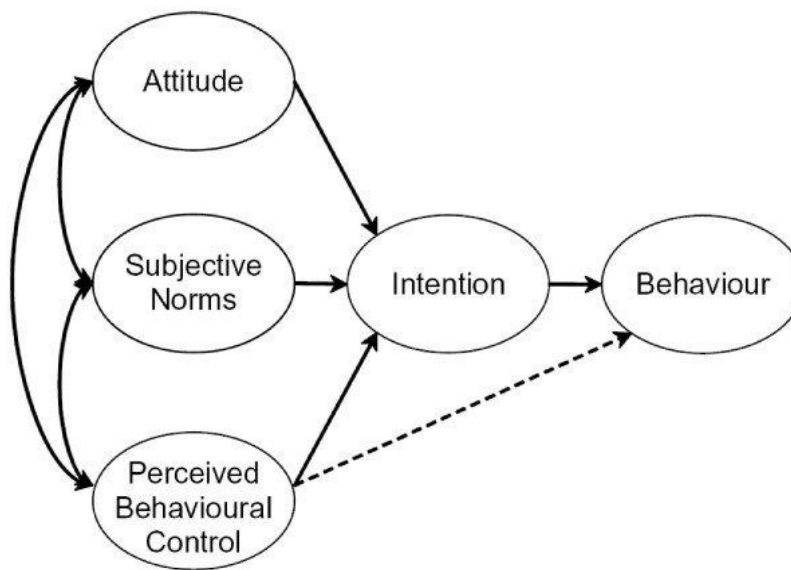
Figure 4 Theory of Planned Behavior (Ajzen, 1991)

Attitude as an construct refers to individuals feelings or opinions of a certain behavior. Individuals often form attitudes based on how they perceive the consequences of a given behavior. It means that a behavior that has desirable consequences in the eyes of the consumer gains more favorable attitude than behavior that is associated with an undesirable consequence. The second element is subjective norm. It concerns the social pressure of performing a given behavior. Finally, the perceived behavioral control is the construct which refers the level of complexity associated with performing a certain behavior. Moreover, this element is also what differentiate TPB to the theory of reasoned action (Ajzen, 1991). Perceived behavioral control takes into account the barriers and benefits that might arise when performing a certain behavior. In the case of sustainable fashion,

the control factors are for example price, style, trend and availability (Henninger et al., 2016). Due to these controllable factors, consumer that has high intention of performing a certain behavior, might be faced with barriers that prevent the behavior from happening. In other words, a consumer that has great concerns for the environment doesn't have the financial stability to purchase sustainable clothing based on the premium prices compared to the cheap clothing of fast fashion. Together, these abovementioned components can be used to understand people´s intention and its actual behavior. Therefore, by implementing this theory to the research process, the researcher can further understand consumers intention and attitudes concerning sustainable consumption as well as identifying ways to promote behavioral change towards more sustainable thinking.

4 Conceptual Framework

For the purpose of this thesis, the underlying conceptual model has been designed to provide a visual presentation of the relationship between the elements of the research in order better understand the research topic. A conceptual model is a tool that is used to depict the path to obtaining the results of a study by outlining all key variables and their relationships (Adom et al., 2018). Creating a conceptual framework supports the overall research process by providing a concise and coherent plan of the main objectives of the research. Thus, data collected for this thesis will be analyzed solely using the presented framework. Furthermore, by examining the existing literature on the research topic, the following factors have been identified as necessary to conduct the underlying research. This includes attitude, environmental knowledge, knowledge of the fashion industry, purchase intention, recycling behavior, and sustainable consumer behavior. The conceptual model of this thesis is further illustrated in figure 5.
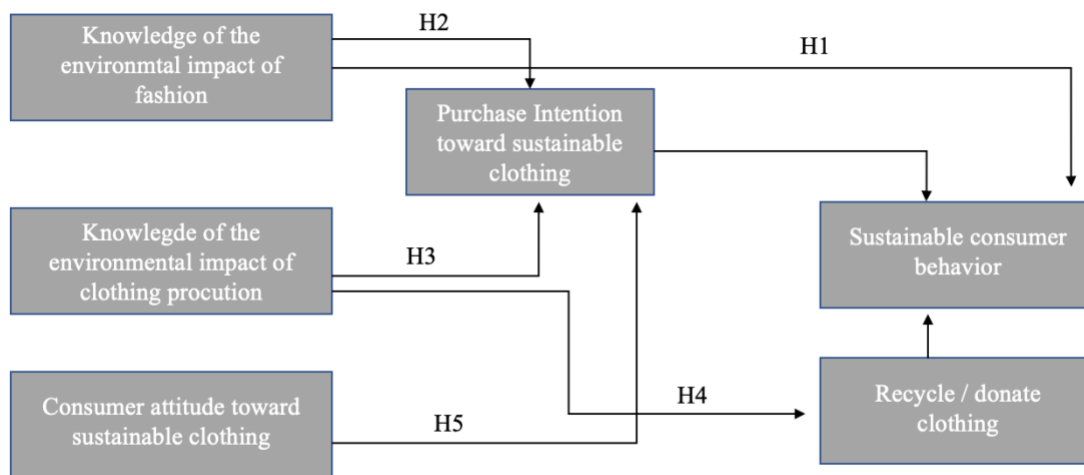
Figure 5: Conceptual Model (Own creation, 2022)

As seen in figure 5, the conceptual model for this research consists of six variables that highlight the main theories, concepts, and constructs that mediate sustainable consumer behavior. The literature review identified various constructs that influence sustainable consumer behavior. However, the researcher has decided to use a portion of them in this study merely. This is primarily

due to the project's size and scope, and the amount of time allocated for the research. The purpose of the conceptual model is to show how different variables including knowledge, and attitudes affect consumers' purchase intention towards sustainable clothing and recycling activities, thus leading to sustainable consumer behavior.

The first part of the conceptual framework relates to the variables of environmental knowledge. This model includes two variables concerning respondents' level of information concerning clothing production and knowledge of the fashion industry. It is perceived that individuals are more likely to purchase sustainable clothing if they hold more knowledge of the environmental impact caused by the fashion industry along with the cause of clothing production. Additionally, consumers that are more aware of the environmental impact caused by clothing production and their consumption habits are also more likely to participate in proper disposal and recycling practices. As a result, the following hypothesis has been created to measure to what extent the constructed knowledge has on various elements:

H1: Consumers that have more knowledge of environmental impact related to the fashion industry are more likely to act in an environmentally friendly manner
H2: The more awareness consumers have of the environmental impact of fashion will result in a higher likeliness to take the environment into account when purchasing clothing
H3: More knowledge of the environmental impact of clothing production will result in a higher likeliness to take the environment into consideration when purchasing clothing
H4: Consumers that have more knowledge of environmental impact of clothing production are more likely to recycle their clothing

Consumers' attitude toward sustainable clothing is the following construct presented in the conceptual framework. It is perceived that consumers which have favorable feelings towards clothing that is produced and designed sustainably are more likely to think about the environment when purchasing clothing than those that have an unfavorable perception of sustainability. Therefore, the following hypothesis intents to measure the influence of attitude on purchase intention toward sustainable fashion:

H5: Consumers attitude has positive impact on purchasing sustainable fashion

Furthermore, within the analysis part of the research, the presented hypotheses are to be tested as their results are discussed and presented to the reader. Additionally, this will further assist the researcher in understanding the relationships between the presented variables and answering the problem formulation.

5 Data analysis

In this chapter the researcher will present the data analysis process, and how it was conducted along with discussing the fundamental findings. The data obtained through the web survey has been analyzed with the support of SPSS software to provide a comprehensive and statistical analysis of the underlying dataset. Moreover, a reliability test will be presented concerning the variables implemented in the survey as well as the tested hypothesis and their conclusion.

5.1 Descriptive Statistics of the dataset

This chapter aims to present the main characteristics of the survey results to be able to make an initial assessment of the underlying dataset. The questionnaire was open for participation during a 11-day timespan in May 2022. In that time, a total number of 96 individuals participated in the survey. After filtering the dataset concerning the valid age range for this thesis, 74 respondents remain. Out of those respondents, 45 (60.8%) are female and 29 (39.2%) are males as demonstrated in table 3. This further indicates that there is a relatively equal distribution regarding the gender of the survey participants. Women, on the other hand, make up the majority of the members of the social media communities used for the data collecting.

Demographics	Outcome	Responses N	Percentage
Gender	Female Male Other	45 29 0	60.8% 39.2% 0%
Age	25-34 35-41 Missing	52 21 1	70.3% 28.4% 1.4%

Table 3: Demographics of survey results (Own creation, based on SPSS, 2022)

As the scope of this thesis was to investigate the influence of environmental knowledge on sustainable behavior among millennials, the remaining age range is categorized into two groups: 25-34 years old and 35-41 years old. According to the data, 52 (70.3%) of respondents are between

the ages of 25 and 34, whereas only 21 (28.1%) are between the ages of 35 and 41, and 1 respondent didn´t respond. To get a more concise overview of the respondent's demographics, Table 4 shows the gender distribution in terms of age.

Age based on gender distribution	25-34		34-41	
	N	Percentage	N	Percentage
Female	29	55.8%	15	71.4%
Male	23	44.2%	6	28.6%
Other	0	0%	0	0%

N= 73

Table 4: Gender distribution between each age group (Own creation, based on SPSS, 2022)

As shown in Table 4, the majority of respondents within the age group 25 to 34 are female participants (55.8%) and for the age group between 34-41 (71.4%). In terms of the male participants, 44.2% of the age group 25-34 are male, whereas 28.6 of participants between 34-41 are male.

Table 5 depicts the distribution of education degree between participants. The majority of participants have either finished a master's degree or are currently enrolled in one or 34 (45.9%), whereas 16 (21.6%) of respondents hold either a bachelor´s degree or high school diploma or equivalent. As for the lower education degree, only 3 (4.1%) respondents have no formal education, and 4 (5.4%) have less than a high school diploma. Indicating that participants of this research are among the higher educated people. Furthermore, to compare the sustainable behavior between genders, a more detailed overview of the distribution of educational degrees within genders (as seen in Appendix 3).

Education	N	Percentage
No formal education	3	4.1%
Less than a high school diploma	4	5.4%
High school degree or equivalent	16	21.6%
Bachelor´s degree	16	21.6%
Master´s degree	34	45.9%
Ph.D. or higher	0	0%
Missing value	1	1.4%

N= 74

Table 5: Distribution of education degree (Own creation, based on SPSS, 2022)

As for the research objective, a few research questions have been designed to systematically understand, interpret and analyze the underlying dataset. According to the applied research questions, this chapter of the thesis will be separated into a few sub-sections. Each research question is made up of a variety of survey questions (as seen in table 1, p. 22), which will be discussed in-depth in the following section.

Research question 5- *Do participants identify themselves as sustainable consumers and do they actively engage in sustainable behavior?*

The researcher starts by asking respondents to address their concerns and attitude toward sustainability and environmental concerns. According to Table 6, the majority of the survey participants claim to be concerned about the issue of climate change. According to the results, 68.9% of participants strongly agree (29.7%) or agree (39.2%) that climate change is of high concern to them. However, 13 (17.6%) of the respondents argue that they are impartial when it comes to climate change, whereas only 10 (13.5%) participants have either little or no concerns about the issue of climate change.

Consumers concerns for Climate change	N	Percentage
Strongly disagree	2	2.7%
Disagree	8	10.8%
Neither agree nor disagree	13	17.6%
Agree	29	39.2%
Strongly agree	22	29.7%

N=74

Table 6: Consumer concerns for climate change (Own creation, based on SPSS, 2022)

As for the gender distribution regarding the issue of climate change, it is evident that female participants are more concerned about the issue of climate change than male correspondents (as seen in Appendix 4). As for the female participants, 39 (86.7%) either strongly agree or agree with the given statement regarding concerns of the issue of climate change while only 2 (4.4%) either strongly disagree or disagree with it. However, as for the male participants, only 12 (41.4%) either strongly agree or agree, whereas 8 (23.5%) either strongly disagree or disagree. On the other hand, 9 (31%) of male participants are objective about the issue of climate change.

Question 2 asks respondents about their environmental behavior and whether they make an effort to reduce their carbon footprint. As illustrated in Table 7, the majority of respondents claim that they actively try to reduce their environmental footprint, where 12 (16.2%) strongly agree and 22 (29.7%) agree with that statement. However, 21 (28.4%) respondents neither agree nor disagree and are, therefore, objective in their environmental behavior. However, 20 (25.7%) of respondents strongly disagree or disagree with the notion that decreasing their environmental footprint is something they actively try to lower. This indicates that approximately a quarter of the respondents do not deliberately act in favor of being environmentally conscious. If we look at these results in terms of gender (as seen in Appendix 4), we can see that on average female participants are more likely to act in an environmentally friendly manner and intentionally reduce their environmental footprint compared to the male participants. In this context, the female respondents 3 (6.7%)

strongly disagree, 6 (13.3%) disagree, 13 (28.9%) neither agree nor disagree, 12 (26.7%) agree, and 11 (24.4%) strongly agree. For the male respondents, 4 (13.8%) strongly disagree, 6 (20.7%) disagree, and 8 (27.6%) neither agree nor disagree while 10 (34.5%) agree and only 1 (3.4%) strongly agree. This is further illustrated in Appendix 3.

Reducing carbon footprint	N	Percentage
Strongly disagree	7	9.5%
Disagree	12	16.2%
Neither agree nor disagree	21	28.4%
Agree	22	29.7%
Strongly agree	12	16.2%

N = 74

Table 7: Consumers attempt to reducing carbon footprint (Own creation, based on SPSS, 2022)

Question 3 asked respondents if they inherently believe that being green consumers. The results in table 8, revealed that 10.8% of the respondents highly disagree and 18.9% disagree with the claim of considering themselves to be a green consumer, however, nearly half of the respondents, 45.9%, are impartial to the term, indicating they neither agree nor disagree, while 21.6 percent agree and only 2.7 percent strongly agree. This means that only a quarter of the respondents consider themselves to be green consumers, and nearly a third do not.

Green consumer beliefs	N	Percentage
Strongly disagree	8	10.8%
Disagree	14	18.9%
Neither agree nor disagree	34	45.9%
Agree	16	21.6%
Strongly agree	2	2.7%

N= 74

Table 8: Green consumer beliefs (Own creation, based on SPSS, 2022)

Moreover, according to the findings, 41.4% of male participants do not consider themselves to be green consumers, while only 13.8% do. As for the female respondents, 22.2% do not consider themselves green consumers while 31.1% claim to be. Nearly half of the replies for both genders neither agree nor disagree, indicating that half of all participants do not identify themselves as a green or anti-green consumer.

Question 14 suggests that the majority of participants claim to have a positive attitude toward sustainable fashion. More specifically, 60.8% either strongly agree (33.8%) or agree (27%) to generally having a positive attitude toward sustainable clothing, whereas 36.5% neither agree nor disagree and only 2.4% either strongly disagree (1.4%) or disagree (1.4%). As for the female participants, the majority of respondents claim to have a positive attitude. However, for the male participant's majority of neither agree nor disagree to this question (as seen in Appendix 4).

Consumer attitude	N	Percentage
Strongly disagree	1	1.4%
Disagree	1	1.4%
Neither agree nor disagree	27	36.5%
Agree	20	27.0%
Strongly agree	25	33.8%

N=74

Table 9: Consumer attitude (Own creation, based on SPSS, 2022)

Question 15 revealed that more than half of respondents claim to be concerned about the environmental, social, and ethical impact of the fashion industry. More specifically, 51.4% either strongly agree (25.7%) or agree (25.7%), while 33.8% neither agree nor disagree and 14.9% either strongly disagree (4.1%) or disagree (10.8%) about being concerned for the environmental, social, and ethical impact of fashion. Between gender groups, male participants more often claim to have little or no concerns for the environmental, social, and ethical impact of fashion compared to female participants.

Concerns for environmental, social and ethical impact of the fashion industry	N	Percentage
Strongly disagree	3	4.1%
Disagree	8	10.8%
Neither agree nor disagree	25	33.8%
Agree	19	25.7%
Strongly agree	19	25.7%

N= 74

Table 10: Environmental, social and ethical concerns for fashion (Own creation, based on SPSS, 2022)

Question 16 indicates that the majority of respondents believe that purchasing sustainable clothing has a good impact on the environment. 60.8% of respondents strongly agree (24.3%) or agree (36.5%), compared to 23% who neither agree nor disagree and 16.3% who either strongly disagree (1.4%) or disagree (14.9%). The findings also imply that female participants are more likely to assume that purchasing clothing made in a sustainable manner has a positive environmental impact.

Question 17 revealed that the majority of respondents do not think about the environmental impact when purchasing clothing. More specifically, 52.7% either strongly disagree (25.7%) or agree (27.0%), while 17.6% neither agree nor disagree and 29.8% either strongly agree (9.5%) or agree (20.3%). Indicating that although people claim to be concerned for environmental issues this seems to not be of importance when purchasing clothing.

Purchase intention of sustainable clothing	N	Percentage
Strongly disagree	19	25.7%
Disagree	20	27.0%
Neither agree nor disagree	13	17.6%
Agree	15	20.3%
Strongly agree	7	9.5%

N= 74

Table 11: Purchase intention of sustainable clothing (Own creation, based on SPSS, 2022)

Question 18 revealed that when it comes to clothing purchases, style, quality, and price are most important, whereas brand, availability, and newness seem to have been of less importance to participants. This also suggest that style, quality, and price are factors that are seen as more important than environmental impact. The findings further supports the results from question 17, which indicates that the environment is not of importance when purchasing clothing. The results are further illustrated in table 11.

Attributes that describe clothing purchase behavior	N Response
Style	55
Quality	54
Price	59
Environmental impact	21
Brand	20
Availability	11
Newness- latest trend	8

Table 11: Attributes that describe clothing purchase behavior (Own creation, based on SPSS, 2022)

Question 19 indicates that 40.6% either strongly agree (6.8%) or agree (33.8%), and 24.3% neither agree or disagree, whereas, 33.8% either strongly disagree (8.1%) or disagree (25.7%) of the willingness to pay a higher price for sustainable fashion. This suggest that almost half of respondents are willing to pay more for clothing that is produced sustainably. The findings also indicate that the majority of female participants are willing to pay a higher price for sustainable clothing, while the majority of male participants claims to not be willing to pay the higher price (as seen in Appendix 5).

Questions 20, 21, and 22 are true/false statements regarding people´s purchase intention toward sustainable fashion. The findings indicate that the majority of participants claim that a lower price of sustainable clothing would lead to higher purchase intention of sustainable clothing. It also suggests that more knowledge of clothing production practices would lead to higher purchase intention among participants. Lastly, the results indicate a majority of participants claim to take fashionable needs such as price, style, and brand over environmental concerns when purchasing clothing (as seen in Appendix 5).

Research question 2 - How do consumer understand sustainability in general and in connection to the fashion industry?

Question 4 is divided into six sub-sections based on a participant's knowledge and understanding of the fashion industry. The first section shows that most participants are familiar with the term "fast fashion." According to the findings, 55.4 % of respondents strongly agree (33.8 %) or agree (21.6%) that they are aware of what fast fashion is, while 18.9% do not agree or disagree. Furthermore, 25.7% of respondents either strongly disagree (10.8%) or disagree (14.9%) with being aware of the term "fast fashion." The results further suggest that male participants have less knowledge and understanding of what fast fashion means compared to female participants.

Awareness of fast fashion	N	Percentage
Strongly disagree	8	10.8%
Disagree	11	14.9%
Neither agree nor disagree	14	18.9%
Agree	16	21.6%
Strongly agree	25	33.8%

N= 74

Table 12: Awareness of the term fast fashion (Own creation, based on SPSS, 2022)

The second section of the question indicates that 39.2% of participants either strongly disagree (14.9%) or disagree (24.3%), while 33.8% of participants either strongly agree (14.9%) or agree (18.9) of acknowledging and understanding the term slow fashion, whereas, 27.0% neither agree nor disagree. Moreover, the data also indicates that almost half of male participants do not know what slow fashion means.

Awareness of slow fashion	N	Percentage
Strongly disagree	11	14.9%
Disagree	18	24.3%
Neither agree nor disagree	20	27.0%
Agree	14	18.9%
Strongly agree	11	14.9%

N= 74

Table 13: Awareness of the term slow fashion (Own creation, based on SPSS, 2022)

When asked if they were aware of the term sustainable fashion, the statistics revealed that 50% of respondents either strongly agree (20.3%) or agree (29.7%), while 21.7% either strongly disagree (9.5%) or disagree (12.2%) about having awareness of what the concept of sustainable fashion means, whereas 28.4% neither agree nor disagrees. In terms of gender, it is clear that a greater percentage of male participants understand the term sustainable fashion compared to the concept of slow fashion.

Awareness of the term sustainable fashion	N	Percentage
Strongly disagree	7	9.5%
Disagree	9	12.2%
Neither agree nor disagree	21	28.4%
Agree	22	29.7%
Strongly agree	15	20.3%

N= 74

Table 14: Awareness of the term sustainable fashion (Own creation, based on SPSS, 2022)

When asked about the difference in quality between slow fashion and fast fashion, 45.9% of participants either strongly agree (21.6%) or agree (24.3%), whereas 32.4% either strongly disagree (13.5%) or disagree (18.9%) on understanding the difference in quality between these two terms. Moreover, 21.6% claim to neither agree nor disagree with understanding the quality difference. A significant majority of female participants are aware of the difference between the quality of slow fashion and fast fashion. Surprisingly, the same percentage of male participants agreed and disagreed with the quality difference assertion. However, 31% of male participants said they neither agreed nor disagreed with the statement.

Awareness of quality between clothing of fast and slow fashion	N	Percentage
Strongly disagree	10	13.5%
Disagree	14	18.9%
Neither agree nor disagree	16	21.6%
Agree	18	24.3%
Strongly agree	16	21.6%

N= 74

Table 15: Awareness of quality difference between clothing of fast fashion and slow fashion (Own creation, based on SPSS, 2022)

When asked about the knowledge of the environmental impact caused by the fast fashion industry, the majority of participants claim to be aware of the impact caused by fast fashion. More specifically, 59.5% either strongly agree (23.0%) or agree (36.5%), whereas, 23% either strongly disagree (10.8%) or disagree (12.2%) and 17.6% neither agree nor disagree. The findings further indicates that female participants are more aware of the environmental impact caused by the fashion industry overall (as seen in Appendix 7).

Awareness of the environmental impact of fast fashion	N	Percentage
Strongly disagree	8	10.8%
Disagree	9	12.2%
Neither agree nor disagree	13	17.6%
Agree	27	36.5%
Strongly agree	17	23.0%

N= 74

Table 16: Awareness of the environmental impact of fast fashion (Own creation, based on SPSS, 2022)

When asked about the environmental impact of slow fashion, large portion of the respondents (35.1%) claimed to neither agree nor disagree with being aware of the environmental impact caused by slow fashion. Moreover, 36.5% of participants either strongly disagree (13.5%) or disagree (23.0%), while 28.8% either strongly agree (16.2%) or agree (12.6) about being aware of the impact of slow fashion on the environment. Indicating that most of the respondents have insufficient knowledge of what the term slow fashion means.

Awareness of the environmental impact of slow fashion	N	Percentage
Strongly disagree	10	13.5%
Disagree	17	23.0%
Neither agree nor disagree	26	35.1%
Agree	9	12.6%
Strongly agree	12	16.2%

N= 74

Table 17: Awareness of the environmental impact of slow fashion (Own creation, based on SPSS, 2022)

Question 5 asked respondents to identify which attributes they associate with sustainable fashion. Respondents most often link the use of recycled material, high quality/durable clothing, and ethical and fair trade to the concept of sustainable fashion. Whereas, less often resource-saving technologies and techniques, low-impact care, and least with being expensive, as can be seen in table 20. This indicates that the majority of respondents associate sustainable fashion with materials, quality, ethics, and fair trade, but less with low-impact care or pricing.

Attributes that describe sustainable fashion	N Response
Used of recycled material	52
High quality/ durable clothing	40
Low-impact care	21
Expensive	12
Ethical and fair trade	36
Good supply chain ethics	31
Resource-savings technologies and techniques	24

Table 18: Attributes associated to sustainable fashion (Own creation, based on SPSS, 2022)

Question 6 revealed that 94.6% of survey participants correctly answered this true/false statement, indicating that they are aware of how much textile and garment waste ends up in landfills each year. Surprisingly, the data further suggest that female participants have less knowledge of textile and garments waste compared to the male participants (seen in Appendix 6).

Question 7 indicates that participants have a good understanding of the environmental challenges caused by the fashion industry, such as how much water it takes to produce clothing. Moreover, 93.2% of participants correctly answered this true/false statement, whereas 6.8% answered incorrectly. Furthermore, female respondents appear to have a better understanding of the water consumption required to produce clothing compared to male respondents (as seen in Appendix 6).

Question 8 revealed that participants know less about the materials used in clothing production than they do about the environmental impact of the production process. Although, the majority of participants 75.7% correctly answered this true/false statement, only a portion (24.3%) got it incorrectly. The results further indicate that male respondents are less informed about the materials used for clothing compared to female respondents.

Question 9 revealed that the majority of participants are aware of the connection between sustainability and the fashion industry. The responses suggest that 50% of participants either strongly agree (23.0%) or agree (27.0%) about being aware of how sustainability and fashion go together, while 24.3% neither agree nor disagree, whereas 25.7% either strongly disagree (1.4%) or disagree (24.3%). Suggesting that a part of respondents do not understand how sustainability is linked to the fashion industry. As for the gender groups, the findings suggest that female participants are more aware of the link between the concept of sustainability and the fashion industry compared to the male participants (see in Appendix 7).

Connection between sustainability and fashion	N	Percentage
Strongly disagree	1	1.4%
Disagree	18	24.3%
Neither agree nor disagree	18	24.3%
Agree	20	27.0%
Strongly agree	17	23.0%

N= 74

Table 19: Understanding of the connection between sustainability and fashion (Own creation, based on SPSS, 2022)

Research question 4- Are consumers aware and informed of the environmental impact of clothing production and sustainable business practices?

Question 10 revealed that respondents are relatively aware and informed of the social issues related to clothing production. The responses suggest that 67.6% either strongly agree (31.1%) or agree (36.5%) with the statement that they are aware of the social issues caused by the fast fashion industry, while 20.3% claim to either strongly disagree (2.7%) or disagree (17.6%), whereas, 12.2% neither agree nor disagree to the question. The results also reveal that both female and male participants are on average more alert and knowledgeable about social issues surrounding apparel production (as seen in Appendix 8).

Question 11 recognized that majority of respondents claim to be aware of environmental issues such as waste and pollution caused by the production of clothing. The results indicate that 70.2% of participants either strongly agree (29.7%) or agree (40.5%) with the claim of being aware of environmental issues such as pollution and waste from clothing production, while only 6.8% either strongly disagree (1.4%) or disagree (5.4%). Female participants claim to be more conscious of the environmental impact of clothes than male participants. Also, a large proportion of male participants (34.5%) are objective in their awareness of the environmental impact of clothing production.

Question 12 found that the majority of respondents believe they are unaware of companies' environmental, social, and ethical actions. The results suggest that 53.5% of participants either strongly disagree (13.5%) or disagree (40.5), while 21.7% either strongly agree (6.8%) or agree (14.9%) and 24.3% neither agree nor disagree about being well informed of a company's environmental, social, and ethical policies. Furthermore, most of female and male participants are unaware of companies' sustainable efforts (as seen in Appendix 8).

Question 13 revealed that the large portion of the respondents generally find it difficult to find information on sustainable clothing. According to the results, 47.3% of participants either strongly agree (18.9%) or agree (28.4%) that finding information on brands that follow sustainable standards is difficult, while 35.1% neither agree nor disagree with the statement that information

on sustainable clothing is hard to come by, whereas, only 17.6% of respondents state that it is not difficult to find information on which brands follow sustainable standards. It is also evident that both female and male participants have more difficulty finding information on a brand that follows sustainable standards. However, the findings also show that female individuals generally find it less challenging to find information on sustainable brands than male participants (as seen in Appendix 8).

Research question 3 - *Are consumers aware of the environmental benefits of recycling and do they actively participate in recycling activities of clothing?*

Question 23 indicates that the majority of participants are aware of the term reduce, reuse, and recycle. More specifically, 72.9% either strongly agree (37.8%) or agree (35.1%), whereas only 13.6% either strongly disagree (1.4%) or disagree (12.2%) and 12.2% neither agree nor disagree of being aware of the term. Moreover, participants are asked whether they are aware of the environmental impact of recycling. The majority claim to be aware of the environmental impact of recycling activities and 16.2% neither agree nor disagree. However, interestingly, almost one-fourth (24.4%) of participants claim to not be aware of the environmental impact of recycling. Out of the respondents, 79.8% either strongly disagree (67.6%) or disagree (12.2%) and 6.8% neither agree nor disagree. Although, 12.2% either strongly agree (1.4%) or agree (10.8%), indicating that 12.2 % claim to use their clothing, on average, only a few times before getting rid of them.

Reduce, Reuse and Recycle	N	Percentage
Strongly disagree	1	1.4%
Disagree	9	12.2%
Neither agree nor disagree	9	12.2%
Agree	26	35.1%
Strongly agree	28	37.8%

N = 73

Table 20: Understanding of the term Reduce, Reuse and Recycle (Own creation, based on SPSS, 2022)

Environmental impact of recycling clothing	N	Percentage
Strongly disagree	1	1.4%
Disagree	17	23.0%
Neither agree nor disagree	12	16.2%
Agree	25	33.8%
Strongly agree	18	24.3%

N = 73

Table 21: Environmental impact of clothing recycle (Own creation, based on SPSS, 2022)

Question 24 revealed that 83.8% of participants own their clothes at least for more than a year before throwing them out. More specifically, 20.3% answer 1-3 years, 37.8% answer 3-5 years, and 25.7% claim to have their clothing for more than 5 years. Although, 10.8% own their clothing for less than a year before disposing of it. The results also suggest that male participants are more likely to dispose of clothing within a year of purchase (as seen in Appendix 9).

Question 25 indicates that the majority of the participants either donate or give their clothing to family and friends rather than throwing them away after stopping using them. Meaning that most participants actively participate in the recycling of their clothing beyond its usage. More specifically, out of the respondents 41 of them give it to family and friends, 49 donate clothing, 23 sell it in either second-hand stores or market place, and 16 throw it in the households garbage.

Disposal activities	N	Percentage
Give to family and friends	41	55.4%
Bin donation	49	66.2%
Trash	16	21.6%
Marketplace	23	31.1%

Table 22: Participants disposal activities (Own creation, based on SPSS, 2022)

5.2 Reliability testing

As previously mentioned in the methodology chapter, it is critical to measure the reliability of the survey, to ensure the accuracy of the variables used in the research. Since this research has multiples elements that aim to measure the same underlying construct, the *Cronbach's alpha* test is the most suited method to access the overall reliability of the research (Timming, 2022). The Cronbach´s alpha score ranges from 0-to 1, with 0 suggesting that there is no internal reliability, whereas 1 indicates a perfect reliability score (Bryman, 2012). According to Timming (2022), *Cronbach´s alpha* level above 0.700 implies an acceptable level of reliability. However, the reliability score can differ between researchers. Some of which adapt to a slightly lower level of reliability value, suggesting that a reliability level higher than 0.6 is good and above 0.5 shows moderate internal reliability (Bryman, 2012). However, as some of the variables in the research are measured in terms of nominal scale, the use of KR20 or Kuder-Richardson- 20 test will be implemented to measure the internal reliability of these given variables. Nevertheless, there is no distinct difference between the method of KR20 and the Cronbach's alpha test, therefore, the results are interpreted in the same way using identical values.

Reliability Statistics on variables	Cronbach´s alpha	N of items
Attitude	0.836	6
Knowledge of the fashion industry	0.812	14
Knowledge of clothing production	0.608	4
Purchase intention	0.538	7
Recycle	0.780	2

Table 23: Cronbach´s alpha values (Own creation, based on SPSS, 2022)

Table 26 illustrates the findings conducted from the *Cronbach´s alpha* internal reliability test of the survey variables. It indicates that four variables, more specifically, attitude, knowledge of the fashion industry, knowledge of clothing production, and recycling are affirmed to have an acceptable level of reliability. Purchase intention, on the other hand, has a slightly questionable level of reliability, albeit the researcher regards it as moderate and thus accepts it. Several factors may contribute to this low internal reliability score for purchase intention. For example, multidimensionality or low sample size (Bryman, 2012).

5.3 Testing of hypothesis

The hypotheses that have been constructed to draw conclusions about the proposed conceptual framework are examined in the following chapter. To test the conceptual model, five hypotheses were created in total.

The method used for analyzing the hypothesis will be described briefly in this paragraph. As mentioned in chapter 4, five hypotheses are developed in this project. This chapter aims to determine whether there is a correlation between the variables in order to confirm whether the tested assumptions are true or false. To determine the significance of the results, the hypothesis will be tested using multivariate linear regression and an ANOVA test. That's because multivariate regression examines if there's a relationship between several variables; in this situation, the y (dependent variable) is influenced by many x (independent variables) (Timming, 2022).

H1: Consumers that have more knowledge of environmental impact related to the fashion industry are more likely to act in an environmentally friendly manner

For this model summary, connection between sustainability and fashion, the impact of fast fashion, and the impact of slow fashion are the independent variables grouped to identify whether they as combined can predict participants behavior in reducing environmental footprint. The results are shown in Table 27. In multivariate regression, the adjusted R square is the value that needs to be viewed. The adjusted R square measures the variance of the dependent variable and how much it is influenced by the independent variables (Timming, 2022). According to the findings, the three independent variables account for 20.9% of the variance in the dependent variable environmental footprint.

Model Summary

Model	R	R Square	Adjusted R square	Std.Error of the Estimate
1	.491a	.242	.209	1.065

a. Predictors: (Constant), Connection between sustainability and fashion, Impact of fast fashion, Impact of slow fashion

Table 24: Model Summary: Knowledge of the fashion industry and Environmental footprint (Own creation, based on SPSS, 2022)

The significance of the model reflecting the multivariate regression analysis should next be evaluated using the results of the ANOVA test. Moreover, the ANOVA test identifies whether the test results are significant. More specifically, if the value of R square from the model summary is greater than zero (Timming, 2022). According to table 28, there is a statistically significant relationship between the variables of Environmental Footprint and Environmental impact of Fashion elements due to the given p-value (sig.) being p <.001 as the p-value is less than 0.05 when considering a confidence interval of 95% (Timming, 2022). P-value that is lower than the alpha level, suggest statistically significant results. In other words, a 0.05 p-value shows that there is a 5% probability that the results from the sample do not apply to the entire population (Timming, 2022).

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1				7.430	<.001b
Regression	25.261	3	8.420		
Residual	79.334	70	1.133		
Total	104.595	73			

a. Dependent Variable: Environmental Footprint
b. Predictors: (Constant), Connection between sustainability and fashion, Impact of fast fashion , Impact of slow fashion

Table 25: ANOVA: Knowledge of the environmental impact of fashion and Environmental Footprint (Own creation, based on SPSS, 2022)

After the ANOVA test has been conducted and it has proved that there exists a significant link between the independent variables (Connection between sustainability and fashion, Impact of slow fashion, and impact of fast fashion) and the dependent variable Purchasing behavior, each independent variable is investigated by examining the Coefficient. Table 29 illustrates the coefficient results given from the multivariate regression analysis.

Coefficient

Model	B	Std.Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	1.287	.440		2.927	.005	.410	2.164
Impact of fast Fashion	.167	.144	.178	1.162	.249	-.120	.454
Impact of slow Fashion	.058	.150	.061	.389	.698	-.241	.357
Connection Between Sustainability And fashion	.355	.129	.337	2.762	.007	.099	.612

a. Dependent variable: Environmental Footprint

Table 26: Coefficient: Knowledge of the environmental impact of fashion and environmental Footprint (Own creation, based on SPSS, 2022)

With the p-value of 0.249, 0.698, and 0.07, all of the independent variables (impact of fast fashion, impact of slow fashion, and connection between sustainability and fashion) show a p-value that is greater than 0.05. This indicates that awareness of the environmental impact caused by fast fashion and slow fashion along with the understanding of the connection between sustainability and fashion is not a significant predictor of consumers behavior on actively trying to reduce their environmental footprint.

When the independent variables are equal to 0, the constant B_0 value refers to the regression line's intercept. In this case, since the B_0 has the value of 1.287, indicating that when the independent variables are held constant the slope of the regression line becomes 1.287.

Since the coefficient value of the first variable (impact of fast fashion) is 0.167, it means that a unit increase in the impact of fast fashion results in a unit increase in environmental footprint by 0.167. Similarly, as the coefficient value of the variable impact of slow fashion is 0.058, a unit increase in the impact of slow fashion corresponds to a unit increase in environmental footprint by the same value. Finally, the variable connection between sustainability and fashion has the coefficient value of 0.355, thus indicating that a unit increase in this variable equals to a unit increase in environmental footprint by 0.355. Hence, based on these results, the impact of slow fashion, the impact of fast fashion, and the connection between sustainability and fashion are all considered to have a positive effect on the reducing environmental footprint. As a result, a higher level of knowledge of environmental impact related to the fashion industry results in a higher likelihood to take environmental concerns into account when purchasing clothing.

H2: The more awareness consumers have of the environmental impact of fashion will result in a higher likeliness to take the environment into account when purchasing clothing

Table 30 shows the results from the model summary regarding hypothesis 2. The independent variables for this hypothesis are the impact of fast fashion and the impact of slow fashion, whereas purchasing behavior is the dependent variable. According to the adjusted R square value, these two independent variables account for 26.1% of the variance in Purchasing behavior.

Model summary

Model	R	R Square	Adjusted R square	Std.Error of the Estimate
1	.530a	.281	.261	1.137

a. Predictors:(Constant), Impact of fast fashion, Impact of slow fashion

Table 27: Model Summary: Knowledge of environmental impact of fashion and Purchase behavior (Own creation, based on SPSS, 2022)

The ANOVA test results are demonstrated in table 31. As mentioned above, if the p-value (sig.) is lower than $p< 0.05$ when considering a 95% confidence interval there is a statistically significant relationship between the variables (Timming, 2022). For this ANOVA test the p-value (sig.) between Knowledge on environmental impact of fashion elements and Purchase behavior is

p<.001 it shows that there is a statistically significant relationship between those constructs. Moreover, this means that the independent variables account for a significant measure of variance in the dependent variable, purchasing behavior.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1				13.876	<.001b
Regression	35.868	2	17.934		
Residual	91.767	71	1.292		
Total	127.635	73			

a. Dependent Variable: Purchasing behavior
b. Predictors: (Constant), Impact of slow fashion, Impact of fast fashion

Table 28: ANOVA: Knowledge on environmental impact of fashion and Purchasing behavior (Own creation, based on SPSS, 2022)

After it has been proved that there exists a significant relationship between the independent variables (Impact of slow fashion, and impact of fast fashion) and the dependent variable Purchasing behavior, each independent variable is examined to see how independently the variables influence purchasing behavior. That is done by investigating the coefficient, which is illustrated in table 32. According to table 32, the p-value for the variable Impact of slow fashion is greater than 0.05. This means that the impact of slow fashion is not a significant predictor of the dependent variable, purchasing behavior. However, the independent variable Impact of fast fashion equals a p-value of 0.05, indicating that this variable accounts for a significant amount of variance in purchasing behavior.

Moreover, the coefficient score of the independent variable impact of fast fashion is 0.437, which indicates that a unit increase in the impact of fast fashion correlates to a unit increase in purchasing behavior by 0.437. Similarly, the coefficient value of the impact of the slow fashion variable equals 0.148, indicating that a unit increase corresponds to an increase in purchasing behavior by that same value, 0.148. This further concludes that both knowledge of the environmental impact of fast fashion and slow fashion has a positive effect on purchasing behavior. Although, the influence of

fast fashion has a somewhat greater impact than on slow fashion understanding. As a result, the greater the participants' understanding of the environmental impact of fashion, the more likely they are to consider environmental issues while purchasing clothing.

Coefficients

Model	B	Std.Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	.652	.394		1.652	.103	-.135	1.438
Impact of fast Fashion	.437	.151	.421	2.888	.005	.135	.735
Impact of slow Fashion	.148	.154	.139	.956	.342	-.160	.455

a. Dependent Variable: Purchasing behavior

Table 29: Coefficients: Knowledge on the environmental impact of fashion and Purchase behavior (Own creation, based on SPSS, 2022)

H3: More knowledge of the environmental impact of clothing production will result in a higher likeliness to consider the environment when purchasing clothing

In order to test the third hypothesis, the independent variables: Sustainable business practices, Pollution and waste, and Social issues are grouped together to identify whether they can predict purchase behavior. Table 33 presents the results conducted from the model summary. Based on the findings, the three independent variables Social issues, Sustainable business practices, and Pollution and waste account for 26.6% of the variance in Purchase Behavior.

Model Summary

Model	R	R Square	Adjusted R square	Std.Error of the Estimate
1	.544a	.296	.266	1.133

    a.   Predictors:(Constant), Sustainable business practices, Pollution and waste, Social issues

Table 30: Model Summary: Knowledge of environmental impact of clothing production and Purchase behavior (Own creation, based on SPSS, 2022)

Furthermore, an ANOVA test was used to determine whether the test results were significant, as illustrated in table 34. The findings indicate that the p-value (sig.) is <.001 which means that there is a statistically significant relationship between the constructs (Timming, 2022). In other words, there is a significant relationship between knowledge of environmental impact of clothing production and purchasing behavior.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1				9.829	<.001b
Regression	37.831	3	12.610		
Residual	89.804	70	1.283		
Total	127.635	70			

  a. Dependent Variable: Purchasing behavior
  b. Predictors: (Constant), Sustainable business practices , Pollution and waste,
     Social issues

Table 31: ANOVA: Knowledge of the environmental impact of clothing production and purchasing behavior (Own creation, based on SPSS, 2022)

The coefficient results from table 35 indicate that all of the independent variables (social issues, pollution and waste, and sustainable business practices) have a p-value greater than 0.05, which determines that none of the tested independent variables significantly predict purchasing behavior. However, we can tell if the independent factors have a positive or negative effect on the dependent variable by looking at the B value in table 35. Since the coefficient score of the independent

variable social issues, pollution and waste, and sustainable business standards equal 0.196, 0.391, and 0.344, this means that a unit increase in these variables corresponds to a unit increase in the dependent variable by the same value, thus 0.196, 0.391 and 0.344 in purchasing behavior. In other words, it can be concluded that knowledge of the social issues, pollution and waste, and sustainable business practices on clothing production all have positive effects on purchasing behavior since the B score is a positive number. As a result, consumers who are more aware of the social and environmental challenges surrounding clothing manufacturing are more inclined to consider environmental issues when making clothing purchases.

Coefficients[a]

Model	B	Std.Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	-.556	.622		-.894	.374	-1.795	.684
Social Issues	.196	.139	.171	1.406	.164	-.082	.473
Pollution and waste	.391	.167	.276	2.336	.022	.057	.725
Sustainable Business Practices	.344	.125	.288	2.743	.008	.094	.594

a. Dependent Variable: Purchasing behavior

Table 32: Coefficients: Knowledge of the environmental impact of clothing production and Purchasing behavior (Own creation, based on SPSS, 2022)

H4: Consumers that have more knowledge of environmental impact of clothing production are more likely to recycle their clothing

For test this hypothesis, the researcher investigates the correlation between the elements of knowledge of environmental impact of clothing production to donation, in order to identify whether knowledgeable consumers are more likely to donate their clothing.

The elements of knowledge on the environmental impact of clothing production (Sustainable business practices, pollution and waste, and social issues) pose as the independent variable to investigate whether they can predict the dependent variable, Donation. According to the findings in table 36, the adjusted R square equals 0.083, meaning that the independent variable combined accounts for 8.3% of the variance of Donation.

Model Summary

Model	R	R Square	Adjusted R square	Std.Error of the Estimate
1	.349a	.122	.083	.446

a. Predictors: (Constant), Sustainable business practices , Pollution and waste , Social issues

Table 33: Model Summary: Knowledge of the environmental impact of clothing production and Donation (Own creation, based on SPSS, 2022)

Based on results from the ANOVA test, the p-value (sig.) is higher than the p-value of 0.05 for a 95% confidence level (Timming, 2022). This shows that there is no statistically significant relationship between the variables: knowledge of the environmental impact of clothing production and Donation.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1				3.105	0.32b
Regression	1.853	3	0.618		
Residual	13.330	67	0.199		
Total	15.183	70			

a. Dependent Variable: Donation
b. Predictors: (Constant), Sustainable business practices , Pollution and waste , Social issues

Table 34: ANOVA: Knowledge of the environmental impact of clothing production and Donation (Own creation, based on SPSS, 2022)

According to table 38, the coefficient levels of the independent variables pollution and waste, and sustainable business practices have a negative value of - 0.132 and -0.111, this indicates that a unit increase of both variables results in a unit decrease in a donation by -0.132 and -0.111. The coefficient value of social issues, on the other hand, equals 0.103, which suggests that for a unit increase in awareness of social issues the dependent variable donation will increase by 0.103. Moreover, it can be concluded that knowledge of social issues have a positive effect on donation, while pollution and waste and sustainable business practices have a negative effect on donation. As a result, consumers are more likely to donate their clothing based on the more knowledge they have regarding social issues, while sustainable business practices and pollution and waste are not significantly relevant.

Coefficients

Model	B	Std.Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	1.729	.246		7.023	<.001	1.237	2.220
Social issues	.103	.056	.258	1.843	.070	-.009	.215
Pollution and Waste	-.132	.068	-.265	-1.950	.055	-.268	.003
Sustainable Business Practices	-.111	.050	-.268	-2.226	.029	-.210	-.011

a. Dependent Variable: Donation

Table 35: Coefficients: Knowledge of the environmental impact of clothing production and Donation (Own creation based on SPSS, 2022)

H5: Consumers attitude has positive impact on purchasing sustainable fashion

Beliefs in sustainable fashion and consumer attitude are the independent variables used to investigate whether the relationship between consumer attitude and purchasing behavior. The findings are demonstrated in Table 39. As shown in table 39, the two independent variables beliefs about sustainable fashion, and consumer attitude, account for 16.2% of the variance in purchasing behavior.

Model Summary

Model	R	R Square	Adjusted R square	Std.Error of the Estimate
1	.430a	.185	.162	1.210

a. Predictors: (Constant), Positive beliefs on sustainable fashion , Positive consumer attitude

Table 36: Model Summary: Consumer Attitude and Purchase behavior (Own creation, based on SPSS, 2022)

In the ANOVA test, it is suggested that there is a statistically significant relationship between the variables: beliefs in sustainable fashion and consumer attitude toward purchasing behavior. That can be seen from the p-value (sig.), which is lower than the p-value of 0.05 for a 95% confidence interval (Timming, 2022). In other words, the variables: beliefs in sustainable fashion and consumer attitude significantly account for the variance in the dependent variable, purchase behavior.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1				8.062	<.001b
Regression	23.621	2	11.810		
Residual	104.014	71	1.465		
Total	127.635	73			

a. Dependent Variable: Purchasing behavior
b. Predictors: (Constant), Positive beliefs on sustainable fashion , Positive consumer attitude

Table 37: ANOVA: Consumer attitude and Purchase behavior (Own creation, based on SPSS, 2022)

The coefficient analysis shows that the p-value (sig.) for both the independent variables, consumer attitude and beliefs in sustainable fashion, is greater than 0.05. However, if we look at the coefficient values of the variables independently, we can see that the coefficient value of the variable consumer attitude equals 0.517, which suggests that if beliefs in sustainable fashion remain constant, a unit rise in consumer attitude, increases purchasing behavior by 0.517. Similarly, since the coefficient value for beliefs in sustainable fashion is 0.125, a unit increase will increase purchasing behavior by 0.125. Therefore, it can be concluded that both consumer attitude and belief in sustainable fashion have a positive influence on purchasing behavior. As a result, customers' attitudes about sustainable fashion results in a higher likeliness of purchasing items based on environmental considerations.

Coefficient

Model	B	Std.Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	.128	.640		.200	.842	-1.148	1.403
Positive Consumer attitude	.517	.181	.367	2.856	.006	.156	.878
Positive beliefs On sustainable Fashion	.125	.162	.099	0.772	.443	-.198	.449

a. Dependent Variable: Purchasing behavior

Table 38: Coefficients: Consumer attitude and Purchase behavior (Own creation, based on SPSS, 2022)

6 Discussion

The purpose of this chapter is to discuss the key findings of the research based on the previous chapter's results. The chapter will be divided into a few sub-sections according to the research questions stated in the introduction chapter.

Research questions 1 and 2 - The meaning of sustainability in the fashion industry and consumers' understanding of sustainability and sustainable fashion

According to the literature review, the term sustainability can be interpreted and understood in a variety of ways, depending on the context. For this research, the concept of sustainability is described according to the World Commission on Environment and Development, as addressing the needs of the current population without compromising to meet the needs of future generations (Brundland, 1987). Recently, sustainability has become a mainstream topic for both individuals and businesses which seek to act and behave in harmony with the environment. For this study, the definition of sustainable fashion used as guidance was the one defined by Niinimäki (2013), where sustainable fashion is described as the balance between environmental, economic, and social aspects regarding both businesses and design practices (Niinimäki, 2013). However, the terms sustainability and sustainable fashion can mean different things to different people. Thus, the definition on which this study is based could be different from the ones that some or many of the participants associated between sustainability and the fashion industry. In this study, survey participants were asked to identify which attributes they think described the term sustainable fashion. The findings suggest that most participants think of sustainable fashion in terms of recycled materials, high quality and durable clothing, and ethical and fair trade, whereas less about resource-saving technologies, low-impact care, price, and good supply chain ethics. Meaning that participants generally describe sustainable fashion following the social and environmental aspects of production. For example, fair wages, good working conditions, and reducing waste by producing clothing that lasts longer and uses recycled material in its production. These findings, however, contradict what has been discovered in the literature, which implies that consumers define sustainable fashion in terms of production and sourcing, rather than taking into account the social aspects of manufacturing, such as labor conditions and fair wages (Henninger et al., 2016).

Based on existing literature and the idea that sustainability can mean different things to different people, implementing a qualitative approach to the data collection as well would have supported the analysis even further by investigating whether the respondent identifies sustainability differently from the researcher or among other participants.

Interestingly, in theory, there seems to be a difference in the terms of slow fashion and sustainable fashion, although both concepts can be described in terms of clothing production with environmental, social, and economic aspects at play. The findings of this study, suggest that participants have better knowledge and understanding of what sustainable fashion means compared to slow fashion. Moreover, most of the participants claimed to be aware of the environmental challenges caused by the consumption of fast fashion. However, the environment as a factor did not appear to be of importance when purchasing clothing. The findings of this research align with the findings of McNeill & Moore (2015), demonstrating that majority of participants are aware of the environmental consequences of fast fashion and clothing consumption such as labor practices in production countries, however, participants did not consider these factor into their clothing consumption (McNeill & Moore, 2015). In terms of slow fashion, on the other hand, participants seem to have less understanding of how slow fashion production affects the environment. Indicating that participants have less understanding of what slow fashion means and entails in comparison to the other types of fashion such as fast fashion and sustainable fashion. This could be because in recent years, "sustainability" has become a mainstream concept within the major production industries globally, hence, sustainable fashion is more discussed and represented to the general public compared to the concept of slow fashion.

Overall, based on the findings from the study, the researcher assumes that the majority of participants have a general understanding of the key concepts within the fashion industry, although the term slow fashion could be better educated to consumers.

Research question 3 – Recycling awareness and recycling activities

The statistical results of the study suggest that the majority of respondents are aware of the environmental impact of clothing recycling as well as the concept of reduce, reuse, and recycle.

Furthermore, a greater percentage of female respondents claim to be aware of the environmental impact of recycling. This, however, goes against the findings by Morgan & Birtwistle (2009), which suggest that young female consumers are not aware of the importance of recycling clothing (Morgan & Birtwistle, 2009). Although, these results could potentially differ because of the difference in the age group between the researcher. This suggests that older consumers could have more understanding and knowledge of the environmental benefits of recycling. The study further revealed that most of the respondents recycle their clothing after use, either by donating them to charity, giving it to family members or friends, or selling them in the marketplace and second-hand stores. However, based on literature discovery, every year around 80% of clothing waste ends up in landfills rather than being recycled. This to some degree contradicts the findings of the study, in which the majority of participants claim to recycle their clothing rather than throw them away (EPA, 2019). Furthermore, the statistical findings of the research indicate that knowledge of the constructs of pollution and waste, and sustainable business practices have a negative impact on donation. Meaning that participants are less likely to donate their clothing after use if they have more knowledge about pollution and waste and sustainable business practices. However, knowledge of social issues proved to have a positive effect on donation, suggesting that the more knowledge participants have on the social issues of clothing production results in a higher likelihood among participants to donate their clothing. This indicates that participants are more concerned about the social aspect of sustainability rather than the environmental aspect of it in terms of donation clothing.

Research question 4 – Knowledge of environmental impact caused by clothing production

According to the findings of the study, knowledge about social issues, the environmental impact of clothing production such as pollution and waste, and understanding of sustainable business

practices were positively associated with purchasing environmentally friendly clothing. These findings further correspond to the findings by Haron et.al., (2005), which indicate that knowledge of environmental issues correlates positively to consumers' attitudes, sustainable behavior, and participation in environmentally friendly activities. Thus, this further suggests that consumers that have a higher degree of knowledge and understanding about clothing production and consumption on the environment and society, are more likely to engage in sustainable consumption. Consequently, the findings further indicate that a lack of knowledge about the clothing production practices seems to be not the case for this research, as the majority of respondents claimed to have general knowledge on environmental issues such as waste and pollution and other social issues including working conditions and ethical production. This contradicts the research findings by Kong et.al. (2016), which found that Korean consumers overall have a relatively low understanding of the term sustainability and have difficulty linking sustainable practices with the fashion industry, even those that claim to be aware of the concept sustainability in general. More specifically, female participants are also evidently more knowledgeable about clothing production and how it affects the environment compared to the male participants. This finding is supported by literature discovery that female consumers are more conscious of the fashion industry and the environmental impact of their clothing consumption. However, it was evident that most respondents lack information on which brands and companies follow sustainable business practices as well as general information on companies' environmental, social and ethical practices. Moreover, the research further discovered that although participants have a high level of awareness and knowledge about the environmental impact and social issues caused by clothing production, elements such as style, quality and price have a greater bearing on clothing purchases. Indicating that consumers would take fashionable needs including style, price, and design over sustainability when it comes to purchasing decisions. These findings partially align with the results by Pookulangara & Shephard (2013), demonstrating that the majority of participants claimed that while they would like to buy fashion that was of high quality and produced ethically, the premium prices of such clothing affected their ability to do so.

Overall, the findings suggest that participants are generally knowledgeable of the environmental impact of clothing production, although it has little influence on their clothing and consumption choices. However, some elements have a greater impact on participants' choices of clothing such

as price and style. Nevertheless, knowledge of the fashion industry in general and the impact of clothing manufacturing processes has a positive effect on both consumer attitude and purchase intention. Thus, improving consumer knowledge could potentially result in greater sustainable consumption.

Research question 5 – Consumers preferences and attitude about consumerism and sustainable practices

The findings of the study, suggest that the majority of participants claimed to be concerned about the issue of climate change. On the other hand, the results also indicate that when asked about whether they act on these concerns and behave in a way that supports reducing their environmental footprint, fewer participants answered positively to that. These results suggest that there is a gap between the respondent's attitude and actual behavior toward sustainable fashion. Meaning that individuals' concerns for environmental issues and climate change, are not necessarily applied to actual behavior on the matter. This is further supported by the literature discovery, which argues that a consumer's favorable attitude toward slow fashion does not always end in actual behavior (Kong et al., 2016). According to Ajzen (1991), consumer behavior is influenced by various factors, including attitude, subjective norms, and perceived behavioral control. In other words, consumer attitude toward sustainable clothing might not always be enough to indicate behavior, since other controllable elements such as price, availability, and style might affect purchases. The results further suggest that male participants are less concerns about the issue of climate change as well as the majority of them do not consider themselves green consumers. Furthermore, the findings suggest that consumer attitude has a positive influence on purchasing environmentally friendly clothing. This aligns with the findings of previous studies by Kong et.al. (2016) and Haron et.al (2005), which demonstrated that there is a positive association between consumer attitude toward sustainable clothing and behavioral intention toward sustainable fashion. Moreover, the study shows that the more a consumer believes that purchasing sustainable clothing leads to good environmental impact is positively linked with purchasing sustainable clothing. Similar findings are demonstrated by Kang et al. (2013), which indicate that if consumers believe that their

consumption behavior makes a difference the more favorable they become toward sustainable fashion, hence, resulting in higher chances of purchasing environmentally friendly products.

7 Conclusion

This master thesis aimed to investigate whether consumers´ knowledge about the environmental issues related to the fashion industry influences sustainable behavior. More specifically, sustainable purchase intention and recycling behavior.

This research contributes to the literature on sustainability research and environmental decision-making within the fashion industry, by investigating how knowledge of environmental issues related to fashion influences consumers' sustainable clothing behavior. The reason for investigating this topic first and foremost is linked to the researcher's interest in sustainable behavior and the need to adapt to sustainable solutions for the future of the fashion industry. Moreover, previous research argued that consumers lack knowledge of environmental issues of fashion, although since the COVID-19 pandemic people´s behavior and attitude might have swift toward more environmental and social thinking. As a result, the following problem formulation was developed and implemented for this thesis: *How does environmental issues knowledge within the fashion industry influence millennials sustainable clothing consumption ?*

To address the underlying problem formulation, five research questions were developed and implemented into the research process. Moreover, to collect data and test the presented hypothesis, a quantitative method was selected as the relevant approach. The method was in the form of a web survey, with questions designed based on questionnaires from other researchers investigating similar topics. The questionnaire was distributed through social media communities on Facebook and LinkedIn. The finding suggests that knowledge about the environmental impact of slow fashion and fast fashion along with understanding how sustainability is adapted into fashion has a positive effect on reducing participants environmental footprint. Hence, H1 could not be rejected. The findings further revealed that knowledge about the environmental impact of fast fashion and slow fashion has a positive influence on purchasing environmentally friendly clothing, meaning that H2 could not be rejected. Additionally, awareness and knowledge about social issues, pollution and waste, and sustainable business practices were found to have a positive effect on purchasing sustainable clothing. Thus, H3 could not be rejected based on those findings. However, knowledge about social issues was proved to have a positive impact on participants' recycling activities such as donation clothing, whereas knowledge of pollution and waste and sustainable

business practices has a negative impact on donation. As a result, H4 was rejected based on the fact that knowledge about the environmental impact of clothing production does not influence participants' behavior to donate clothing past usage. Lastly, consumer attitudes and consumers' beliefs regarding the environmental impact of sustainable clothing were revealed to have a positive influence on purchasing sustainable clothing. This means, that H5 could also not be rejected.

Nevertheless, this research indented to investigate how knowledge about environmental issues concerning the fashion industry affects consumers' sustainable behavior. This study concludes that overall knowledge about environmental issues related to both the fashion industry in general and the impact of the production of clothing has a positive impact on consumers' sustainable behavior. However, knowledge of environmental challenges seems to not influence participants' recycling behavior, although most of the respondents have sufficient knowledge regarding the fashion industry and participate in recycling activities. Nevertheless, a more detailed analysis indicated that although knowledge of the environmental impact of fashion has a positive effect on sustainable behavior, it also shows that when actual purchasing of clothing takes place, environmental concerns are less likely to be taken into consideration. This shows that more consumer education on the benefits of recycling and slow fashion is needed in order to create a more sustainable fashion future.

7.1 Managerial implications

Based on the findings of this study, it was evident that there is a gap between consumer attitude toward sustainable fashion and their actual behavior towards purchasing and acting sustainably. This is something that managers and researchers need to take into consideration when either investigating the topic or identifying ways to improve sustainable consumption.

Additionally, the findings also indicate a positive correlation between environmental knowledge and purchase intention on one hand and consumer attitude on the other. This means that companies that seek to improve sustainable consumption should aim to educate and inform consumers of the benefits of sustainable clothing, not only in terms of environmental impact but also more importantly in terms of social and even in an individually economic sense. Moreover, companies

could further inform consumers about their sustainable business practices since the findings of the study also suggested that participants are unaware of companies' environmental, social and ethical practices. However, the study also indicated that knowledge and education alone won't lead to drastic changes in consumer behavior toward sustainable fashion. Other factors, including style and price, outweigh the need to be sustainable since fashion nowadays has become more of a sense of self-expression rather than a necessity. This means that to change consumer behavior in the long run and build a more sustainable fashion consumer industry, companies need to educate and inform consumers about the benefits of sustainable clothing as well as figure out a way to meet those consumer demands in terms of style, design and price. The study also showed that participants would purchase more sustainably if the price was lower and that price, style, and design would most often outweigh environmental concerns. Thus, providing affordable sustainable clothing that offers a greater variety of styles and designs would potentially improve sustainable consumption significantly in the future.

8 Research limitations and future research

When conducting research, there are always aspects or limitations that researchers will come across that influence the intended outcome of a research paper. This study, like any other research publication, includes a few notable limitations that are worthwhile to mention. First and foremost, due to the scope of the research project, there are some limitations regarding allocated time for the research process. Another prominent limitation concerns the survey development and the data collection process. Since this research conducted data through the use of a self-administered survey through online sources, it should be taken into consideration that a bias in results could occur due to a lack of honest responses by participants. In other words, some respondents might feel the urge to answer the survey questions in a way that is seen as more socially acceptable rather than being true to themselves and providing the research with an honest response. Another factor could be that respondents might put a different meaning to a question compared to other responses, which could also lead to a bias in the dataset. Consequently, when interpreting the dataset it is important to take these considerations into account and the interpretation should be approached with more precaution. As for the sample size, it can be argued that the number of participants gathered for this research represents a small sample size. Since, the larger the sample size, the more precise and representative the results become of the population. However, adapting to the convenience sampling method may make it easier to gain access to the study sample, although, it doesn't shy away from the fact that people are less motivated to take the time to respond to a survey conducted by a stranger. This leads to the research's last limitation, which suggests that the results are not generalizable to the general population due to the research data gathering approach and small sample size.

8.1 Suggestions for future research

Based on the discussion and the study limitations, the researcher identifies a few suggestions for future research regarding the topic of sustainable behavior and consumer knowledge. Findings from the survey indicate that participants are less informed of companies' environmental, social and ethical practices, thus future research could be done to further investigate how companies can better inform their consumers of their sustainable practices. This could be done by investigating sustainable marketing activities toward consumers.

Moreover, as mentioned in the discussion, environmental knowledge regarding clothing production, such as social issues, pollution and waste, and sustainable business practices positively affect consumers' decisions to purchase environmentally friendly clothing. However, these elements, excluding social issues have a negative effect on donation. Therefore, future research could be to dive deeper into the topic of recycling to identify which factors are most influential in engaging consumers to participate in recycling activities of clothing.

Lastly, for this master thesis purpose, a quantitative approach to collecting and analyzing data regarding the relationship between different constructs was used to answer the hypothesis. However, for future research, adapting to a qualitative approach of gathering data through interviews, and focus groups could be done to gain more in-depth responses that could shed some different light on the research topic.

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Appendix 1: Survey Questions

Dear participant,

Thank you for taking the time to participate in this survey. I am an MSc. student in Marketing from Aalborg University in Denmark. This survey is part of my master's thesis. The purpose of this questionnaire is to investigate consumers' attitudes, purchase intentions, and consumption of sustainable fashion. The data collected in this survey will only be used for research purposes in my master thesis.

The survey should take no more than 10 minutes to complete.

The survey consists of 25 multiple choice questions which are divided into a few sections:
- Knowledge of environmental issues, sustainability, and the fashion industry
- Attitude towards sustainable fashion
- Purchase intention on sustainable fashion
- Disposal and recycling

Your participation is voluntary and you may withdraw from the survey at any time. Your response would provide valuable insights for the research. This survey is completely anonymous, so I kindly ask you to provide an honest answer to the questions below.

Once again, thank you for your support.

Best regards,
Viktoria Ósk

Knowledge of environmental issues and sustainability

Please state to what extent you agree or disagree with the following statements

The issue of climate change is important to me personally

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am actively trying to reduce my environmental footprint

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I consider myself a green consumer

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Knowledge of the fashion industry

Please state to what extent you agree or disagree with the following statements

Please state to what extent you agree or disagree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am familiar with the term "fast fashion"	○	○	○	○	○
I am familiar with the term "slow fashion"	○	○	○	○	○
I am familiar with the term "sustainable fashion"	○	○	○	○	○
I understand the difference in quality between the clothing of fast fashion and slow fashion	○	○	○	○	○
I am aware of the environmental impacts of fast fashion	○	○	○	○	○
I am aware of the environmental impacts of slow fashion	○	○	○	○	○

Based on your understanding, which attributes best describe sustainable fashion?

- [ ] Use of recycled materials
- [ ] High quality/durable clothing
- [ ] Low-impact care
- [ ] Expensive
- [ ] Ethical and fair trade
- [ ] Good supply chain ethics
- [ ] Resource-saving technologies or techniques
- [ ] Other: _____

True/False statements
Please indicate whether the following statement is true (T) or false (F)

"More than 80% of textile and clothing waste ends up in landfills"

○ True

○ False

"Every year, the textile industry uses approximately 93 billion cubic meters of water to produce clothing, which is equivalent to the water consumption of five million people"

○ True

○ False

"Sustainable clothing uses cheaper materials in its production than those of fast fashion"

○ True

○ False

Knowledge of sustainable practices within the fashion industry

Please state to what extent you agree or disagree with the following statements

I am aware of the connection between sustainability and fashion

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am aware of the social issues caused by the fast fashion industry such as working conditions and ethical production

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am aware of the environmental impact of clothing production such as waste and pollution

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I generally feel well informed of companies' environmental, social, and ethical practices

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I generally find it difficult to find information on which brands follow sustainable standards

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Attitude towards sustainable fashion

Please state to what extent you agree or disagree with the following statements

I generally have a positive attitude towards sustainable fashion

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am concerned with the environmental, social, and ethical impact of the fashion industry?

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I believe that purchasing sustainable clothing has a positive impact on the environment

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Purchase intention on sustainable fashion

Please state to what extent you agree or disagree with the following statements

I think about the environmental impacts of clothing when I am shopping

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

When buying clothes, which attributes are important to you?

- ☐ Style
- ☐ Quality
- ☐ Price
- ☐ Environmental impact
- ☐ Brand
- ☐ Availability
- ☐ Newness - the latest trends
- ☐ Other:

How would you consider your willingness to pay a higher price for sustainable fashion?

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

True/False statements
Please indicate whether the following statement is true (T) or false (F)

"With everything else the same, if sustainable fashion would have similar prices as fast fashion, I would purchase sustainable clothing more often"

○ True

○ False

"If I had more knowledge of the production conditions of my clothing, I would purchase sustainable fashion more often"

○ True

○ False

" I would purchase clothing that meets my fashionable needs (price, style, design, etc.) over clothing that is produced in a sustainable manner "

○ True

○ False

Disposal and recycling

Please state to what extent you agree or disagree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am aware of the concept reduce, reuse, and recycle	○	○	○	○	○
I am aware of the environmental impact of recycling my old clothes	○	○	○	○	○
I repair old clothing instead of getting rid of them	○	○	○	○	○
On average, I use clothing only few times before dispose of it	○	○	○	○	○

How long do you keep clothing before you get rid of it (e.g. donating, recycling, or throwing away)?

○ Less than a month

○ 1 - 6 months

○ 6-12 months

○ 1- 3 years

○ 3 -5 years

○ More than 5 years

○ Other:

How do you dispose of unwanted clothes?

☐ Give it to family or friends

☐ Drop-off bin donation

☐ Throw it in the trash

☐ Sell it on a marketplace or in second-hand store

☐ Other:

What is the main cause of your disposal of clothing (e.g donating, recycling, throwing away)?

○ Not trendy anymore

○ The clothing is damaged (e.g holes, torn, stained)

○ It doesn't fit me anymore

○ Nothing, I just want to get rid of it

○ Other: _____

What is your gender?

○ Female

○ Male

○ Other: _____

What is your age?

○ Under 18

○ 18-24

○ 25-34

○ 35-44

○ 45 - 54

○ 55 -64

○ 65 and older

What is the highest level of education you have completed? If you are currently enrolled in an education, please indicate the highest degree you have received

○ No formal education

○ Less than a high school diploma

○ High school degree or equivalent

○ Bachelor´s degree

○ Master´s degree

○ Ph.D. or higher
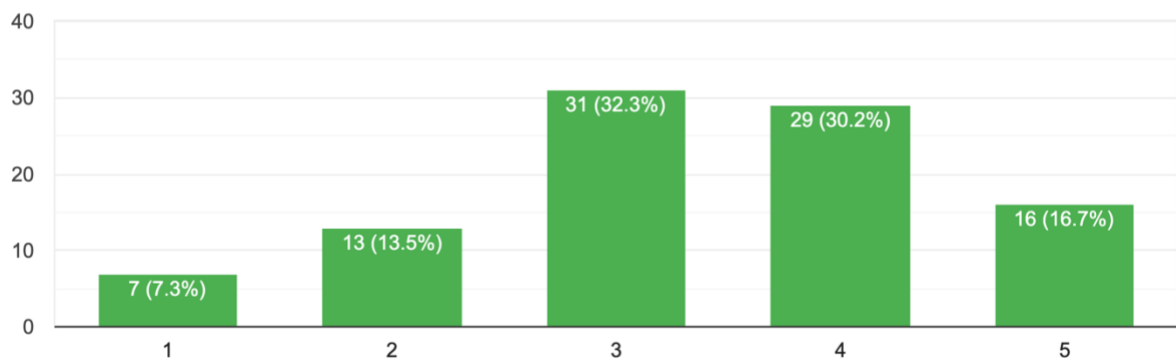
○ Other: _____

Appendix 2: Survey Results

The issue of climate change is important to me personally
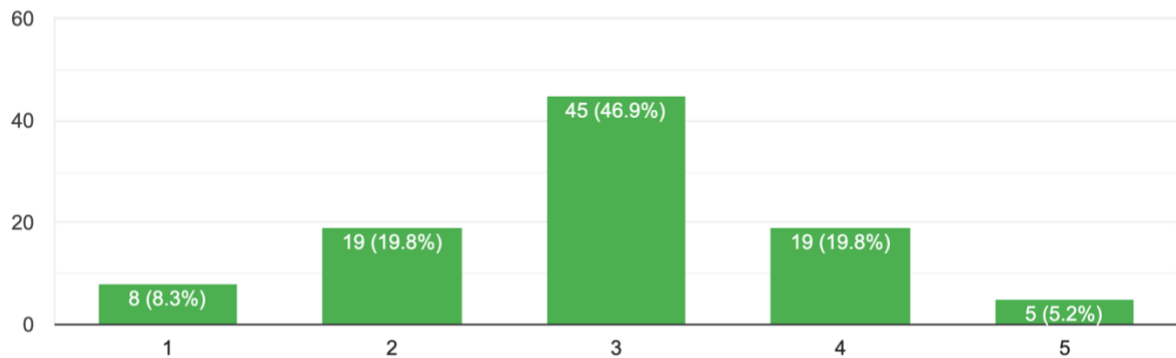96 responses
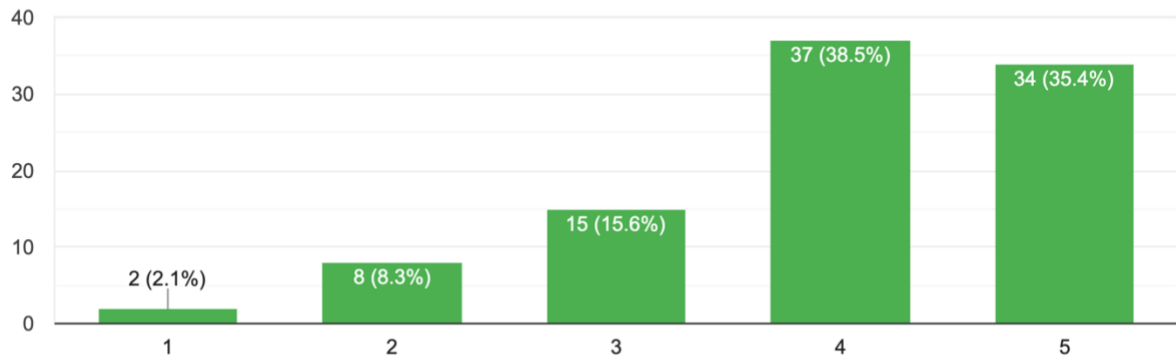
I am actively trying to reduce my environmental footprint
96 responses

I consider myself a green consumer
96 responses

Please state to what extent you agree or disagree with the following statements
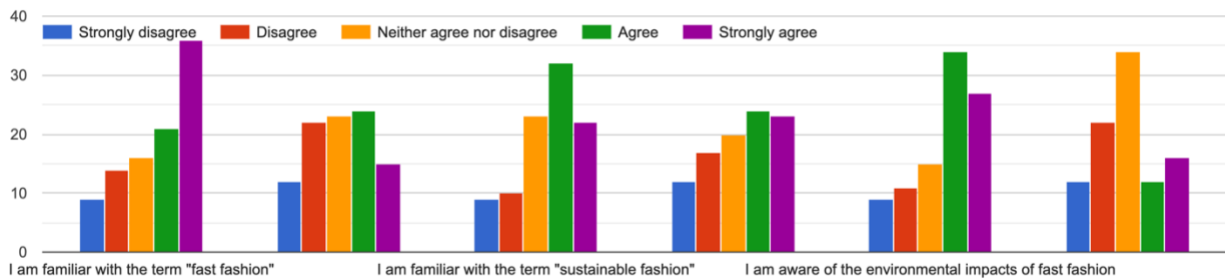
Based on your understanding, which attributes best describe sustainable fashion?
95 responses
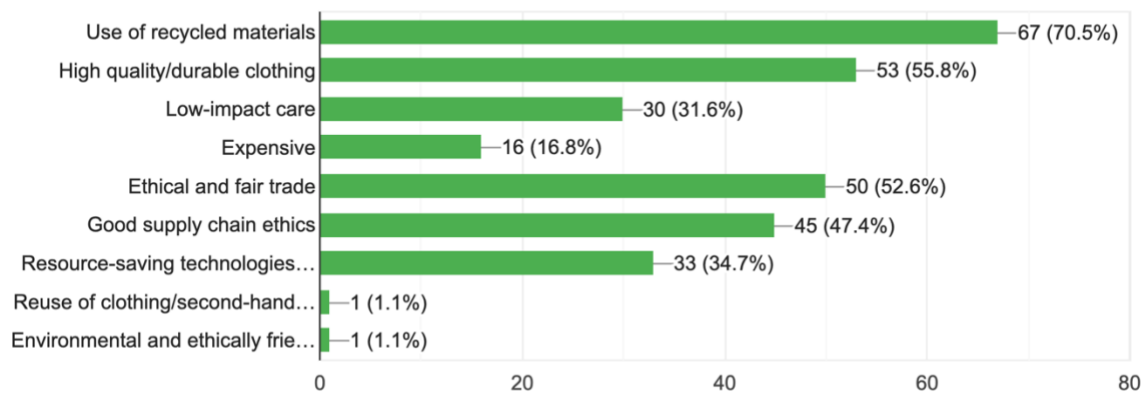
"More than 80% of textile and clothing waste ends up in landfills"
96 responses
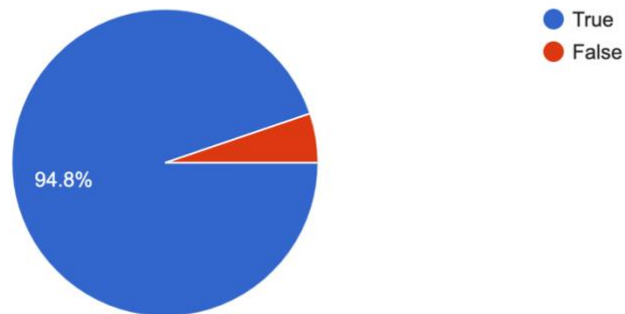
"Every year, the textile industry uses approximately 93 billion cubic meters of water to produce clothing, which is equivalent to the water consumption of five million people"
96 responses
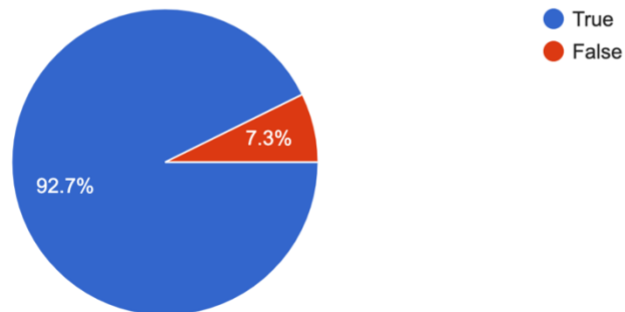
"Sustainable clothing uses cheaper materials in its production than those of fast fashion"
96 responses
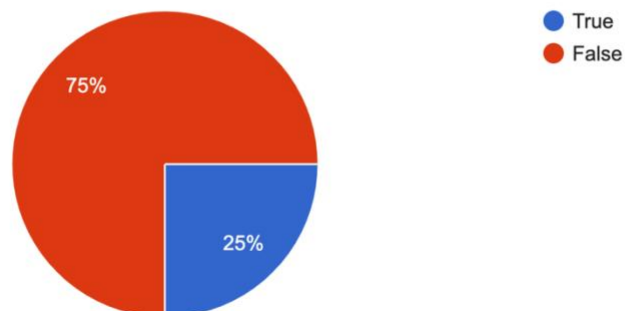
I am aware of the connection between sustainability and fashion
96 responses
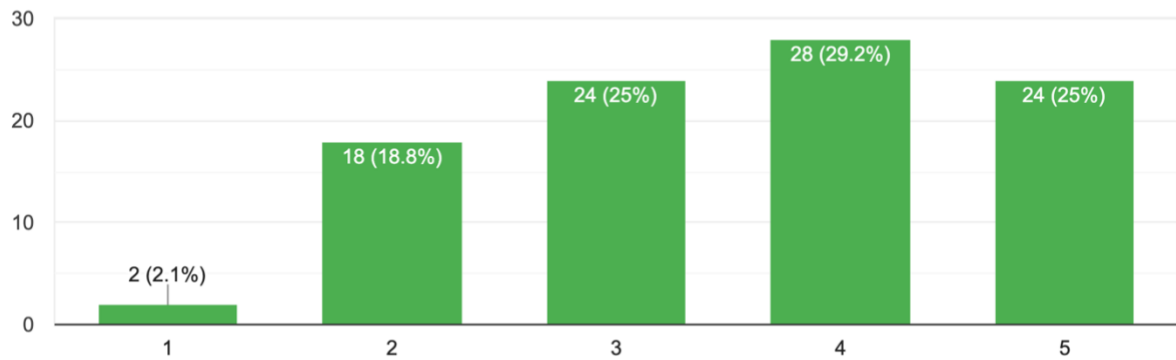
I am aware of the social issues caused by the fast fashion industry such as working conditions and ethical production
96 responses
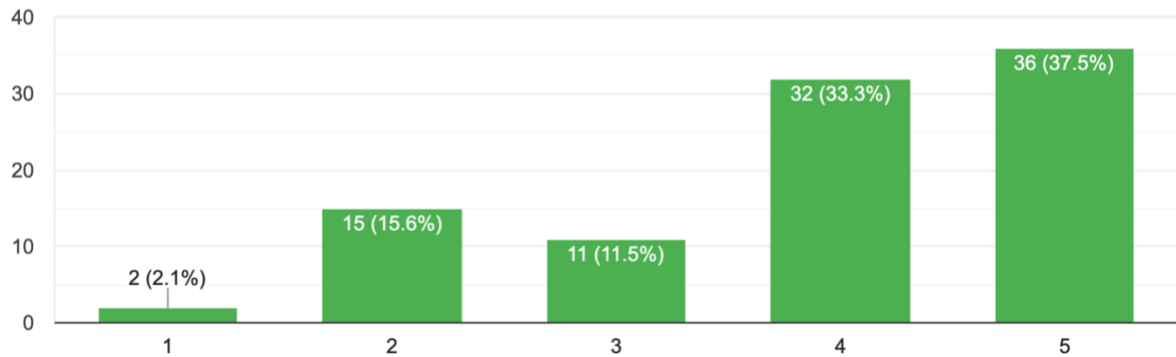
I am aware of the environmental impact of clothing production such as waste and pollution
96 responses
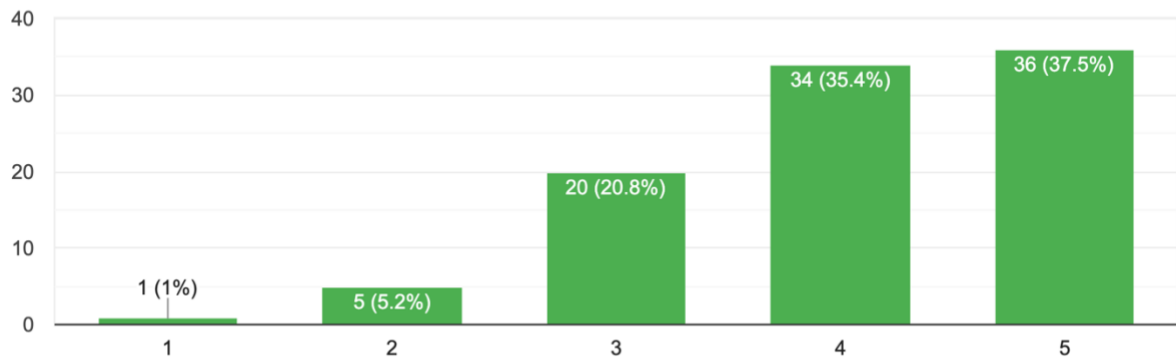
I generally feel well informed of companies' environmental, social, and ethical practices
96 responses
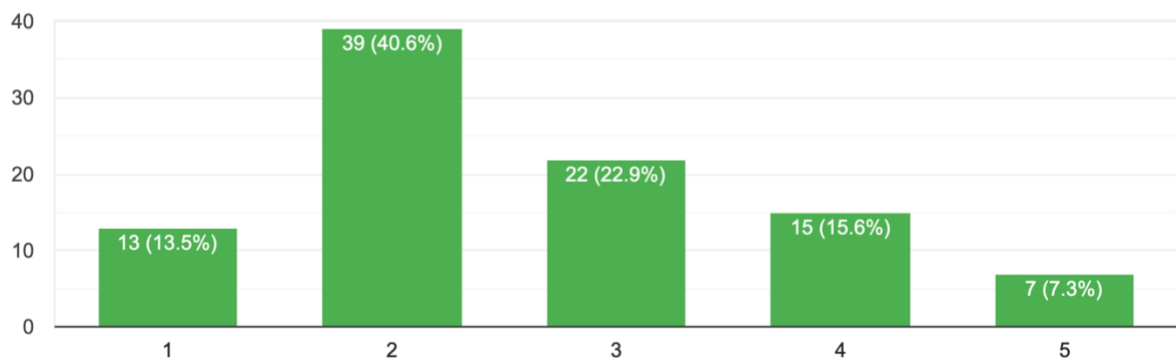
I generally find it difficult to find information on which brands follow sustainable standards
96 responses
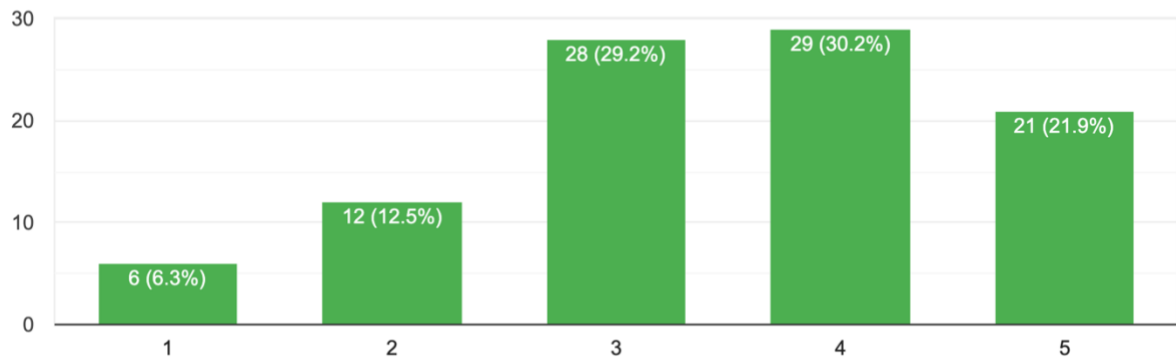
I believe that purchasing sustainable clothing has a positive impact on the environment
96 responses
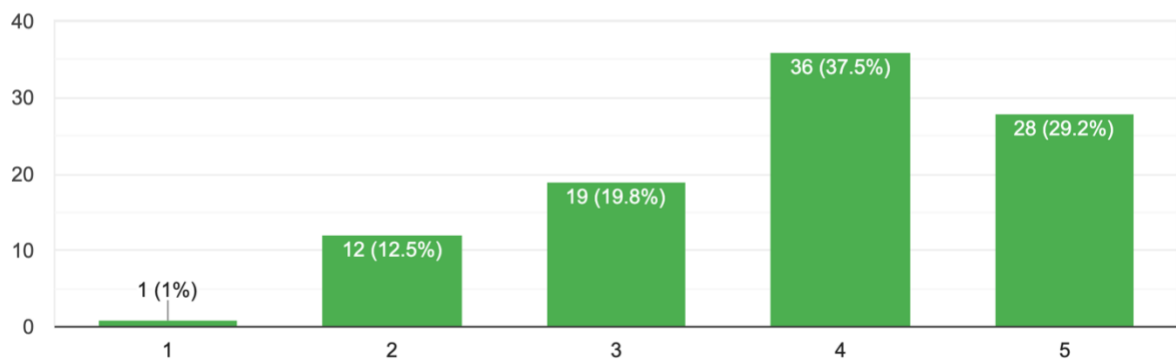
I think about the environmental impacts of clothing when I am shopping

96 responses
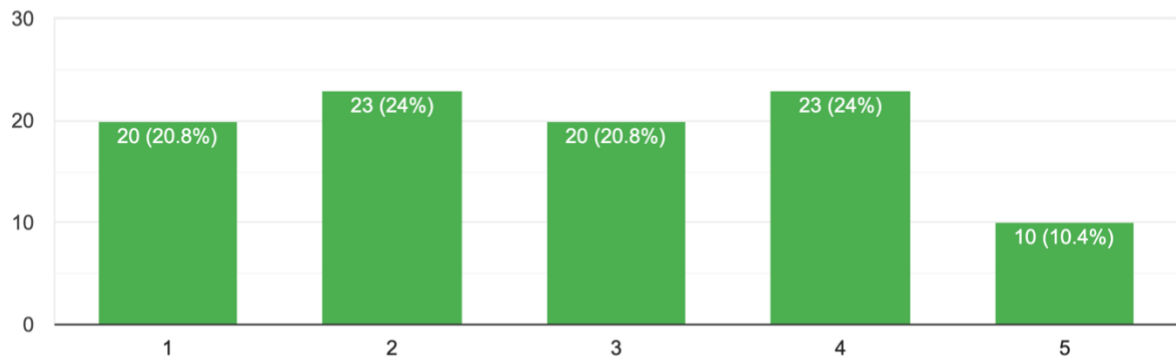
When buying clothes, which attributes are important to you?

96 responses
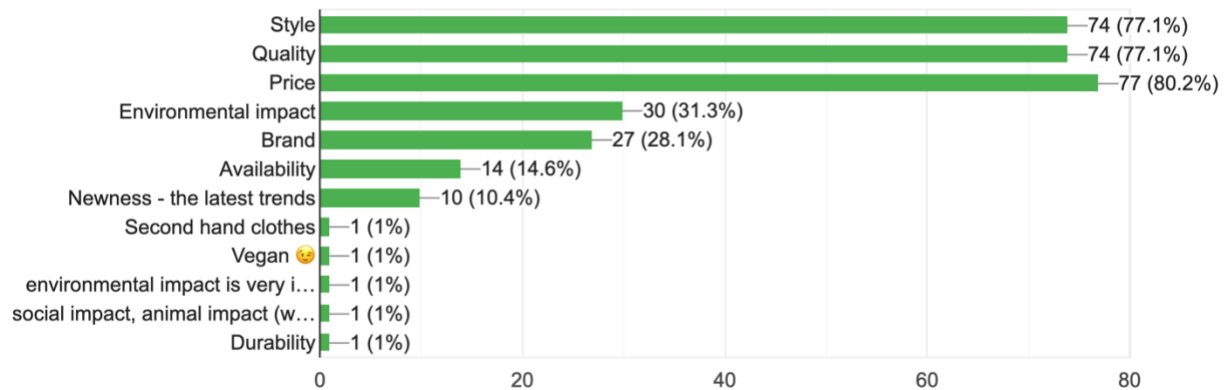
How would you consider your willingness to pay a higher price for sustainable fashion?
95 responses
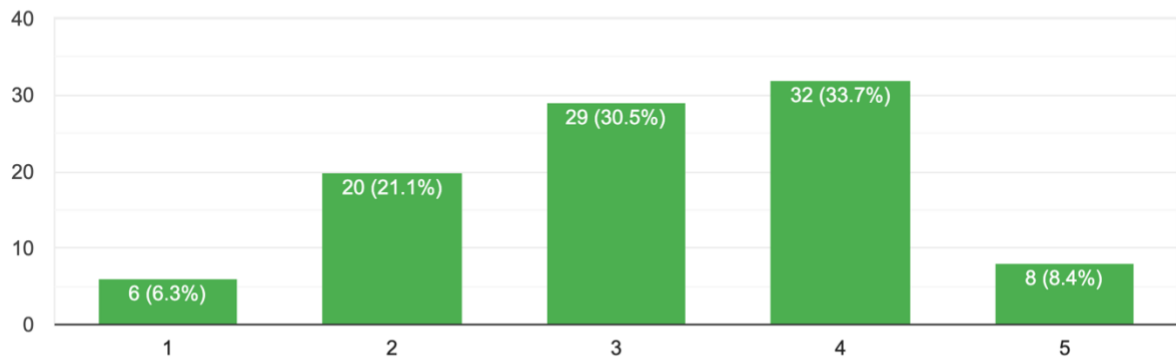
"With everything else the same, if sustainable fashion would have similar prices as fast fashion, I would purchase sustainable clothing more often"
96 responses
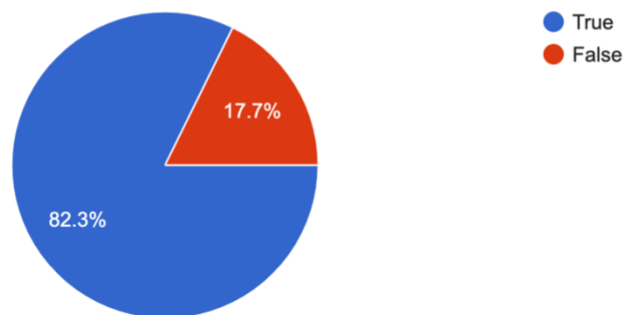
"If I had more knowledge of the production conditions of my clothing, I would purchase sustainable fashion more often"

96 responses
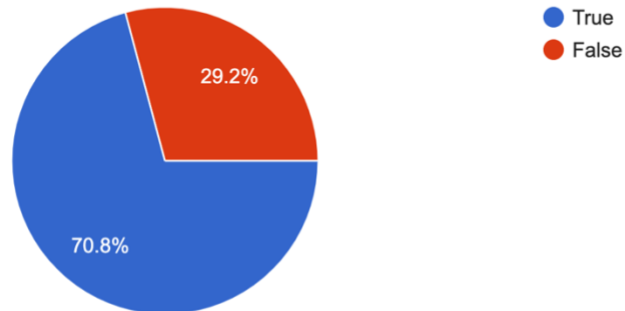
● True
● False

29.2%

70.8%

" I would purchase clothing that meets my fashionable needs (price, style, design, etc.) over clothing that is produced in a sustainable manner "

96 responses

● True
● False

27.1%

72.9%
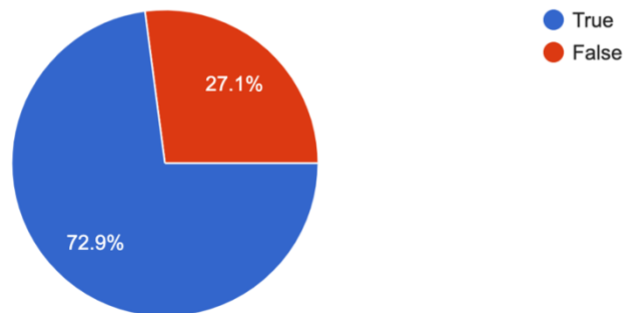
Please state to what extent you agree or disagree with the following statements
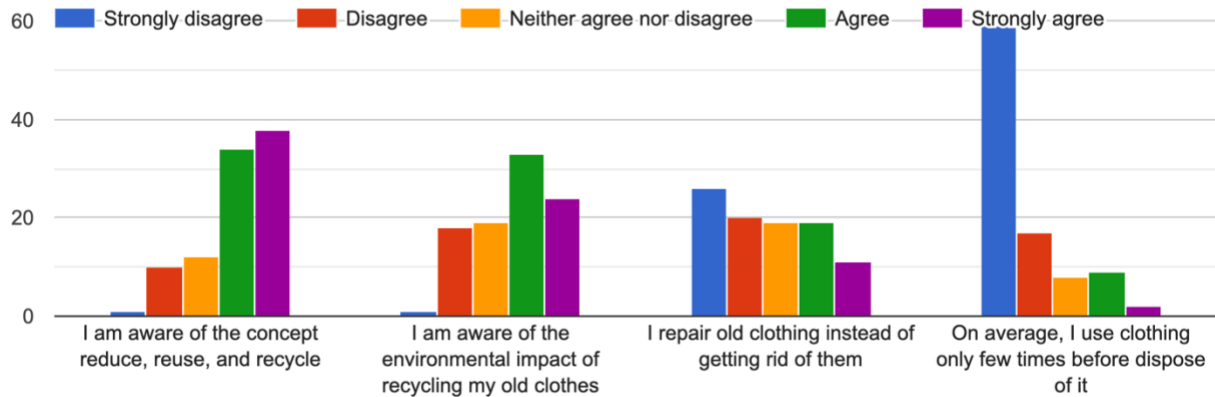
How long do you keep clothing before you get rid of it (e.g. donating, recycling, or throwing away)?
95 responses
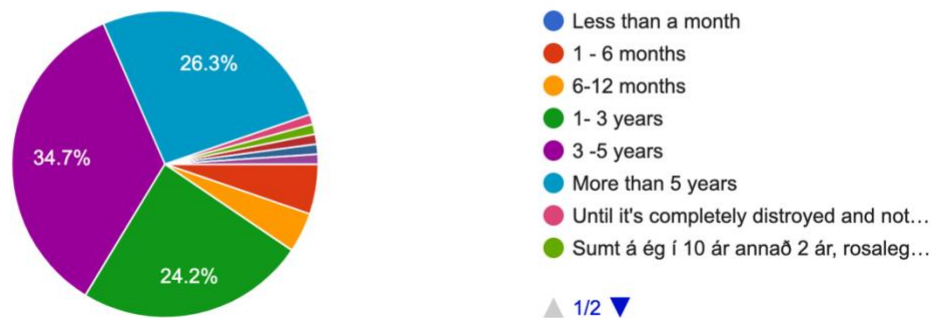
How do you dispose of unwanted clothes?
96 responses

Category	Value
Give it to family or friends	52 (54.2%)
Drop-off bin donation	72 (75%)
Throw it in the trash	21 (21.9%)
Sell it on a marketplace or in se…	32 (33.3%)
Make new clothes out of it	1 (1%)
oxfam, use as polishing rags fo…	1 (1%)
Use it in another way (as a clea…	1 (1%)
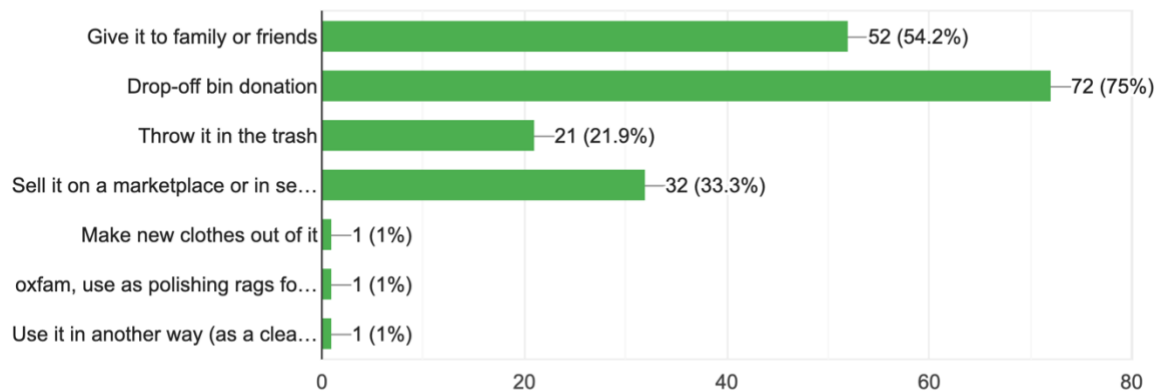
What is the main cause of your disposal of clothing (e.g donating, recycling, throwing away)?
96 responses

- Not trendy anymore
- The clothing is damaged (e.g holes, torn, stained)
- It doesn't fit me anymore
- Nothing, I just want to get rid of it
- Both B and C
- Not suitable for current lifestyle
- High damage or it doesn't fit anymore
- I dont like it anymore

46.9% 30.2% 11.5%
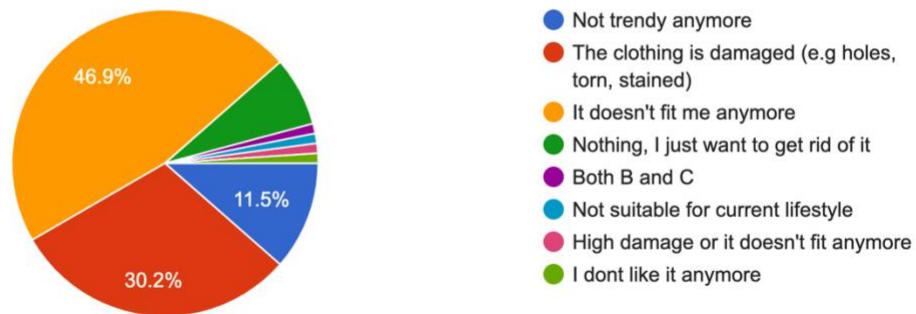
What is your gender?
96 responses
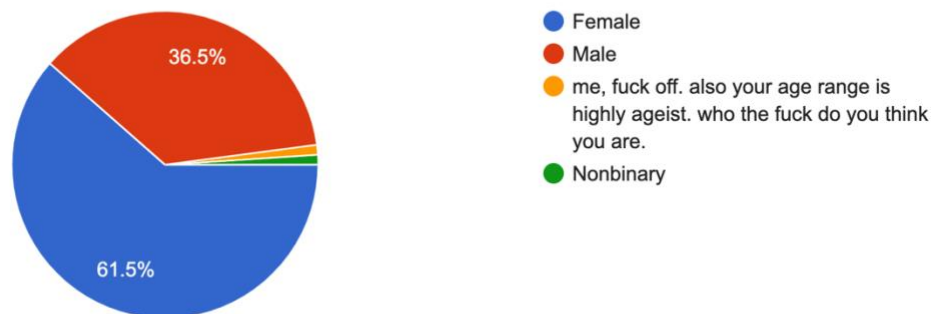
- Female
- Male
- me, fuck off. also your age range is highly ageist. who the fuck do you think you are.
- Nonbinary

61.5% 36.5%

What is the highest level of education you have completed? If you are currently enrolled in an education, please indicate the highest degree you have received

95 responses

- 🔵 No formal education
- 🔴 Less than a high school diploma
- 🟠 High school degree or equivalent
- 🟢 Bachelor´s degree
- 🟣 Master´s degree
- 🔵 Ph.D. or higher
- 🔴 Associates degree working on bachelors

Appendix: 3 Survey results – Demographics

Education based on gender group	Female		Male	
	N	Percentage	N	Percentage
No formal education	2	4.5%	15	3.4%
Less than a high school diploma	2	4.5%	2	6.9%
High school degree or equivalent	9	20.5%	7	24.1%
Bachelor´s degree	12	27.3%	4	13.8%
Master´s degree	19	43.2%	15	51.7%

Appendix 4: Survey results– Consumer Attitude

the issue of climate change	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	1	2.2%	1	3.4%
Disagree	1	2.2%	7	20.1%
Neither agree nor disagree	4	8.9%	9	31.0%
Agree	21	46.7%	8	27.6%
Strongly agree	18	40.0%	4	13.8%

Green consumer	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	2	4.4%	6	20.7%
Disagree	8	17.8%	6	20.7%
Neither agree nor disagree	21	46.7%	13	44.8%
Agree	12	26.7%	4	13.8%
Strongly agree	2	4.4%	0	0%

Gender distribution about environmental footprint	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	3	6.7%	4	13.8%
Disagree	6	13.3%	6	20.7%
Neither agree nor disagree	13	28.9%	8	27.6%
Agree	12	26.7%	10	34.5%
Strongly agree	11	24.4%	1	3.4%

Consumer attitude in terms of gender groups	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	1	2.2%	0	0%
Neither agree nor disagree	15	33.3%	12	41.4%
Agree	10	22.2%	10	34.5%
Strongly agree	19	42.2%	6	20.7%

Beliefs on the impact of sustainable fashion between genders	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	3	6.7%	8	27.6%
Neither agree nor disagree	11	24.4%	6	20.7%
Agree	16	35.6%	11	37.9%
Strongly agree	15	33.3%	3	10.3%

Beliefs on the impact of sustainable fashion	N	Percentage
Strongly disagree	1	1.4%
Disagree	11	14.9%
Neither agree nor disagree	17	23.0%
Agree	27	36.5%
Strongly agree	18	24.3%

N= 74

Concerns for environmental, social and ethical impact of fashion between genders	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	3	10.3%
Disagree	4	8.9%	4	13.8%
Neither agree nor disagree	14	31.1%	11	37.9%
Agree	12	26.7%	7	24.1%
Strongly agree	15	33.3%	4	13.8%

Appendix 5: Survey results- Purchase intention

Willingness to pay higher price for sustainable fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	3	6.7%	3	10.7%
Disagree	7	15.6%	12	42.9%
Neither agree nor disagree	12	26.7%	6	21.4%
Agree	19	42.2%	6	21.4%
Strongly agree	4	8.9%	1	3.6%

Willingness to pay for sustainable fashion		
	N	Percentage
Strongly disagree	6	8.1%
Disagree	19	25.7%
Neither agree nor disagree	18	24.3%
Agree	25	33.8%
Strongly agree	5	6.8%

N= 73

Price and sustainable fashion	N	Percentage
True	58	78.4%
False	16	21.6%

N= 74

Knowledge of clothing production and purchase intention	N	Percentage
True	48	64.9%
False	26	35.1%

N= 74

Purchase intention needs	N	Percentage
True	53	71.6%
False	21	28.4%

N= 74

Appendix 6: Survey results – Knowledge of environmental issues

Clothing waste that ends in landfills	N	Percentage
True	70	94.6%
False	4	5.4%

Water consumption from clothing production	N	Percentage
True	69	93.2%
False	5	6.8%

Sustainable fashion materials	N	Percentage
True	18	24.3%
False	56	75.7%

Appendix 7: Survey results- Knowledge of fashion industry

Knowledge about the connection between sustainability and fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	8	17.8%	10	34.5%
Neither agree nor disagree	9	20.0%	9	31.0%
Agree	14	31.1%	6	20.7%
Strongly agree	14	31.1%	3	10.3%

Awareness of fast fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	1	2.2%	7	24.1%
Disagree	7	15.6%	4	13.8%
Neither agree nor disagree	6	13.3%	8	27.6%
Agree	10	22.2%	6	20.7%
Strongly agree	21	46.7%	4	13.8%

Awareness of slow fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	2	4.4%	9	31.0%
Disagree	13	28.9%	5	17.2%
Neither agree nor disagree	9	20.0%	11	37.9%
Agree	10	22.2%	4	13.8%
Strongly agree	11	24.4%	0	0%

Awareness of sustainable fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	2	4.4%	5	17.2%
Disagree	4	8.9%	5	17.2%
Neither agree nor disagree	13	28.9%	8	27.6%
Agree	13	28.9%	9	31.0%
Strongly agree	13	28.9%	2	6.9%

Knowledge of the impact of fast fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	1	2.2%	7	24.1%
Disagree	6	13.3%	3	10.3%
Neither agree nor disagree	4	8.9%	9	31.0%
Agree	20	44.4%	7	24.1%
Strongly agree	14	31.1%	3	10.3%

Knowledge of the impact of slow fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	3	6.7%	7	24.1%
Disagree	13	28.9%	4	13.8%
Neither agree nor disagree	11	24.4%	15	51.7%
Agree	7	15.6%	2	6.9%
Strongly agree	11	24.4%	1	3.4%

Knowledge of quality difference between fast and slow fashion	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	2	4.4%	8	27.6%
Disagree	9	20.0%	5	17.2%
Neither agree nor disagree	7	15.6%	9	31.0%
Agree	12	26.7%	6	20.7%
Strongly agree	15	33.3%	1	3.4%

Appendix 8: Survey results– Knowledge of clothing production

Social Issues	N	Percentage
Strongly disagree	2	2.7%
Disagree	13	17.6%
Neither agree nor disagree	9	12.2%
Agree	27	36.5%
Strongly agree	23	31.1%

N= 74

Gender distribution on social issues	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	1	2.2%	1	3.4%
Disagree	6	13.3%	7	24.1%
Neither agree nor disagree	6	13.3%	3	10.3%
Agree	13	28.9%	14	48.3%
Strongly agree	19	42.2%	4	13.8%

Pollution and waste	N	Percentage
Strongly disagree	1	1.4%
Disagree	4	5.4%
Neither agree nor disagree	17	23.0%
Agree	30	40.5%
Strongly agree	22	29.7%

N= 74

Gender distribution on waste and pollution from clothing production	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	2	4.4%	2	6.9%
Neither agree nor disagree	7	15.6%	10	34.5%
Agree	20	44.4%	10	34.5%
Strongly agree	16	35.6%	6	20.7%

Sustainable business practices	N	Percentage
Strongly disagree	10	13.5%
Disagree	30	40.5%
Neither agree nor disagree	18	24.3%
Agree	11	14.9%
Strongly agree	5	6.8%

N= 74

Gender distribution on sustainable business practices	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	7	15.6%	3	10.3%
Disagree	19	42.2%	11	37.9%
Neither agree nor disagree	9	20.0%	9	31.0%
Agree	5	11.1%	6	20.7%
Strongly agree	5	11.1%	0	0%

Information of sustainable brands	N	Percentage
Strongly disagree	4	5.4%
Disagree	9	12.2%
Neither agree nor disagree	26	35.1%
Agree	21	28.4%
Strongly agree	14	18.9%

N= 74

Gender distribution about information of sustainable brands	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	3	6.7%	1	3.4%
Disagree	7	15.6%	2	6.9%
Neither agree nor disagree	13	28.9%	13	44.8%
Agree	11	24.4%	10	34.5%
Strongly agree	11	24.4%	3	10.3%

Appendix 9: Survey results- Recycling and disposal

Clothing lifespan	N	Percentage
1-6 months	4	5.4%
6-12 months	4	5.4%
1-3 years	15	20.3%
3-5 years	28	37.8%
More than 5 years	19	25.7%
Missing data	1	1.4%
Other	3	4.1%

N= 74

Gender distribution of Clothing lifespan	Female		Male	
	N	Percentage	N	Percentage
1-6 months	2	4.4%	2	7.1%
6-12 months	2	4.4%	2	7.1%
1-3 years	7	15.6%	8	28.6%
3-5 years	20	44.4%	8	28.6%
More than 5 years	13	28.9%	6	21.4%
Other	1	2.2%	2	7.1%

Knowledge of the impact of recycling	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	10	22.7%	7	24.1%
Neither agree nor disagree	4	9.1%	8	27.6%
Agree	15	34.1%	10	34.5%
Strongly agree	15	34.1%	3	10.3%

Knowledge of the term reduce, reuse and recycle	Female		Male	
	N	Percentage	N	Percentage
Strongly disagree	0	0%	1	3.4%
Disagree	3	6.8%	6	20.7%
Neither agree nor disagree	4	9.1%	5	17.2%
Agree	15	34.1%	11	37.9%
Strongly agree	22	50.0%	6	20.7%