

# Exploring Sustainability in E-commerce

A qualitative study into users' experience with sustainability information features in e-commerce

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*“Buy less. Choose well. Make it last.”*

*- Vivienne Westwood*

# ABSTRACT

The textile and clothing industry is one of the largest polluters of our time, being responsible for 10 % of all yearly emissions. During all stages of production, there is environmental impact, from the production of fibres, both plant-based and animalistic, to the spinning of the fibres into textiles to the sewing and construction of garments, in addition to chemical treatments. Online retailers offering textile products present information about their sustainability profile and the sustainability of their products, but how this is done differs from retailer to retailer.

To investigate how sustainability information is presented and how it is perceived by consumers, an explorative examination of a selection of Norway's most popular online retailers was performed, and a qualitative semistructured interview was constructed. The interview included the observational technique think-aloud to gain insight into how the sustainability information was experienced by participants. The gathered data was analysed using thematic analysis and results from the think-aloud session structured using the framework of the traditional consumer decision-making process.

The results show that the sustainability information features offered today can be said to convey information either about the sustainability profile of a retailer, or to convey information about the sustainability of an offered product. Terminology for the different sustainability information features was also created from this. Sustainability information features were experienced by consumers as notions of it being positive features to have for those that were sustainably conscious emerged. A sustainability profile implemented throughout was seen as more trustworthy than those that were perceived to be placed as a second thought. Mistrust due to previous greenwashing was also discovered. Solutions to mitigate these were given to be concise language, use of third-party environmental labels and having sustainability information displayed openly and easily accessible.

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# Chapter 1

## INTRODUCTION

If the globe is to limit global warming and the rising temperatures to 1.5 degrees Celsius by 2030 as put forth by the United Nations (UN), swift action to reduce greenhouse gas (GHG) emissions and pollution must be implemented (United Nations, 2022b). For governments, companies and consumers, this means limiting GHG emissions and using natural resources responsibly (Stöckigt et al., 2018). One of the largest polluters of the post-industrial era is the textile and clothing industry, being responsible for around 10 % of GHG emissions each year, as well as being one of the largest producers of waste and water pollution (European Parliament, 2022). For this to change, the manufacturers behind production must change their production approaches and start manufacturing in a more sustainable fashion.

What exactly then is sustainability? The Brundtland Report of the World Commission on Environment and Development (WCED) define sustainable development as meeting the needs of the present without compromising the needs of the future (United Nations, 1987). The UN has since expanded upon their definition to include other processes and developments which can happen in a sustainable form, such as social and economic development (United Nations, 2005, 2015). This includes socio-economic challenges caused by uneven wealth distribution and poor working conditions. In the textile industry, sustainability includes producing and developing clothing in a manner which does not use unnecessary amounts of resources without replacement, whilst being benign to the people and animals involved and surrounded by these processes.

Retailers convey information about their more sustainable processes to their consumers through different approaches in online retailing, including using third-party environmental labels (ecolabels) and tools such as the Higg Material Sustainability Index. They present their users with information and functionalities meant to create an understanding of their own sustainability philosophy, and how and why a product can be seen as more sustainable. Throughout this thesis, these will be referred to as information and functionalities as *sustainability information features*.

The motive of this thesis was to investigate how sustainability information is designed on popular online retailers currently and gain an understanding of how they are perceived by consumers. An explorative examination of popular online retailers was conducted to obtain an overview of how sustainability information is currently designed and what features it is implemented as. By performing qualitative interviews investigating how these were utilised by consumers, it was possible to gain an understanding of how they were experienced by consumers. What we want to contribute to the field of sustainable human computer interaction (SCHI) is a mapping of ways sustainability information is designed currently, terminology to use for features, and provide an overview of terms and descriptors used to understand sustainability in e-commerce by consumers.

## 1.1 Research Questions

The goal of this thesis is to gain an understanding of how sustainability information and features are implemented in e-commerce retailers currently, as well as how they are experienced by consumers. Terminology used for features is also wanted. Therefore the first research question (RQ) has been formulated as such:

***RQ1: What sustainability information features are available in e-commerce?***

As there is also interest in gaining an understanding of how the sustainability information and features that exists are used, if at all, as well as investigating how they are perceived and explore definitions and wording used for describing the features among consumers. The second RQ is therefore defined as follows:

***RQ2 : How are sustainability information features experienced?***

## 1.2 Thesis Outline

**Chapter 2 Background** will explain the climate crisis and the role of the textile industry, as well as providing the definition used for sustainability in this thesis. It will give insight into previous studies on the knowledge and attitude of consumers towards sustainability, and explain the background information on tools and labels currently used to convey sustainability in products. How shopping can be defined as both an experience and a decision-making process will also be explained.

**Chapter 3 Methods** will explain how and why the qualitative data gathering method interviews was chosen. A list of retailers included in the explorative examination of available features will be given. The interview process will be explained in detail, as well as how the explored retailers were included in a think-aloud session to gain an understanding of how their sustainability information features were experienced. How the process of using the analytic method thematic analysis to analyse the gathered data is explained.

**Chapter 4 Results** presents the results of the explorative examination of retailers' available sustainability information features, as well as the results from the qualitative interviews.

**Chapter 5 Discussion** discusses interesting results found in the explorative examination of the retailers, and ties the results found in Chapter 4 to findings in Chapter 3. These are presented through the lens of shopping as an experience and shopping as decision making. The research questions are then answered, before limitations to the project is considered, and future work is suggested.

**Chapter 6 Conclusion** concludes this thesis by offering a summary of the thesis and its results.

## Chapter 2

### BACKGROUND

This chapter presents background information and introduces topics that are relevant for this thesis. An overview of the field of human computer interaction (HCI) is first described, then of the climate crisis and the role of the textile industry, along with a description of the definition of sustainability used throughout the thesis. Consumers' relationship with sustainability in previous research will then be given, before a look into a few of the available tools for measuring sustainability. Shopping as an experience and as a decision-making process will be presented.

#### 2.1 Human-Computer Interaction

Human-Computer Interaction (HCI) is a field of research which focuses on how people use and react to computers. It is generally accepted as founded in 1982 as a separate field, when the first conference on Human Factors in Computing Systems was held in the US (Lazar et al., 2017, P.1). The need for HCI appeared when computers went from being operated by trained staff in research laboratories and into people's homes and jobs. Their use was no longer specified for highly technical engineers, but rather generalised for use as a helping tool in everyday life. Had their functionality not been adapted to ease of use for nontechnical people, computers would never have been present (and prevalent) in the same way as they are in our lives today. HCI is considered an interdisciplinary field because the research methods used encompasses methods from computer science, psychology, sociology, anthropology, communication, linguistics, etc. (Lazar et al., 2017; MacKenzie, 2013). This is because HCI investigates the human factor, which can be seen as both science and engineering concerned with human capabilities, limitations and performance, designing systems to be efficient, safe, comfortable and enjoyable to use (MacKenzie, 2013, p. 2). Additionally, HCI research can also be described as a problem-solving practice, as Oulasvirta and Hornbæk (2016) argue that HCI mainly concern three types of problems, being empirical, conceptual and constructive. In their research, they want to not only view HCI research as "valid" or as following the "right" approach, but rather how it can advance human capacity to solve important problems in human use of computers.

When talking about HCI, it is also important to understand what user experience (UX) is. Norman and Nielsen (2022) define it as encompassing “*all aspects of the end-user’s interaction with the company, its services and its products*”. They further explain that for good UX, it is vital to meet the exact needs of the user and going beyond them, with a seamless provision of products that evoke positive feelings in the user. Sharp et al. (2019) go into more detail, explaining that UX is also about how people feel, and their pleasure and satisfaction, when using, looking at or holding a product of quality, taking in the overall impression of how a product is designed and makes the user feel. The authors are also quick to point out that “*one cannot design a user experience, only design for a user experience*” (Sharp et al., 2019, p. 5).

There exists a subfield under the wide HCI umbrella that concerns itself with how HCI can be used to solve problems regarding sustainability, known as Sustainable HCI (SHCI). Following Knowles et al.’s (2018) paper on trying to create a common understanding of what SHCI is in the field, there are two emerging views, the first being an aggregation of small-scale reductions in energy consumption will be sufficient for maintenance of the climate, and the other being that significant change is needed urgently in human way of life to be able to preserve the planet for future generations. The authors lean towards the latter, by pointing out just how many of today’s systems rely on computing systems and how they ought to be reworked to support sustainability. They also suggest that digital solutions as a whole must be made not only with sustainability in mind, but as a requirement, and these changes need to be made urgently, within SHCI wherever they can.

## 2.2 The Climate and The Clothing Industry

The average temperature on the planet is rapidly increasing compared to pre-industrial times, and as a result weather systems are becoming more extreme, the ocean is rising and turning acidic, and the icecaps are melting (United Nations Association of Norway, 2021). Global warming and the climate changes are affecting all life on planet Earth, and according to the UN, these changes are heavily influenced by humans (Arias et al., 2021) To be able to limit the increasing temperatures, end extreme poverty and reduce inequality, the UN in 2015 introduced 17 Sustainable Development Goals (SDGs) their member countries would strive to achieve by 2030 (United Nations, 2022a). The SDGs all centre around different subjects to achieve these goals, but relevant for this thesis is goal 12 (“*Ensure sustainable consumption and production patterns*”) and 13 (“*Take urgent action to combat climate change and its impacts*”). By having UN’s member countries signing a legally binding international treaty on climate change known

as The Paris Agreement, countries across the globe agreed in 2015 that global warming had to be limited to a preferable 1.5 degrees Celsius increase before the year 2030 (United Nations, 2022b). According to the UN's Sixth Assessment Report (United Nations, 2021) reaching this goal requires tough measures to be put in place as soon as possible, as the temperatures are rising faster than expected. To mitigate this, one of the core factors is making sure the human lifestyle, the way we produce and consume, is made more sustainable, as well as reducing carbon dioxide emissions.

The textile and clothing industry is one of the largest polluters of our time. During all stages of production, there is environmental impact, from the production of fibres, both plant-based and animalistic, to the spinning of the fibres into textiles to the sewing and construction of garments, in addition to chemical treatments such as for colour and water and flame proofing (Gardetti, 2017; Laitala et al., 2018). Land that could have been used for the growing of consumable foods is instead used for plant-based fibres requiring energy, watering and pesticide use, which can lead to waterway pollution, affecting biodiversity in vulnerable areas (Chapagain et al., 2006; Laitala et al., 2018). The dawn of fast fashion, a business model relying on cheap manufacturing, frequent consumption and short-lived products, only contributes to higher emissions from the industry, producing new products for fast turnover (Niinimäki et al., 2020).

Overall, the textile industry is responsible for 10% of global GHG emissions a year, more than both international flights and maritime shipping combined (European Parliament, 2022). In the same European Parliament (2022) report, it is also stated that 35% of all primary microplastic released into the environment comes from the washing and finishing of synthetic materials. The industry uses 79 billion cubic meters of water to grow and produce products: A single T-shirt needs 2700 litres of water for production, equating to enough drinking water for a single person for 2.5 years.

Due to the lack of technology, less than 1 % of clothing textiles are repurposed as clothing. Textiles are also more likely than not to end up a landfill rather than being repurposed, with Europeans on average discarding about 11 kilograms of textiles a year. Photographs from the Atacama Desert in Chile circulated in the media in Norway early 2022, revealing that in the last year alone, over 40.000 metric tonnes of clothing have been disposed of in the desert (Stefansen, 2022).

## 2.3 Defining Sustainability

For this thesis, it is important to have an understanding of what is referred to when using the term sustainability. Many interchange the terms environmentally friendly and sustainable in everyday speech, but there is an important distinction to be made that environmentally friendly refers to processes that do not harm the environment, whilst sustainability has other, often differing, meanings. This thesis will refer to the Brundtland Report of the World Commission on Environment and Development (WCED) definition of sustainable development as meeting the needs of the present without compromising the needs of the future (United Nations, 1987). From an environmental perspective, this includes producing and developing goods in a manner which does not use unnecessary amounts of resources without replacement.

Sustainable development needs not only be applied to environmental development, but can also be used to define other processes and developments which can happen in a sustainable form, such as social and economic development (United Nations, 2005, 2015). This includes socio-economic challenges caused by uneven wealth distribution and poor working conditions. There is ample evidence that workers in the textile industry are exploited for their work (Aftenposten, 2017; Lerche et al., 2017; Lüthje et al., 2013). To mention one example, Lerche et al. (2017) found that garment workers in Shanghai, China and Delhi, India suffered under informal contracts or contracts that formulated in such ways that they robbed them of formally recognised employers and labour relations, leading to poor working conditions such as being underpaid and overworked. Therefore, sustainability in this thesis refers to sustainability in all forms as set forth by the UN (2015), more specifically in terms of the textile industry: Sustainability includes producing and developing clothing in a manner which does not use unnecessary amounts of resources without replacement, whilst being benign to the people and animals involved and surrounded by these processes.

### 2.3.1 Consumers' Knowledge and Attitudes Towards Sustainability

Consumers are affected by the perceived warmth of a company through their sustainability profiles and the company's philanthropy practices (Bolton & Mattila, 2015). Knowledge about whether a company is legit in their claims about sustainability can be hard to discern for the consumer. The more knowledge a consumer has about sustainability and its criteria, the more critically they evaluate the information presented by companies, only trusting those which show convincing efforts and moves towards sustainability (Park & Kim, 2016; Paul et al., 2016). This knowledge can ultimately influence purchase decisions as well: Environmental knowledge can

incline consumers towards more sustainable options (Kumar et al., 2017). Customers with higher concern for the environment and a positive attitude towards sustainability are more likely to make sustainable choices (Paul et al., 2016). This pattern is also seen in the work done by de Langhe et al. (2017), but they found more precisely that it is not a linear relationship between being concerned about the environment and making sustainable choices. According to their research, it is only those with the most environmental knowledge and concern who actually make purchase decisions taking these into account, making the relationship between knowledge/awareness and taking action a non-linear one (Belvis & Belvis, 2022). Wang et al. (2021) found in their study that consumers were willing to pay more for apples from poverty-struck areas, suggesting that consumers are willing to make the more ethical choice if presented with the choice between two equal products, where one has an ethical attribute whilst the other does not.

Bolton and Mattila (2015) found a positive correlation between customer satisfaction and customer loyalty, underlining the idea that if a customer has previous positive experiences with a brand, they are more likely to return for more products. They also found that the information a customer has on a company regarding i.e. their sustainability profile can influence their purchase decisions with the retailer. Tsarenko et al. (2013) back this up by claiming that the sustainability procedures implemented by retailer can affect consumer's attitude towards sustainability.

### 2.3.2 Understanding Available Sustainability Indexing Tools

There exist several tools that uses data from the production of textiles to determine their environmental impact, such as the Higg Material Sustainability Index (MSI or Higgs Index) and the MADE-BY Fibre Benchmark (Laitala et al., 2018). The results of these tools are often the grounding for giving clothing items their ecolabels. However, these tools are only cradle-to-gate tools and not cradle-to-cradle, which means they only measure the environmental impact of the fibres used in production, not taking into account finishing, use and eventually waste. Laitala et al. (2018) argues that by excluding these from the equation of environmental impact, they also omit environmental issues that can occur at this stage, such as the release of microplastics and other use-related emissions such as resource use and chemical release connected to the laundering of clothing items. According to Laitala et al.'s (2018) research, with these tools, short-lived disposable products are determined to have similar impact as more durable products by excluding the importance of quality, functionality and product



longevity/lifespan: Products with shorter lifespans, of worse and less recyclable materials (polyester and other synthetic fabrics) can out-favour products with longer lifespans, with better and potentially recyclable materials (wool, cotton, linen, etc.).

### 2.3.3 Ecolabelling

By letting consumers know how much resources are needed to produce these kinds of products by using environmental labelling, henceforth known as ecolabelling, consumers can make informed decisions about their consumption. At the same time it forces producers to be more transparent about the processes behind their products. The International Organisation for Standardization (ISO) has developed a guide answering why ecolabelling correctly is so important for manufacturers today (ISO, 2019). They state in their guide that “*with increasing consumer concern about the environmental impact of the goods and services they buy, environmental labelling has emerged as a key tool for making sustainable purchasing decisions*” (Iso, 2019, p. 1). They highlight the need for internationally agreed upon ecolabelling to create credible labels that could help the rise in consumers that are interested in purchasing eco-friendly products and help manufacturers provide information to meet that need.

In Norway today, there are only two official governmentally accepted environmental labels, the EU-ecolabel (colloquially known as “the flower”) and the Swan eco-label (Andersen, 2021), both well established in the Nordic countries. The EU-ecolabel was created by the European Commission in 1992. The Swan is a Nordic coordination effort created in 1990 to label consumer products, investment funds, hotels, etc. These are mostly spotted on products such as food, detergents and paper products (Klepp et al., 2015). A plethora of other third-party labels or marks exist and are globally recognised, to mention some: Fair Trade, which ensures that the product in some way supports farmers and their communities (Fair Trade, 2022) and Textile Exchange Standards, responsible for various standards for animal materials, including Global Recycle Standard (GRS) and Responsible Down Standard (RDS) (Textile Exchange, 2022). To be able to use third party labels, the product must fulfil a series of demands, and the producer is likely to have to pay a fee to the organisations behind them.

To avoid this fee, many companies create their own labels. The problem with these company made labels is that there is no third-party that can verify the company’s claims when they label their products as “*sustainable*” or “*environmentally friendly*”. The incorrect use of these terms has led to the creation of the term “greenwashing”. Greenwashing is a concept where a company

or brand spends more time and money on branding themselves as environmentally friendly rather than actually implementing solutions (Delmas & Burbano, 2011), or only sharing information selectively to curate a sustainable image of themselves (Doebbe, 2019). This also includes the use of wording and imagery that connotes that a product is made with more environmentally friendly materials and processes, without having had a documented different impact than their normal production. An example of this is H&M, which in 2019 was accused by the Consumer Authority (Forbrukertilsynet) of illegal environmental marketing using inflated language with documentation with their campaign “*Conscious*” (Myklebost, 2019).

## 2.4 Shopping and Consumer Behaviour

Consumer behaviour can be seen as an experience, and as a decision-making process. Within marketing there exist several ways of modelling consumer behaviour. By employing such models, companies and retailers are able to understand how consumers think, feel and gather information, and how they are influenced by the social, familiar and cultural environment around them. These factors are crucial for companies and retailers to understand if they are to be successful at influencing consumer behaviour in such a way that it leads to a purchase decision (Belch & Belch, 2003, p. 105). Such models also rationalise the actions of the consumers, which is not always the case. To understand why, it is important to understand shopping as an experience versus shopping as a decision-making process.

### 2.4.1 Shopping as Experience

It is vital for the success of a company or retailer to provide their customers with positive shopping experiences. A good shopping experience that allows for exciting and memorable events is more likely to influence customer satisfaction and decision to purchase products from the company/retailer (Ceccacci et al., 2018). A good shopping experience is directly linked with a good customer experience. Customer experience can be defined as the response customers have both internal and subjective to any contact with a company, both directly and indirectly (Meyer & Schwager, 2007). Their cognitive, affective emotional and social responses to input encountered during their interaction shapes their experience and response (Ceccacci et al., 2018), and as such its definition shares similarities with that for good UX (Section 2.1). Shopping can be more than just need fulfilment: It is a process that can be a source of self-gratification and reward, sensory stimulation, discovering trends in products and for diversion and recreation socially with friends and family (Hornik, 2021).

While shopping still occur at physical retailers, online shopping is becoming increasingly popular. Where physical retailers can offer a physical evaluation of a product (see, touch), online retailers can offer a more detailed product search and possibly better prices, which has led to an increasing level of customers using physical stores as “showrooms” to be able to gain better insight into a product, eventually buying it online (Bandara, 2012). Conversely, consumers can perform their research on a product online, find the cheapest and/or closest retailer and perform their purchase at a physical retailer (Scarpi et al., 2014). Cavalinhos et al. (2021) also found in their literature review that customers are affected by influence from online personalities with large followings (so-called influencers) on social media platforms.

Customers are increasingly more inclined to compare prices from different retailers on the same or similar products, or do research on a product online using their smartphones when present at a physical retailer (Cavalinhos et al., 2021). This can be seen as an example of the increasing awareness amongst consumers about how consumption activities tend to use scarce resources, such as time, money and energy, leading more to take actions reflecting on their available resources, i.e. search for best deal to save money, or order a product online in order to save time going to a physical store (Hornik, 2021).

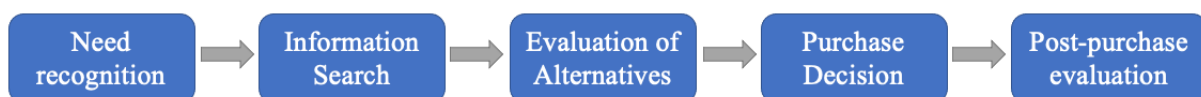
There are mainly two observed behaviour patterns when interacting with computer-mediated environments, as first proposed by Hoffman and Novak (1996): Goal-oriented searching and experimental browsing. Goal-oriented searching refers to the behaviour patterns that take place when a user has a specific goal they want to achieve, a clear end-result. In an e-commerce setting this can be in the form of searching for a specific product to fulfil a certain need or want. When being goal-oriented, a consumer might be interested in narrowing their search using faceted navigation, also known as guided navigation. Faceted navigation makes use of metadata about the products offered by an online retailer and uses this information to provide the consumer with visual lists or filters by which they can sort the products (Morville & Callender, 2010). This allows the user to narrow down their search by being more specific about what they are after.

Experimental browsing behaviour refers to user behaviour that is non-specific, characterised by no end goal, influenced and directed by the use of the internet (Ko, 2020). Hoffman and Novak (1996) mention that users that are browsing might experience “flow” in their process: A prolonged period of activity where the user experiences distortion of time. In this flow of browsing in an e-commerce setting, the user could be perusing different online retailers, with

no end goal in mind, a digital version of window shopping. Studies to understand these behaviours and to predict when they might lead to purchase decisions have been performed in research before, and machine learning based on these are deployed to be able to predict whether a user will make a purchase or exit the e-commerce site. Ozyurt et al. (2022) used machine learning to analyse clickstream data (how users navigate on a computer) from e-commerce sites combined with a model of the goal-oriented search versus browsing to trigger marketing interventions to defer users from exiting the e-commerce site, and rather make a purchase.

## 2.4.2 Shopping as Decision Making

Most models on consumer behaviour are based on or around the five stages of the traditional consumer decision-making process; stages the consumers go through when deciding upon the purchase of goods or services, as visualised in Figure 2.1. The five stages of the traditional consumer decision-making process are as follows: Need recognition, information search, evaluation of alternatives, purchase decision and post-purchase evaluation (Stankevich, 2017). Need recognition occurs when the consumer realises they have a need that has to be met, which can come about in one of two ways: Internal or external stimuli. Internal stimuli are from the consumer themselves, e.g. when a product they have breaks and needs replacing. External stimuli are from marketers influencing the consumer's perceived need, e.g. presenting consumer with advertisements and sales to market their product as desirable. By creating a disproportionate balance between customer's current state and preferred state, marketers can influence consumer behaviour.



*Figure 2.1 – The five stages of the traditional consumer decision-making process as seen in Stankevich (2017)*

In the information search stage the consumer gathers information about the different options that exist to meet their need. They can base their decisions on information from their own previous experiences, ask friends/family for their experience, or do a search online for recommendations and reviews from previous consumers related to their need. This stage can vary in length in based on risk involved, level of interest, economic considerations and previous experience with a product. After enough information has been gathered, the consumer should have created an evoked set consisting of interesting alternatives.

Evaluation of the alternatives gathered can then start, with the consumer making cuts in the evoked set by considering which attributes they want in their new product. These attributes can be brand, price, quality, materials, consequences of use, availability, and so on, depending on what is important to the individual consumer. At this stage, many consumers can also abandon their process, deeming the alternatives ill-fitting for their needs.

The purchase decision comes after the consumer finishes evaluating their alternatives, being left with a product/products that are viable for them. This is when the consumer decides upon which, if any, of the alternatives they wish to purchase. There can be a time delay between the information search stage and the purchase decision if the product is of higher “complexity”, as Stankevich (2017) formulates it, such as cars, personal computers or other items of longevity and higher price points, whereas other low-involvement products can have a shorter decision time.

The post-purchase evaluation happens after the consumer has received and experienced their product. This comes from considering the product against their initial wanted attributes, and if they match their expectations or not. If satisfied, the consumer can positively impact others if asked about their experience by others, and conversely, if dissatisfied, they can impact others negatively towards the product.

The five stages of the consumer decision-making process are not necessarily performed strictly sequentially and can blend into each other, or happen in iterations, especially between the stages of information gathering and evaluation of alternatives. The traditional method can also be seen as an abstraction and rationalisation of the decision-making process, as many consumers can behave irrationally and may diverge from the expected pattern, skipping steps due to various reasons, as not all decision we as human make are rational or logical in nature (Solomon et al., 2006, p. 259). Frequently purchased items at low price points or products from brands the consumer prefers are often decided upon with little or no involvement of the aforementioned stages (Belch & Belch, 2003, p. 122). Consumers can make unplanned purchases on impulse (Solomon et al., 2006, p. 259), or they can act on “shopping momentum”, purchasing additional, unrelated items to their initial purchase because they already bought one product (Dhar et al., 2007), in both cases skipping several of the stages. A positive shopping experience, meaning positive impressions of the store, layout, products, interactions with employees if a physical retailer, can lead to impulse buying (Mohan et al., 2013), forgoing the consumer decision-making process.

## 2.5 Chapter Summary

This chapter has explained background information and research used in, and needed to understand, this thesis. The field in which this research falls was explained to be HCI, specifically SHCI. Why doing research into environmental issues in the clothing industry is important is given, along with how this thesis will use the term sustainability. Shopping as an experience was explained and how that leads to good user experience, in addition to shopping as a decision-making process, its stages and why it is important, as well as in what cases it might not apply. This will be used to understand the results found in Chapter 4.

## Chapter 3

### METHODS

This chapter explains the research design of the study performed in this thesis. Qualitative methods are explained first, then how combining these methods with observational techniques are beneficial. To be able to go in depth about how users experience sustainability information features, methodical design was formed around an interview process. The data gathering process started with an exploration of popular e-commerce sites in Norway to create an overview of how sustainability information features are currently implemented, and the results from this will be used in the practical tasks in the interview. How the interview process was conducted and how the participants were chosen will be given. The data analysis method thematic analysis will be explained and how it was utilised to process the gathered data. Lastly, ethical conundrums regarding the data gathering process is reflected upon.

#### 3.1 Qualitative Methods

As this study wants to investigate how sustainability information features are used today, qualitative methods were chosen to be able to investigate the topic. In contrast to quantitative methods, which bases themselves on numerical measurements and statistics, qualitative methods are exploratory in nature with the goal of creating meaning in unstructured data for the use of answering a problem description (Lazar et al., 2017, p. 300). The use of quantitative methods for understanding the numbers in scope, diversity and frequency of use were considered, but ultimately disregarded as qualitative methods allow for a deeper understanding of the behaviour and reasonings of the informants used in the study.

Lazar et al. (2017, p. 300) mention three steps to qualitative data analysis: Having a dataset containing information pertaining the problem statement under investigation, finding relevant patterns in the components of the collected data, and finally using the components from the collected data to gain knowledge to answer the problem statement. In this study the dataset is obtained through the methods of combined interviews and think-aloud sessions. Methods such as interviews and participant observations are qualitative methods frequently used in HCI to be able to “*build an understanding of the needs, practises, concerns, preferences, and attitudes of*

*the people who interact with a current of future computer system*” (Lazar et al., 2017, p. 189). This was seen as an absolute strength for this study. Interviews and observations through think-aloud sessions were therefore chosen to explore the attitudes and perceptions of sustainability information features and their design amongst informants and gain a deeper understanding of informant’s needs and behaviour in meeting this information. The data was then analysed using thematic analysis, before the results of the analysis was used to create an understanding of the perception of sustainability information features and their possible potential for downfalls and improvements.

### 3.1.1 Qualitative Interviews

Performing interviews is one of the most common research methods used in HCI because of its ability to capture a breadth of data while still having the ability to go deeper with detailed responses (Lazar et al., 2017, p. 188). As Lazar et al. (2017) inform, there are different ways of structuring an interview, each with its own merits: Fully structured, semistructured and unstructured. In a fully structured interview, the researchers are limited to their interview script and their interview script only, they cannot stray from it. This makes the results easier to analyse, as all answers are given within a structure, but if an answer is interesting to the researchers, they are not able to ask the participants to elaborate about the matter. In a semistructured interview, however, tangents and follow up questions to the original interview script is allowed. The interview guide can consist of specific questions that warrant answers, and additional questioning of interesting topics is possible. In an unstructured interview the interview guide can be a list of general topics and themes the researcher wants to investigate by introducing them to the participants and have the talk freely.

For the purpose of this study, the semistructured interview was deemed most fit, as we wanted to investigate specifics of sustainability information features, as well as understanding how they are perceived by the participants. Its structure allows for flexibility in terms of adding questions based on participant’s answers, and having the options of asking follow-up questions, or for clarification and elaboration on topics not considered before the interviews (Lazar et al., 2017, p. 198-199). Holding the interviews in person was decided upon to gain a better repertoire between researcher and participants, and make observation of participants easier. For all its good qualities, semistructured can also be challenging in terms of knowing when to dig deeper or when to move on. Answers can be more difficult to analyse than for a fully structured



interview, as answers can be given in different parts of the interview or a question can be left out entirely, having the analytic work look for answers throughout the dataset.

### 3.1.2 Combining Interviews and Think-Aloud Observation

In HCI, interviews are often used to solve a problem with a specific technology or design, often combined with other methods, such as demonstrations of how a participant would solve a problem (Lazar et al., 2017, p. 200). Contextual inquiry techniques can be used in order to uncover knowledge about a process that can be easily missed when explaining how to do a task (Beyer & Holzblatt, 1998). This knowledge is known as implicit knowledge, and is important when designing and evaluating new and already existing technologies and methods. This is because participants tend to simplify and forget steps when explaining processes in interviews as compared to when they were asked to perform the action. As seen in Davis and Rebersky's (2007) work, after asking for descriptions of how to make a peanut butter and jelly sandwich, participants were to actually perform the task. In that, the researchers discovered that several students forgot to mention several seemingly unimportant steps, such as actually finding a knife and spreading the sticky peanut butter, to having to remove the sealed lid of a new can. In this example, the small things are seemingly unimportant for the end result, but in an evaluation of an artefact these steps can be crucial to understand the users' needs. This also builds on the work of Miller and Crabtree (1999), who suggests combining methods to be able to more clearly the connection between what interviewees say and do. With this in mind, the interview was designed to include two tasks (as will be described in Section 3.2.4) in order to observe how users interact with online retailers, during which the participants were to talk aloud about their process.

Jaspers et al. (2004) present the think-aloud method as exactly what the name suggests: Encouraging participants to talk aloud about their thoughts and processes whilst performing a task. By putting their thoughts into words, participants give researchers invaluable insight into their cognitive processes which would not yield the same information if they were to only be observed by the researcher or in reproducing their answers after having performed the task. van Someren et al. (1994, p. 1) brings up the same challenge as previously mentioned where if an expert in a field is asked how they perform their jobs, they are likely to mention the different methodologies and processes they are meant to follow, which can diverge from how they in reality perform their jobs. They present the creation of their thought process rather than the thought process itself which is the interesting part when understanding how a process is

completed. The researchers propose mitigating this by having the experts explain their thinking during demonstrations of their work, grounding their suggestion in the cognitive processes of the mind.

During the interview itself, screen capture technology was also used for observational purposes, to mitigate the risk of losing out on small behaviours the participants displayed during the interview. By capturing what they do on screen, we were able to go back and play the recording of the interview and watch the tasks being performed once more. This allowed the ability to catch the entire process the participants went through, allowing the researcher to be more present in the interview process while still making sure we were able to capture the participants behaviour.

## 3.2 Data Gathering

In this subchapter, how information on the available sustainability information features in online retailers was gathered will be presented, along with how the interview guide was formulated and the interview completed. As previously mentioned, the interviews were of a semistructured nature following an interview guide formulated to give insight into different themes based on the research questions: Normal shopping habits, how participants normally performed their online shopping, how they made use of sustainability information features and their general opinion on them (see Appendix B). Participants were encouraged to talk aloud about their experience during the tasks given in the interview, which allowed more insight into how and why they made the decisions they did.

### 3.2.1 Understanding Available Sustainability Information Features

To be able to understand which features for displaying sustainability information already exist and answering RQ1, an examination of five online retailers was conducted. The retailers used were chosen on the basis that they have been or currently are some of Norway's most popular e-commerce sites for clothing. The retailers included was therefore put together based on a list of most popular retailers for clothing (excluding sportswear) in Norway from eHandelsrapporten 2017, Zalando<sup>1</sup>, H&M<sup>2</sup> and Nelly<sup>3</sup> (Digital Opptur, 2017), and the winner

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<sup>1</sup> <https://www.zalando.no/>

<sup>2</sup> [https://www2.hm.com/no\\_no/index.html](https://www2.hm.com/no_no/index.html)

<sup>3</sup> <https://nelly.com/no/klær-til-kvinner/>

of Bring's Online Retailer of the Year 2021, GetInspired<sup>4</sup> (Bring, 2021). We also wanted to include a retailer that based their entire philosophy on being sustainable, and the choice fell on Northern Playground<sup>5</sup>. Ideally, newer data than 2017 would have been used, but there was difficulty in finding a list of the most profitable or most popular online retailers in Norway. Both Statistics Norway (Statistisk Sentralbyrå) and Nets (publisher of eHandelsrapporten) were contacted and could inform that the data we were seeking was difficult to get a hold of from the retailers' side.

By investigating each retailer and exploring how they implemented information and features about the company's sustainability profile and their products, a list containing all relevant information representations and features was created. This list was not made to be exhaustive of all ways retailers present this kind of information, nor is it used to define a definite practise of doing so, but rather is meant to gain an overview over what is possible to include. The retailers that were deemed to have enough information and features regarding sustainability was included for use in the practical think-aloud stage of the interview process, as described below in Section 3.2.4, to gain an understanding of how they were experienced by consumers.

### 3.2.2 Interview Process

All interviews were completed in April 2022, with four interviews each day over a three-day period. Each interview lasted between 23 minutes to 47 minutes, depending on the participant. They were recorded and transcribed after completion. Ahead of the interview, participants were given information about the project and how the interview would be structured. They were informed on how their data would be treated, their rights as informants in the project and given a consent form to read and sign which was handed back to the researcher before the interview could start (see Appendix A). The personal information gathered were restricted to age and gender. All personalia was anonymised by referring to participants by the prefix P for participant and numbers 1 through 12, and thus participants are not identifiable in the study. Recordings of both voice and screen were stored in encrypted files, and deleted after the project ended.

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<sup>4</sup> <http://www.getinspired.no>

<sup>5</sup> <https://www.northernplayground.no>

### 3.2.3 Pilot Interview

A pilot interview is an important step in properly planning and executing a research interview process (Lazar et al., 2017, p. 210) and was therefore completed before work commenced on the actual interviews. Pilot interviews are often performed in order to gain insight into the content of the interview guide and work out practical and technical problems that may occur during the interviews, allowing for adjustments to be made to correct them ahead of time. This is done so that the effect problems occurring during the research interviews can have on the results is minimalised.

During the pilot for this study the interest was finding out if the questions and themes given in the formulated interview guide gave answers that were appropriate for gathering the information wanted and if the sequence in which these were asked allowed for a natural flow in the conversation between the researcher and the participant. Since the intention was to record the participants' answers and screen record how they performed the tasks they were given, there was also a need to test the technology used for this in practice to be able to make recordings that were of good quality. The participant in the pilot was found by the same means the ones in the research interviews were, and fulfilled the same criteria by being between the ages of 20 to 35 and agreeing to participate.

The pilot interview revealed where the interview guide worked best, where it had to be improved and which questions were duplicates or gave the same answers. The interview questions itself led to interesting answers, but it became clear that the sequence of some of the questions and the themes under which they were categorised had to be switched. Other questions had to be more clearly formulated to extract the type of answer that it was meant to from the participants. The technical testing of the two recording types revealed that the screen recording worked as expected, but the sound recording device for participants answers had to be closer to them to avoid unintelligible answers.

### 3.2.4 Interview Structure

The interview had four phases, each with their own intentions: Background questions regarding normal shopping habits, two tasks for participants to complete, evaluating the use of the sustainability information features in the tasks, and finally general questions about their evaluation of environmental issues in their normal shopping habits (see Appendix B for the full interview guide). At the start of each interview participants were informed on the purpose of

the study in broad forms and informed on their rights as previously mentioned. Several participants reported feeling a little nervous about participating, so it felt natural to start with easier questions such as age and gender, and then use the background questions to warm up the participants, in the process mapping their normal thinking behind purchasing a new product. This included questions about how often they shopped, what made them feel like a new purchase was necessary, what they saw as important when purchasing new items and whether they preferred online or physical stores. Participants may want to present the best versions of themselves or answer questions with what they think the researcher might want to hear instead of their actual experiences or feelings when using the qualitative method, so they were encouraged to give their honest opinions (Lazar et al., 2017, p. 213)

In the second part of the interview, the participants were asked to perform two practical tasks and encouraged to think aloud when performing them. The tasks given were worked out in collaboration with this study's supervisor and were made to reveal patterns in the participants' behaviour. The tasks were performed on a laptop where internet history was scrubbed between each participant, to avoid the influence of previous history on the next participant.

Task 1 asked the participant to perform a simulated purchase of a product. It started by having them look for a piece of clothing they would normally purchase, and all the way to the checkout without actually purchasing the product. This was done without any input from the researcher as to how or where to do it (other than online). The task was accompanied by questions about what they were doing and why if participants did not talk enough about their actions.

Task 2 had the participants find two products that were marked as environmentally friendly or sustainable on one of the online retailers explored before the interview process. The task was accompanied by similar questions as the first task, but this time they also included questions on the sustainability information they saw (or did not).

After having performed the tasks, the interview entered the third phase, where they were asked a series of questions regarding their experience with sustainability information features and about their impression of them. Questions included if they found them easily available, easy to understand/use, their impression of them and if they had any ideas as to how to improve them. The participants still had access to the laptop used to complete the tasks, in case they wanted to demonstrate or refer to specific of a retailer. Closing the interview, questions regarding their

shopping habits were asked again, but this time with an environmental angle. Upon completion of the interview participants were debriefed as to the intention of the study.

The semistructured interview enabled the researcher to ask questions on issues that were deemed intriguing during the interview, or to follow up on several of the participants' views that the researcher had not previously considered. The think-aloud-session also made a positive impact on how comfortable the participants were, as giving them practical tasks to perform seemed to ease the tension of the “formal” situation they were in with the researcher. By giving the participants access to the laptop used for the tasks during this part also helped them answer the questions about the use of the sustainability information features more easily, as they were able to refer to the features they were thinking of in their answers or have a better look at others.

### 3.2.5 Participants

The participants in this study were chosen on a convenience sample basis (Patton, 2002). In a convenience sample, participants are selected based simply on their accessibility to the researcher, be it in the street, a public building or at a workplace/university. It must not be confused with random sampling, as participants are not chosen at true random and will not be able to produce the same statistically balanced results (Galloway, 2005). According to a Statistics Norway, data gathered in 2021 shows that the age groups between 16-54 years of age are the most frequent users of online shopping (Statistics Norway, 2022). Ages 25-34 were the most active, with 69% of all respondents in the age group having used online shops to buy clothing or sports articles in the last 12 months. This age group was therefore set to be the target group for this study.

The participants in this study were as previously mentioned, recruited on a convenience sample basis, with no other criteria than being between the age of 20 to 35 and agreeing to participate in the study. There were 12 participants in total between the ages of 24 to 29, with 5 being female and 7 male, all students at the University of Bergen. Their normal shopping habits in relation to clothes ranged from one new item of clothing each week to one new once a year. All had experience with online shopping. They were chosen for no other reason than being available and fitting within or around our wanted age group. No other personal information was gathered other than age and gender identity.

### 3.3 Data Processing with Thematic Analysis

Once all the interviews had been conducted, work commenced on processing the collected data so that analysis could be performed. During each interview notes were taken, and at the end of each these were written up in a common document to preserve nonverbal and observed cues and behaviours among the participants. As the interviews were recorded, all were also transcribed. After combining the information in the interview notes, the transcriptions and screen captures, thematic analysis was chosen for the analysis method.

Thematic analysis is a widely used qualitative method and allows for processing of the data by screening it for common patterns and themes. In this method, a theme is a gathering of interesting datapoints with common content. There are several ways of conducting a thematic analysis, and this study followed the guidelines set forth by Braun and Clarke (2006). Their steps are given as follows: Familiarising oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing a report of the results. This was deemed a fitting way of analysing the gathered data.

Before the analysis work itself could begin, all 412 minutes with recordings were transcribed. This was a time-consuming process taking around 25 hours in total, but it was expected, as one hour of recorded interviews can take up to as long as 10 hours to transcribe in detail (Lazar et al., 2017, p. 188). In thematic analysis, Braun and Clarke (2006, p. 87-88) finds transcribing to be an excellent way to familiarise oneself with the data, and as such all transcription was done by the researcher. The result was a total page count at 59 A4-pages with transcribed material. When transcribing, thinking sounds such as “eh” and “hm” were included, and behaviour cues from the interview notes or the screen capture videos were included in between two asterisks to connote actions or behaviours (\*action\*). Furthermore, the screen capture video of an interview was consulted if there was ambiguity in what the participant was talking about when using phrases such as “*if you look at this part here*”, “*as they show here*”, etc., in order to record the correct information the participants were conveying. Tone of voice was also noted, such as when a statement was made jokingly or ironically. This was all included in order to preserve the authenticity of the material. Common themes were spotted already at this stage, which were noted.

To start analysing the collected material, a master document was created with all questions and their corresponding answers, allowing accessing all answers to one question in the same document. When analysing qualitative data, it is important to follow commonly accepted coding

procedures as to ensure the validity and reliability of the collected data, as qualitative analysis is more liable to human bias than quantitative methods (Lazar et al., 2017, p. 304). The thematic analysis was performed as previously mentioned following the guidelines set up by Braun and Clarke (2006). For each question each answer was coded and categorised under a theme, and in an iterative process the 6 steps of Braun and Clarke was used to find common themes and patterns in the data. To have an order in when the different themes showed up in the interview process, they were placed in the four categories corresponding with the structure of the interview: Background, practical task 1, practical task 2 and evaluation of sustainability features. Themes discovered during the practical tasks were then again thematically categorised under the 5 steps of the consumer decision-making process explained in Section 2.4.2. This was done in order to understand how and where, in that process, participants found sustainability information.

### 3.4 Ethical Perspectives

At no stage in this study was sensitive information such as ethnicity, political opinion, religion, sexual orientation, health or similar gathered. As a result, this project does not fall under the duty to report or register with the Norwegian Centre for Research Data (NSD). In consultation with the study's supervisor, the project has been created in line with the University of Bergen's privacy guidelines in research and student projects and documented in RETTE, the university's system for risk and compliance when processing personal data. A consent form was created in line with the privacy guidelines outlining for the participants what information would be gathered, how it would be stored and how they would be treated. It also included their rights as informants to view the data or withdraw from the study at any time during or after the interview, in which case their data would be deleted. Voice recordings and screen capture videos were stored in password protected digital files. During the transcribing process each participant was given a number between 1 and 12, which was used to anonymise them.

Despite precautions, there is no way of predicting prior to collecting data what the participants will perceive as sensitive information. Since the study brings up topics such as the environment and what may be construed as queries about personal finances, it could be hard to identify what could be thought of as disclosing sensitive information for the participants. Examples of what could be disclosed could be discussing their stance in the climate debate or if there were economic reasons behind why they did not purchase clothing often. Questions were designed to avoid this, and by performing the pilot interview, it was possible to confirm with the pilot



participant that the interview could take place without bringing up these issues. If participants had issue with what had come up during the interview, they were able to ask that all their information would be deleted.

### 3.5 Chapter Summary

This chapter has explained the various methods used in the study of this thesis. Why qualitative methods, specifically semi-structured interviews, was chosen and combined with the observational technique think-aloud was chosen for data gathering was given. Which online retailers were chosen and why has been explained. The gathered data was analysed using thematic analysis, and how this was performed has been explained. The chapter lastly brings up a reflection on the ethics on gathering information on the participants.

## Chapter 4

### RESULTS

This chapter presents the results found in the performed exploration of existing sustainability information features and from the performed interviews. The exploration results will first be given and the discovered sustainability information features will be presented. The results found in the thematic analysis is then presented from Section 4.2 onwards, in the same sequence the interviews were conducted, as described in detail in Section 3.2.4. Starting with a brief overview of the self-reported shopping habits of the participants and the different reasons for their shopping behaviours, then move on to the results from the practical think-aloud tasks. These results will be reported following a modified version of the consumer decision-making process, as described in Section 2.4.2. This is done to understand more easily at which stages in the shopping experience sustainability information features are presented to the consumer. Finally, overarching themes are reported.

#### 4.1 Exploring Available Information and Features

To gain an understanding of what kinds of sustainability information features were currently in use, the retailers Zalando, H&M, Nelly, GetInspired and Northern playground were explored. They were chosen based on reasons given in Section 3.2.1, being some of the most popular retailers in Norway, and Northern Playground was included as reference to a retailer with a completely different approach to sustainability. The presented information and feature list was made after rigorous examination of the chosen websites, and if a feature was discovered and not already on the list, it was added (see Appendix C for layout of e-commerce retailer). After the list was complete, another round of examination was conducted to be able to create an overview over the information and features employed by the different retailers. Each feature found was marked on the table, as seen below in Table 4.1. The presented information or features was split into two categories, depending on what the information or features helped identify as sustainable: *Profile* or *Products*. *Profile* refers to information or features available on the retailer's website which presented the retailer's profile towards sustainability and its available information or features. *Products* refers to how they presented sustainability information or features about the sustainability of their products.

Presented Information / Features		Zalando	H&M	Nelly	Get-Inspired	Northern Playground
Profile	Separate tab in navigation bar or main menu marked with "sustainability" or equivalent		X			X
	Separate tab in footer marked with "sustainability" or equivalent		X	X		
	Information on "sustainability" or equivalent in "About us" or similar company pages	X	X			X
	Promoting for sustainable products on front page	X*				X
	Categories marked "sustainable" or equal when choosing product categories	X**	X			
	Reward point system for making sustainable choices		X			
	Visible goal retailer aspires to achieve with sustainability		X			X
Product	Marking of single items in product grid view as "sustainable" or equivalent with symbols or words	X				
	Separate filter to sort out sustainable products	X				
	Explanation on the "sustainable" or equivalent labelling of single items	X	X			
	Refers to third party eco-labelling or markings in their explanations	X	X			X
	Explanation on the sustainability of all products on their product page					X
	Promotion of more sustainable options on product page					
	Information on product origin (suppliers and factory)		X			X
	Sustainability information on materials used in all products		X			X

*Table 4.1 – Overview of which retailer offered which sustainability information and features.*

*\* Zalando has a carousel with rotating promotions where one is on sustainability. \*\* Zalando's becomes available after choosing a main gendered category.*

The retailers differed greatly in what information they presented to customers and what features they made use of. GetInspired had no information about their sustainability profile or labelled any products in their inventory. Nelly had a hyperlink in the footer of their website (bottom banner) to access information about their strategy, but no other marking of sustainability on or for their products. H&M presented customers with information about their approach to sustainability, which was easily accessible. However, they did not label their products and as such the only way to discern if a product was sustainable was to open the product page to read about the materials used (see Appendix C for layout of E-commerce sites explained). In comparison, Zalando had little information about their sustainability approach reachable from their home page, but they labelled their products and offered additional information about them on their individual product pages. With the aforementioned retailers, sustainability information

and features seem as if an afterthought. Northern Playground sticks out from the other retailers examined, as they have a different approach to sustainability. While they do not have the same features of marking products as the others do, they are upfront on their home page and information sites that all products they sell are made to be more sustainable, as well as conveying sustainability information about each product on their respective sites.

## 4.2 Interview Results

From here on out this chapter will concern itself with the results found in the qualitative interview.

The interview started with asking participants questions regarding their normal shopping habits and what they found were the reasons for their purchase of new clothing items. The general clothing shopping habits of the participants were spread out from not buying any new products in a year to shopping 4-5 times a month. P01 had restricted themselves to only buying clothing items second-hand for the last two years except for essentials, as they felt they could live more environmentally friendly that way. On the other end of the scale, P02 reported that they could shop up to four to five times a month. The other participants landed somewhere in between, with once a year and a few times a month.

### 4.2.1 Purchasing Behaviour

All participants attributed their shopping behaviours to different reasons that could all fall into five main categories – trends, social influence, wellbeing, replacing a broken item or fulfilling a need. Those that reported being affected by and liked following trends were also the same participants that reported to shop more than once a month. Social influence could come from people they surrounded themselves with, or those they followed on social media. Wellbeing referred to the way clothes affected the image the participants had of themselves. Replacement and need fulfilment were the most frequently attributed reasons for purchasing clothing, being mentioned by all participants. It was brought up in two ways – to replace clothing to renew their wardrobe or replace clothing which had been broken or destroyed in some form. Furthermore, participants attributing their purchasing of a clothing item to only once to a few times a year were also more likely to report that they wanted to replace a broken item.

#### 4.2.2 Online versus Physical Stores

When asked whether participants preferred shopping online or in physical stores, the majority said they preferred to purchase clothing online. Online stores were said to have larger selections both in styles and sizes, provide a better overview of products and easier navigation than physical stores, and are more easily accessible. Three participants, P03, P09 and P11, also specifically mentioned that with online stores they did not have to interact socially or have to talk with others. One major drawback that was mentioned with online stores was that it was difficult to gauge sizes needed if one were not familiar with a product or brand. This was especially mentioned in relation to bottoms such as trousers and jeans. P04 said of the problem with different sizing: “... *I hate to buy trousers online, so I don't do that. They look really cool, right, but then when they arrive, they never fit!*”. They mentioned that they would find the product they wanted in a physical retailer to try them on and find their size, then go online and order it from the cheapest retailer. A counter opposite practise was also mentioned where participants said that they would use the internet and online retailers to gain an overview of stores to see where they could get their desired product for the cheapest price, then buy it in a physical store.

#### 4.3 Think-Aloud Task 1

In the first task of the practical part of the interview, Task 1, participants were asked to go to an online retailer of their choice and pick out a product they would like to purchase. How the participants approached the task, and the findings and themes gathered, will be presented in the sequence in which they occurred or presented themselves in in the different steps of the customer decision-making process as earlier mentioned. The problem recognition stage will be skipped, as there was no intrinsic need with the participants that triggered their actions. The problem recognition was simulated and prompted when the participants were tasked with showing how they would normally shop for clothing online. The participants had no problem understanding the task at hand, with some clarification questions such as what site to use or if there were specific products they were to look at. They were told to choose a site they liked to shop at, and if they had no product to search for in mind, a sweater was suggested as their end goal if they spent too long browsing.

### 4.3.1 Information Search

Participants were given a free choice of what online retailer they could use for the task, and their respective choices can be seen in Table 4.2 (one participant used two different retailers). The reasonings for choosing the different retailers were that they either chose a retailer they were familiar with or, in Zalando’s case, that they felt had a large selection of items.

<b>Online Retailer</b>	<b>Participant</b>
Zalando	P01, P04, P05, P06, P07, P9, P10, P12
Boozt	P02, P07
Junkyard	P03
CareOfCarl	P08
XXL	P11

*Table 4.2 – Retailers chosen by participants in Task 1.*

#### *Goal-oriented Searching and Browsing*

As the participants looked for the products they were after, it became apparent that they preferred two different ways of searching for a product. 7 participants preferred to have a goal in mind when browsing, while the others half preferred to simply browse until they found an item that they liked. Those that browsed goal-oriented also tended to make use of the filtering feature most online stores offer to specify what they were looking for. This included filtering for clothing type, colour, size, brand, material, price and discount. There was also use of the search bar to go directly to the kind of product they wanted. Those that preferred simply browsing to look for products would choose one of the online store’s premade categories, such as “News” or “Fashion has no gender”, or chose a clothing category such as “Dresses” or “Tops”, then proceed to simply scroll until they saw something that was fitting to their taste. Participants from both the goal-oriented and the browsing view mentioned that the retailers they used would normally have log in options where the company would store information about their users. Information such as browsing and purchase history would then inform personal recommendations on the online retailer’s front page, which several participants would check first when shopping.

### 4.3.2 Evaluation of Alternatives

As the participants made choices as to which products they would have liked to purchase, they all took into consideration a mixture of the important attributes mentioned in Section 4.2.1. Decisions were also based on personal style and likes and whether they were familiar with the brand offering the product. Views from others on a product played a part for many of the

participants, both in the verbal form from people around them and written form on product pages as product reviews. Product reviews were said to often be used to understand what previous buyers had to say about a product when it came to sizing and quality, bad reviews could be off-putting to all.

There were participants that had a structure to the way they shopped online. P02, P06 and P07 all described versions of the same style of evaluation of alternatives— if they were looking for a specific product, they would, if a retailer allowed it, use a favourite function to save products of interest of the kind they were looking for whilst scrolling in the product grid. If there was no favourite option, they could open a product in a separate tab in their web browser. When they felt they were happy with their now smaller selection, an elimination process could start where they would have a closer look at the product, factoring in price, material and size availability. By repeating this process, they would be left with their viable choices and able to make a purchasing decision. P02 and P06, both self-reporting to buy new clothes several times a month, remarked that they were also sometimes scrolling online stores just to scroll and look at clothes, and that would be their activity for the night. By doing this, they themselves compared it to a hobby or pastime. P06 also remarked that they preferred to shop in physical retailers, because they normally did so with friends or family. For them it was a way of socialising, where they would make a day out of it by going to the mall, browsing stores and eating out. This was a way they had spent time with their parent and siblings growing up.

#### 4.3.3 Purchase Decision

The purchase decision was a simulated decision in this study. Once the participants had found a product that satisfied their own criteria for purchase, they were asked to put it in their digital shopping cart and perform all the steps of purchasing a product up until, but not including, the final step of putting in payment information. They had then performed the task given.

To gain a better understanding of their normal habits, participants were asked what made them make a purchasing decision or not in their everyday lives, whether online or in physical stores. The answers were accessibility in different forms, with one participant usually not making a purchase online unless the retailer offered Vipps, a smart phone application for transferring money without logging into an online bank or using a debit or credit card. Others noted that they were triggered to act upon their purchasing decisions based on time constraints. This meant that they either made a purchase in a physical store because they did not have time to wait for

their purchase to arrive by mail from an online retailer or conversely, they purchased an item online because they had busy schedules and no time to visit a physical store to make their purchase.

The participants all had different attributes of a product they regarded as important for them in order to make a purchasing decision. These were quality, materials, longevity, price, brand and familiarity. All participants made some mention of quality, material and longevity, with the general consensus being that they were important. If they spent money on something, they would prefer that the products were of better quality or better materials so that they would last longer. A timeless feel was important in terms of longevity and versatility of a product as well.

Two of the participants specifically drew connections between longevity and sustainability. P01 made the statement that “... *if I were to buy myself something new, I would buy something that was proper and that I knew could last long, because that is more sustainable*”. P07 commented on the fact that for them, quality meant that they could buy less and have pieces of clothing for longer: “*Yeah, that’s the thing with quality. Both for the environment and for it to last longer, but also that things should endure being used, that in and of itself is environmentally friendly.*”. This information lets us know that these participants are aware of how purchase decisions can be done in a more sustainable manner if they meet the right characteristics. P07 used the filtering function to sort their choices based on the composition of the materials of a product, and ideally wanted them to consist of 100% natural materials. Conversely, P05 pointed out that they had never not bought a product because of the material the product was made of and that they did not think too much about it.

There was an overall instillment that price equalled quality, because of more expensive materials and/or better craftsmanship. As such some participants stated that price was something they did not think about, within reasonable amounts. Some were willing to pay more for a product if that meant it was of better quality. Using sales categories and searching for discount codes online or from influencers were ways mentioned of achieving this as students. Brands were also mentioned in this context, as brand items are usually priced higher than “non-brand” items, thus following the same previously mentioned logic they can be seen as higher quality. By contrast, there was a minority of the participants that held price to be the most important quality, again using the statement “getting the most for their money”, but this time in regard to fulfilling their needs for as little as possible. The same participants cared little for



what materials were used and preferred to buy several cheaper pieces of clothing compared to one more expensive one

Participants were more comfortable with purchasing from brands they had experience with. They would avoid brands they had had a negative experience with, especially regarding quality. Willingness to purchase a new type of product they had no familiarity with would be higher from a brand they had positive experiences with. To select a size online without trying the item on first would be easier from a familiar brand, which plays into the notion many made that comfort, style and fit was important.

**4.3.4 Post-Purchase Evaluation**

There was no real post-purchase evaluation resulting from Task 1, as it was a simulated situation, and no real purchase was made. After finishing the task, however, several of the participants which self-reported to buy clothing one to three times a year remarked that they normally would buy an item in bulk when they first made a purchase of a product they liked. It included either buying multiple of the same item or buying an item in several colours. P09 remarked that when they bought for example a new pair of the jeans they loved, they often bought three pairs at a time, in order to not have to shop for more any time soon.

**4.4 Think-Aloud Task 2**

As stated at the start of Section 4.3, there is only a simulated problem recognition stage in this study. Task 2 asked participants to look for two additional products, but this time they were to look for products that were labelled to be sustainable. They were given the options of shopping at the retailers previously explored in Section 4.1 with the choices of participants shown in Table 4.3.

<b>Online Retailer</b>	<b>Participant</b>
Zalando	P01, P03, P04, P05, P06, P07, P08, P09, P10, P11, P12
H&M	P02

*Table 4.3 – Retailers chosen by which participant in Task 2.*

All participants except one chose to perform the task on the online retailer Zalando. Participants reasoned their choice with either that they were already familiar with the retailer they chose, or they were used to another store and chose another to challenge themselves.

#### 4.4.1 Information Search

There were several remarks made along with this choice were the participants made note that they knew the online store they chose had some type of features that could help. To find products that were marked as sustainable, the participants made use of each retailer's offered sustainability information features. These included tags, filters and categories to varying degrees, which will be further explained here. Their ease of use divided the participants, with one group stating that the features offered were difficult to use and difficult to locate, whilst the other were of the opinion that they were easy to use and located in sensible places.

##### *Visibility*

Several participants had trouble initially locating sustainable products once they entered the online retailer's site. Even those who claimed they knew that a retailer had sustainability features struggled to find them initially. H&M had a tab in their navigation bar, but this led only to information about their approach to sustainability, not to any products. Zalando had no tab in their navigation bar for locating sustainable products (see Figure 4.1). Participants were seen to go to the main gendered categories to look for a collection or category. Some found curated categories with sustainability as the theme and browsed from there which gave a sense of security in that all products were seemingly sustainable. P08 remarked that they preferred this curated category to the filter, as they had no experience with sustainable shopping and liked the idea that when they browsed, all the products fulfilled some criteria for sustainability. Contradictory, multiple participants found the features for locating sustainable clothing easily. Their common trait was that they did not regard it as a separate attribute to a clothing item, but rather assumed that the sustainable clothing was presented along with the "normal" ones.



*Figure 4.1 – Screenshot of Zalando's navigation bar, on their home page (Zalando, 2022a)*

##### *Tag*

Most retailers with sustainable products employ some sort of visible tagging on their products that the company deem more sustainable, as seen in Figure 4.2. All participants agreed that this was one of the first features they noticed on a product when browsing through the product grid and the first indicator of a product's sustainability. It was the only information given about a

product's sustainability at the information search stage, for more they would have to enter the evaluation of alternatives stage and open the product to inspect. The tag was mentioned by P12 to be a good way to trigger further curiosity about a product.

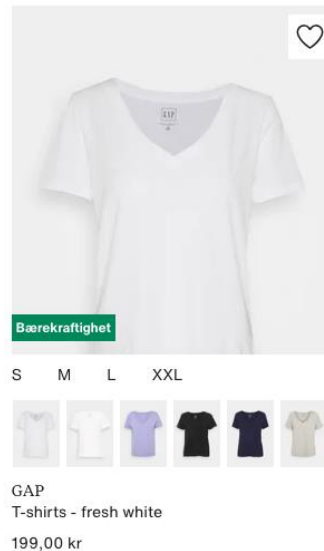
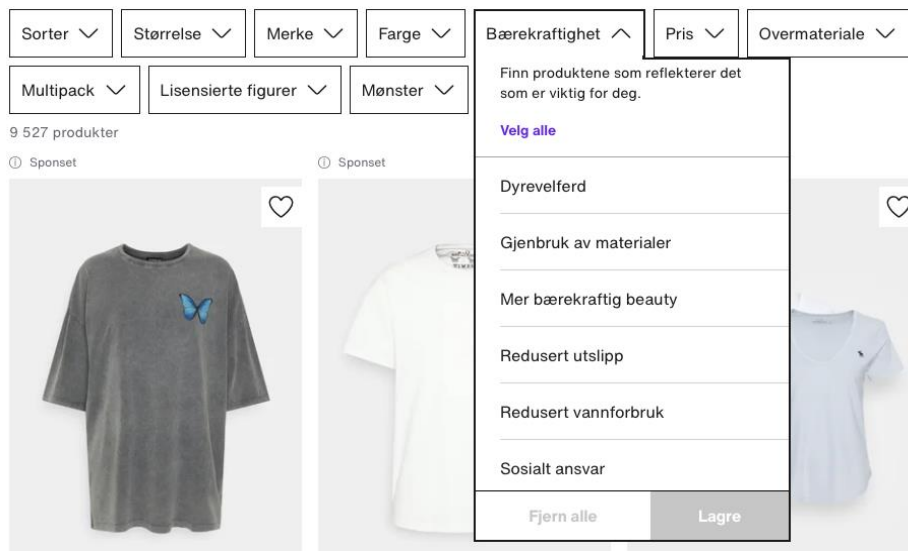


Figure 4.2 – Screenshot of Zalando's sustainability tag, presenting the tag on an item of clothing (Zalando, 2022e)

When talking about the tag, the intention behind it was also brought up. Participants tended to mention that they did not know if they could trust the producer's that tagged their own products with sustainability. P07 specifically talked about their mistrust being rooted in previous experiences with tagging which had marked products made of 100 % polyester as sustainable, a view the participant disagreed with. Why a product was marked was also unclear to them, and questions about whether all products marked were equally sustainable were raised at this stage.

### Filtering

When entering a product category page, the online retailers offered multiple choices as to how participants could filter or sort their search. Many had as mentioned in Section 4.3.1 used the filter to specify more clearly what attributes they wanted their desired products to have, and this was also the case in Task 2. In the case of Zalando, which most of the participants used, there was a separate filter named "Sustainability" under which several categories could be selected. These were "Animal Welfare", "Reuse of materials", "Reduced emissions", "Reduced water consumption" and "Social responsibility", as seen in Figure 4.3. Several users marked all of the categories to not miss out on any products, citing not having enough knowledge about any one of the categories to simply choose one as the reason.



*Figure 4.3 – Screenshot of Zalando’s sustainability filter, presenting the filter (in Norwegian: “Bærekraft”) with associated categories in Norwegian (Zalando, 2022d)*

Another approach was to mark only one or two categories, most commonly “*Reuse of materials*” and “*Social responsibility*”, as these were seen as more concrete issues that the participants could relate to or had an opinion on. The other categories were said to be too diffuse or abstract in their meaning. All participants contemplated the meanings for the categories they did not understand. For example, with “*Social responsibility*” many attributed the category with being about the working conditions for those who made the product. At the evaluation of alternatives stage however, they found this category also included the use of e.g., organic cotton in the product. This created confusion about what the retailer wanted to achieve with the category, furthering the notion that some background knowledge was needed to understand it.

#### *Premade Category for Sustainability*

The least used but most sought after attribute was a separate category for sustainable products. Four of the participants found a category with collections of sustainable clothing under the main categories (“*Women*”, “*Men*” and “*Children*”) of the navigation bar of the online retailer they used, see Figure 4.4. Two of these said they already knew the online retailer offered the possibility to find sustainable items this way, whilst several of the other participants looked for a category matching this functionality, but were unsuccessful in locating it. The impression several were left with was again that finding the sustainable options was difficult, especially from the main page.

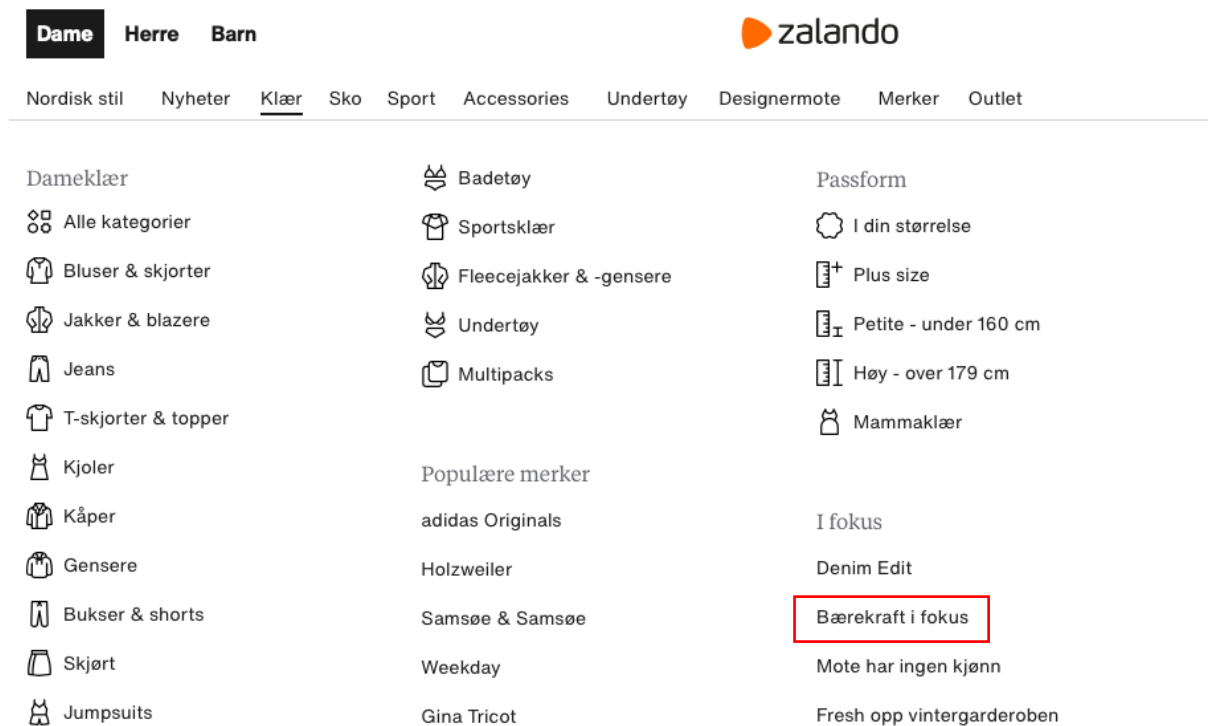


Figure 4.4 – Screenshot of Zalando’s curated sustainability category, presenting the location of the “Sustainability in focus” (in Norwegian: “Bærekraft i fokus”) category outlined in red in Norwegian (Zalando, 2022b)

#### 4.4.2 Evaluation of Alternatives

To be able to understand how the participants evaluated their alternatives when deciding which sustainable products they wanted to purchase, all were asked what they regarded as being a more sustainable option. Every quality mentioned could be placed under the categories of recycled materials, working conditions, natural materials, longevity, animal welfare and reduced resource use. All but resource use was seen as more relatable and easily tangible ideas, whereas resource use was diffuse in meaning to the participants. Some qualities were mentioned by specific name, such as “*Social responsibility*”, possibly influenced by the categories they could choose from in the sustainability filter previously mentioned in Section 4.4.1. Those who pointed to recycling as being important to them based this on the fact that reusing what already existed had to reduce the environmental cost of producing new materials. Working conditions of the people that produced the clothes was brought up, with several mentioning that they had heard of poor conditions with certain producers and had avoided them in the past (more on this in Section 4.5).

Buying new items that were made of natural and long-lasting materials was brought up as sustainable, as well as the versatility and timelessness of a product. Materials that were

considered to be more sustainable were fibres such as cotton, linen, wool and silk, because they were thought of as natural and durable. P10 voiced that they thought these materials to be more easily recyclable than synthetics such as polyester. For P04, the most environmentally friendly approach one could have to clothing was to use what one already had:

*Because, personally, I think it's the most environmentally friendly and sustainable to use the clothes you already have, as long as you can, and then when they are completely worn, completely worn, then you can think about buying new clothes. That's what I think is the most sustainable*

This statement once again points back to the previous mention in Section 4.3.3 from P01 and P07 which connected longevity with sustainability. In this statement, P04 sums up their overall opinion on purchasing new clothing, and their way of being sustainable is purchasing items seldomly and using what they then purchase for the longest time possible.

#### *Tag*

Participants found it useful that the tag previously mentioned in Section 4.4.1 followed along to the product page. Still attached to the product images, the tag allowed users to tell if the product was sustainable even when they chose another colour, as in some instances products were only available as sustainable in certain colours. P05 missed this and they chose their product in another colour thinking it to be sustainable as well, however, the tag disappeared and the participant did not notice, which had a negative impact on their impression of the feature.

#### *Sustainability Drop-down*

On every product that was labelled as sustainable, there was a separate information drop-down menu on the product page giving information on why it was labelled. This information differed in presentation from retailer to retailer. On both retailers used by the participants the information was given in the product information panel, under drop down menus labelled “Sustainability” or “Environmental influence”. H&M based their description more clearly on how the product placed on the Higgs Index explained in Section 2.3.2, and showed percentage calculations for different categories, as seen in Figure 4.5. They included a link to the Higgs Index official website, where one could read more about how the percentages were calculated for this specific clothing item, and how that fitted into the composition of its materials. The hyperlinking to more information was overall well received and said to be a positive feature.

## Materialers miljøpåvirkning



Grunnlinje

Nivå 1

Nivå 2

Nivå 3

### Miljøpåvirkning

Materialene i dette produktet viser minst 12,5 % reduksjon i fire viktige miljøpåvirkninger sammenlignet med konvensjonelle materialer (f.eks. økologisk bomull sammenliknet med vanlig bomull).

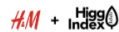
 **24%** mindre potensial for global oppvarming

 **18%** lavere forbruk av fossile drivstoff

 **45%** lavere vannforbruk

 **30%** lavere vannforurensning

Klikk her for å få utfyllende informasjon om data og metodikk [↗](#)



Higg-indeksen er utviklet av Sustainable Apparel Coalition, en global ideell flerpartsorganisasjon. H&M bruker Higgs-indeksen til å måle og rapportere om produktmaterialers bærekraftighet. [Les mer om Higg-indeksen.](#)

Figure 4.5 – Screenshot of H&M's Higg MSI ranking of a product in their sustainability drop-down (H&M, 2022)

In Zalando's case, each product had been given a label to indicate what category of their sustainability criteria the product fulfilled, along with a short description of the criteria, what general category it fell under in the filtering process and a "Read more" hyperlink to a page explaining more about either the label or info on sustainability in fashion, see Figure 4.6. The design of the open tab also got praise for using colourful graphics, being described as eye-catching when open, even though the tab in its closed condition was seen as anonymous and was difficult for participants to locate. As many as seven participants had to be given specific instructions after some time searching for more information to look more closely at the page in order to find it.

**Materiale & vedlikehold** ∨

---

**Produktdetaljer** ∨

---

**Passform** ∨

---

**Bærekraftighet** ∧

Dette produktet oppfyller følgende kriterier for bærekraft:

 **Fremstilt av minst 50% lyocell**

Produkter med denne merkingen er fremstilt av minst 50% lyocell, som er fiber som er laget av tremasse. I motsetning til konvensjonell viskose, har lyocell en mindre skadelig påvirkning på miljøet, og det løses opp naturlig i en lukket produksjonsprosess. Dette innebærer at 99,5% av kjemikaliene som brukes i prosessen kan gjenbrukes flere ganger.

**Positiv innflytelse**

Å velge produkter som oppfyller dette kriteriet, er et lite, men meningsfylt bidrag for å støtte saker du bryr deg om.

**Redusert utslipp**  
Etterlat et mindre fotavtrykk

Dette produktet har en mindre miljøpåvirkning ved å bruke energibesparende prosesser og resirkulerte materialer.

[Se mer](#)



Dette er én brikke i bærekrafts-puslespillet. Besøk vår side for bærekraft for å finne ut mer.

[Se mer →](#)

*Figure 4.6 – Screenshot of Zalando’s sustainability drop-down, presenting it on a product page, with the hyperlinks “Read more” (in Norwegian: “Les mer”) marked in red (Zalando, 2022c)*

The overall impression of the sustainability drop-down was that it was nice to be able to read more information about the product and why it had been labelled as sustainable, as this was not possible to infer from the tag the product received. However, the information was seen as scarce, with inflated language about the products and little real information to be conveyed. P03 commented as they read through the sustainability description of some of the products:

*But what does that mean? 20% recycled and that’s enough to be considered sustainable? Doesn’t seem like enough to be considered that. And this one, made in a sustainable process with up to 95% less water. So up to, that could be everything from 0 to 95%, though.*



This scepticism seen here with P03 towards the language used was a repeated pattern with most participants, with the language used striking most as vague and general, without details about the specific item they were looking at. More specificity was requested and in H&M's case with the percentage representation, more clarification of the numbers was wanted. Specific information mentioned that would be useful or interesting to know about a product was said to be their origin, such as where was the fibres made, what factory was the product made at and how were the conditions for the workers and if they were good; how were they different from the "normal" conditions. The general opinion was that if someone made use of the sustainability drop-down, it would be because they were already environmentally conscious and wanted more specific information and statistics, rather than just buzzwords and inflated language.

#### *Read More and Hyperlinks*

All but one participant made use of the "Read more" options both retailers used offered (P02 did not use H&M's). In Zalando's case, there was a separate hyperlink related to each criteria each product fulfilled, as well as a general hyperlink to the retailer's general sustainability page. They were used for several reasons, one being that the participants sought more specific information about the product than just the general information given in the sustainability drop-down. Many were left disappointed, however, as the hyperlink only led to another page with general information which explained the category in general and which of the different ecolabels and certifications the sustainable products could receive that fell under the category. Of the ecolabels and certifications, the most trust was given to the third-party certifications, such as *Fair Trade* and *Leather Working Group*. This was attributed to the fact that participants already had a relationship to and prior knowledge of these certifications. Those made by the retailer were appreciated, but as P07 remarked, "... *I would trust third-parties more, I think, I don't know what this is.*", denoting again that trust was a large factor in their believability. Regarding the language used, similar comments were made in regards to these explanations as for that in the sustainability drop-down; general quantifiers such as "up to" and "at least" were negatively received, as they did not provide specificity and instilled doubt in some about the retailer's intentions.

#### 4.4.3 Purchase Decision

When participants were happy to proceed with the two products they wanted to purchase, they were again asked to perform all steps towards purchasing up to but excluding entering their

payment information. At this stage, a minority of the participants using Zalando noticed an option to climate compensate their delivery for a small fee (5 NOK). This struck particularly P10 as weird, as they felt it a multimillion company should rather offer this as a default part of their delivery process, instead of the consumer having to pay extra: *“When it comes to purchasing power and taking responsibility for the environment, it should be manifested in laws having companies take responsibility. Not this where the company comes up with ways to write off their responsibility.”* It is the participant’s opinion that the responsibility being put on the consumer, it should rather be the retailer’s job to climate compensate for their actions, which should be governmentally legislated.

Two participants mentioned at this stage that some retailers they knew of offered free delivery and return. They did, however, possess opposite views on the matter. P11 was of the opinion that free delivery and return was a positive attribute, as they could return a product if they did not meet the expectations they had for it upon reception, instead of throwing it out, which they remarked was not environmentally friendly. However, P09 thought that if it was easier to return, it was also easier to place an order. Normally they did not buy clothing they were unfamiliar with online, but if they did, there was always the option of returning it, which they considered to not be a very environmentally friendly practice.

#### 4.4.4 Sustainability Profile Impressions

As mentioned for Task 1 in Section 4.3.4, there was no real post-purchase evaluation in Task 2, either. Participants were instead asked about the perceived sustainability profile of the retailer they had chosen to use. When asked what they thought the online store’s profile towards sustainability and the environment was, all participants agreed that it was difficult to tell from just looking at the front page of the store. There were some remarks towards specific colour choices such as green and blue panels on the front page and how they could have been used because of their connotations to the environment, but the information they conveyed was about sales. A minority of participants using Zalando found a promoted category featuring products made from recycled materials, but this collection was at the very bottom of the page and told them little of the overall profile of the retailer. H&M had a tab in their navigation bar where they explained their environmental and sustainable approach in more detail, which positively impacted the participant using it. It was, however, difficult to locate the products the retailer was referring to.

At this stage, participants were asked to compare the impression of the sustainability profile of the online retailer they were using, to the impression of Northern Playground's profile, one of the previously explored retailers (Section 4.1). Almost immediately upon seeing the front page for Northern Playground, the participants noted that their profile was much easier to spot, both with their use of language and their presentation of their products. It was seen as positive that they promoted their sustainability philosophy along with a choice of their products. However, P06 and P11 did note that while they were visibly sustainably conscious, they were still a retailer with the aim of profiting off their products, finding their place in the market. P06 liked that they offered life-time service for their products, but noted the following:

*My general thought is that people like buying new things, that buying new things has become a trend in and of itself, wanting to buy new things instead of fixing them. But things have gotten so much more available and people make more money than before. So I think this sending to repair-thing takes time, but buying new doesn't take as long. People are lazy.*

By this statement, P04 touches on how people tend to take the "path of least resistance" when making decisions, and how taking care of their clothing can require more from a person than simply buying new. Buying new clothes has become a trend in their eyes, not only are the clothes trendy, but the purchase itself is too.

#### 4.5 Overall Impressions

Overall, the participants were positive to the idea of environmental and sustainable information and features provided, and the idea of retailers being more transparent about the origin of a product. By offering more information, they would allow users of their e-commerce sites to make more informed decisions. P01 summarised it as "*all steps towards the goal are steps in the right direction*", how creating an increased awareness and better processes around sustainable clothing both from the retailer's and the consumer's side would lead to a positive impact overall.

There were a minority of the participants that self-reported to have used features like this before. Most had noticed that they existed and could recall instances where the product they had purchased was tagged with "*sustainable*" as a coincidence. All but one reported that they would not make conscious use of the features in the future. P02 admitted that it could rule out viable options for them, in contrast to P01 who thought they would use the features as environmental issues were important to them. There was a pervasive theme that the environmental and

sustainable information features, in its current form, would be the most useful for those who already are environmentally conscious and possess the background knowledge to make good use of the information provided. For others using it, it could be a way of consuming more with a good conscience on false grounds, as pointed out by P08 “*It becomes like buying a good conscience when you shop*”. Users could still be consuming products, but under the false perception that the impact of what they are doing is negligible since the product was labelled as more sustainable.

Another pattern that emerged was the distrust present in all participants. All made mention of how they would doubt the claims of retailers when they promoted their products as sustainable, and some would think it to be greenwashing. Being sustainable and environmentally friendly was mentioned to be “in the wind” at the moment, which led some to think that the promotion of sustainable products could also be used as a sales trick from the retailer’s side. The language used when describing the products were also seen as vague, non-specific to the item itself. Third-party verification from known and trusted entities of the retailer’s claims were mentioned as ways to mitigate this distrust, as well as more transparency as to how the products got certified.

The distrust the participants felt towards the retailers were attributed to how “countless” retailers have been exposed in media as being fraudulent with their claims about sustainability and working conditions regarding their products, which had led participants to feel distrust towards such statements. P02 specifically pointed to a web series called “Sweatshop”, produced by Aftenposten, a Norwegian newspaper, about the working conditions in clothing factories from 2014 (Aftenposten, 2017), and how their perception of fast fashion had been negatively impacted at the time it came out.

#### 4.5.1 Suggestions for Improvements by Participants

After having performed Task 2, the participants were asked how they would improve, or features they would want in the environmental and sustainability information features. There was an overall theme of asking for more specific and easier to spot information. Participants also had suggestions for features the online retailers could employ to make their profiles and user experience better in regard to accessing sustainability information.

Information on the products were suggested to be given with more statistics on the emissions and environmental impact of a product, regarding materials, production and transport costs.

This cost was suggested to be given for a product produced with “standard” methods and compared to producing the product with the methods that the retailers claimed were more sustainable. The language used to describe this process, by what means the product fulfilled the criteria, could be more concise. P04 did make the mention of since the page they used (Zalando) was a retailer that sells a collection of brands, and not their own products, it could be that they struggled with having the correct information about a product to make more concise claims about the products they sold.

Improvements to the already existing features were mentioned, such as being able to filter the products based on which criteria they met or ecolabelling they received, such as being able to view only those items that were Fairtrade-certified. How the sustainability drop-down could be improved was frequently mentioned, mostly how to present the information given in a clearer manner. There was a shared opinion among some participants that the information was difficult to locate and should be promoted more. Suggestions included moving the information on the criteria the product fulfilled to beside the product images and along the size chart, or having the drop-down permanently open, because as P06 put it “*People are lazy*” and this way it would be easier to notice. Another was to employ the ecolabelling of the criteria they fulfilled directly on the product image below the “*Sustainability*” tag on the product image, both in the grid search and on the product page to show more clearly how the product was sustainable without having to actively search for the information. P12 also suggested this information to be not only accessible in the sustainability drop-down, but also as a separate image along with the product images as an infographic. Visualisation of the origin, such as photographic evidence of where the fibres for the fabrics were grown or produced, how the conditions were for the workers producing them, etc., were also suggested. However, it is important to note that information overload could be an issue here, as P06 pointed out. There had to be a balance with this information, noting how presenting customers with too much information could lead to information overload and “scaring” them away from the products.

The sustainability profile of the retailers would be easier for participants to observe from their front page if there was a tab in the navigation bar regarding the subject (P02 was observed to make use of the one present in H&M’s navigation bar). Participants suggested this tab include hyperlinks to the retailer’s profile on the subject, as well as categories for sustainably labelled clothes. Instead of having to enter e.g., the path “*Clothing → Women → Jackets*”, and only then make use of the sustainability filter, multiple participants mentioned the possibility of having the same categories made for sustainable clothing under this sustainability tab. The path would

then look like “*Sustainable → Women → Jackets*”. P07 made mention of the possibility of having a second-hand category which could be located in a sustainability information tab, where the retailer could sell products that had been returned or was otherwise faulty in ways that made them unsellable for full price. Another method of more easily being able to recognise a retailer’s sustainability profile was having a third-party universal rating system for retailers and their sustainability profiles, as suggested by P02, where customers could access an overall rating of a retailer before making a purchase.

#### 4.6 Chapter Summary

This chapter has presented the results from exploring online retailers and the non-exhaustive list of sustainability features it produced, with sustainability information features grouped to either *Profile* (presenting the sustainability profile of the retailer) or *Product* (presenting sustainability information about their products). The results from the interview process found using thematic analysis were given. The general overall impression from participants were that it was a nice feature to have if one was concerned with the environmental issues. The chapter closes with improvements to the existing sustainability information features as suggested by the participants.

## Chapter 5

### DISCUSSION

This chapter discusses the findings from the interviews presented in Chapter 4. The chapter begins with explaining the results found by exploring existing sustainability information features. How these are perceived by the participants in the study, both in regard to shopping as an experience and shopping as a decision-making process, is discussed. The discovered findings are used to answer the research questions given in Chapter 1. Lastly, limitations for this thesis and its research are given, before suggested work for future research based on these findings is presented.

#### 5.1 Existing Sustainability Information Features

By exploring the online retailers given in Chapter 3, it was possible to investigate what information and what features supporting sustainable shopping were made available for consumers by retailers. GetInspired and Nelly will not be relevant to this discussion of available information and features, as GetInspired conveyed no information about their profile or their products, and Nelly only briefly mention their profile on one company page linked in their footer, with no information on the sustainability of their products (revisit Chapter 4, Table 4.1, for an overview). The existing features that will be discussed here will be overall profile, premade categories, filtering, tagging, ecolabelling and the explanations of the ecolabelling. To sort the currently available sustainability information features in the stages of the consumer decision-making process, the premade categories, tag and filter could be seen in the information search stage along with the sustainability profile of a retailer, whilst the detailed information of the ecolabelling and the sustainability drop-down were available in the evaluation of alternatives stage.

To convey information about the retailers' sustainability profiles, different approaches were seen. Zalando offered no visible information on their home page, but they had information about their approach on a page informing about general information on the retailer. H&M did offer information from a tab in their navigation bar, making it easier to access. Northern Playground presented their profile on their home page by promoting their lifetime service for reparation of

clothing front and centre along with a section of their products. It could be perceived as hard to gauge the sustainability profile of a retailer solely based on information accessible through their home page. A sustainability profile that is discernible and positive can help influence the perception of a retailer for consumers, and confusion about this could contribute to a negative impression of the retailer (Bolton & Mattila, 2015). By including premade categories containing all sustainable clothing in their navigation bar, Zalando and H&M were able to invite their consumers to explore all their sustainable choices.

The use of these third-party ecolabels could increase consumer knowledge about the sustainability of a product, which can influence the consumer's purchasing decision (Kumar et al., 2017; Tsarenko et al., 2013). Clothing items were marked as sustainable using third-party ecolabels, such as through the previously mentioned Fair Trade, The Swan, etc., or given a ranking on the Higg MSI (Section 2.4.2), regardless of retailer. The ecolabels were not visible on the product grid, but rather on the product page, in a sustainability drop-down menu on Zalando, H&M and Northern Playground. On Zalando, an explanation to the ecolabel was given, whether third-party or part of their own labels, as well as information about the general category the ecolabel fell under, while H&M and Northern Playground both had hyperlinks to different sites explaining the ecolabel given. This could be seen to increase the knowledge about sustainability, which in turn could be influential in the purchase decision of a consumer (Kumar et al., 2017). Products that had these ecolabels were on Zalando given a green tag on their product image (Section 4.4) in the product grid to differentiate them from other products. H&M and Northern Playground did not make use of tagging their products in the product grid, but they referred to ecolabel standards when listing the materials of their sustainable products on their product pages. It is important to note that for ecolabelling to be effective, their use must be correct. Retailers have been accused of greenwashing by incorrectly applying ecolabelling and words such as "*sustainable*" and "*eco-friendly*" without being able to refer to proper sources such as trusted third-party ecolabelling or third-party inspectors (Delmas & Burbano, 2011; Doebbe, 2019; Myklebost, 2019). Consumers with little knowledge about sustainability in the textile industry were more likely to trust retailers and not think critically about information presented (ISO, 2019).

Zalando also employed their own ecolabels to convey product sustainability. After some research, these labels were discovered to be based on the Higg MSI (Zalando, 2020). This was the same index as H&M used for ranking their sustainable products, but in contrast H&M presented the Higg MSI logo along the ranking of the product, making it easier to understand



what the background for their claims were (see Section 4.4.2). As previously mentioned, the Higg MSI measures sustainability cradle-to-gate, and not the whole lifespan of the product. Its use is therefore critiqued by Laitala et al. (2018), who argue that the lifespan of a clothing item should also be considered when determining the sustainability of a product. They find it worrying that indexes for materials such as the Higg MSI tend to mark materials synthetic fibres such as polyester as more environmentally friendly than natural fibres when synthetic materials have longer decomposition times than natural fibres.

On the product grid, Zalando offered their users to use a sustainability filter which, with its up to five different categories, allowed users to sort the sustainable products based on what they saw as important. While H&M offered many ways to filter their products, sustainability was not one of them, and Northern Playground only offered sustainable products, and as such a filter would not be needed. The filter-option could be useful for consumers that are goal-oriented in their shopping, as they tend to use faceted navigation such as filters to sort their options (Morville & Callender, 2010). This could be seen to be useful for consumers whose goal is to be more sustainable in their consume, as they have been observed to make more drastic sustainable choices (de Langhe et al., 2017; Paul et al., 2016). The filter could also be thought to be used by explorative consumers wanting to increase their knowledge about sustainable choices and lead to a purchase decision being made (Kumar et al., 2017).

## 5.2 Shopping as an Experience

The overall attitude towards the sustainability information features was that it was nice to have for those that wanted to make more sustainable choices, but majority of the participants in this study did not consider the environmental impact of their choices. To make use of the sustainability information features as they seem to be intended, participants felt as if they needed background knowledge on the subject, backed up by previous findings that knowledge about sustainability has been linked with taking more sustainable choices (Park & Kim, 2016; Paul et al., 2016). An “out of sight, out of mind”-mindset towards sustainability was seen, where if the information was not presented, it was more likely to be forgotten by those that did not normally consider sustainability in their consume. Paradoxically, participants noted that the presence of sustainability information features triggered curiosity and a chance to further their knowledge on the matter.

There was a mistrust present among participants towards sustainability information features and the intention of the retailers using them, as labelling products as sustainable could be considered sales tactics from the retailers' side. This mistrust was also present regarding the language the retailers used to describe their sustainable products, which was seen as vague.

Further transparency behind the ecolabelling retailers use to classify sustainable products could help combat the issue of suspected greenwashing. This scepticism could stem from the many cases of greenwashing that has been seen in recent years (Rausch & Kopplin, 2021), a term mentioned by several of the participants. As a consumer, one could have a perception of how sustainable a material or a retailer was but be constantly proven wrong by media exposing retailers for greenwashing (Myklebost, 2019). Retailers could be claiming one philosophy, but not acting accordingly to their promises, thereby committing greenwashing (Delmas & Burbano, 2011; Doebbe, 2019). Retailers could also claim they offered more sustainable products by using terms such as "eco-friendly" and "sustainable" when they could not back their claims with relevant information about the production of the product. The participants who mentioned this also said that was that once it was no longer in the media or a topic of debate, such things could be easily forgotten about. By retailers ecolabelling their products and presenting more clearly the processes and criteria behind the labels, trust from consumers could increase. It could also lead to increased knowledge about sustainability, both solutions combating the issue of mistrust towards the intentions of the retailers. However, we possess no insight into why retailers use perceived vague quantifiers and diffuse language for their sustainability information. It could be they are using language that allows for more deviation from their statements as to not be accused of aforementioned greenwashing, or that they simply do not possess enough knowledge about the processes of the production to give more specific information, which would also be an issue, but not covered in this thesis.

The overall experience of the sustainability information features seemed to be influenced by mistrust towards retailers, with participants experiencing the sustainability features on both Zalando and H&M seemed as if an afterthought compared to how thoroughly the sustainability information was integrated at Northern Playground. Their approach seemed to evoke more trust in participants, which could be because the sustainability profile of the retailer was easily conveyed to the participants. The experience the participants undergo when using the sustainability information features should be that their use is meaningful, as humans tend to appreciate experiences when they perceive them as more meaningful (Mekler & Hornbaek, 2019). If the interaction with sustainability information features is seen as meaningful for

participants, their perception and experience of their use can be positively influenced. Having to reduce consume and produce in more sustainable ways is certainly meaningful, as sustainability is not a trend, but rather an important factor in the fight against climate change, and to reach the Sustainable Development Goals set forth by the UN by 2030 (United Nations, 2015, 2021, 2022a; United Nations Association of Norway, 2021). It is important to note that the online retailer's business is not to be the sole informer for the consumer regarding sustainability of products, but rather to sell products. While they certainly have a responsibility to inform and work towards sustainability, no retailer will ever be fully sustainable, as consume in its current form is inherently unsustainable.

Many experienced confusion and helplessness when how the different retailers practiced sustainability differed, and suggested a universal system. That way they did not have to learn a new way of searching for sustainable products or read up on different labels and classifications every time they went to a new retailer. A universal rating system that would work as a guide of sorts was also mentioned, where retailers could be given a rank of their sustainability profile. This would require complete transparency from retailers.

### 5.3 Shopping as Decision-Making

When entering an online retailer in the information gathering stage, there were few options regarding how they could determine a retailer's sustainability profile. The current ways included information on their home page or a tab in their navigation bar. If important to the consumer, it would be beneficial to for a retailer to present a positive sustainability profile in order to keep them long enough to make a purchase decision (Bolton & Mattila, 2015). By offering a tab in their navigation bar, it was suggested that premade categories similar to the gendered categories (ref. Appendix C) could be used for sustainable clothing. That way consumers using retailers offering both conventionally made and sustainable products could find the sustainably marked products easier, whilst avoiding being presented with and tempted by the non-sustainably marked products.

The tags on the products on Zalando were perceived to evoke curiosity with the participants when seen in the product grid, and further information about why a product was marked was wanted. This curiosity was not always positive: Mistrust started to show itself here, as previous experiences with such tags had left impressions that what the retailer and participants regarded as sustainable differed. When consumers start to feel mistrust towards a retailer, it negatively

affects the customer experience (Ceccacci et al., 2018). To combat consumer mistrust, retailers making use of tagging could in the name of transparency present the ecolabels given the product beneath their tag, to further back their sustainability claims.

Task 1 revealed that there was no use of the sustainability information features specifically among any of the participants when asked to shop like they normally would. However, selected participants were still aware of, and making mention of, sustainability, and sorted mindfully based on this. They performed this by using the filtering available for materials and sorting only based on materials the participant thought to be sustainable, reflecting that knowledge about sustainability leads to more sustainable choices. This is backed by several studies (Kumar et al., 2017; Park & Kim, 2016; Paul et al., 2016), in which researchers found that consumers tend to make more sustainable choices the more knowledge they have about sustainability. Additionally, consumers with higher concern about the environment have also been seen to make more sustainable choices (Paul et al., 2016). One participant specifically mentioned being concerned for the climate crisis and made even more extreme sustainable choices because of it, such as only shopping second-hand for the last years. According to de Langhe et al. (2017) consumers with higher concern for the environment tend to be the ones making larger changes in their consume, as they found that only those with high awareness about the climate crisis were motivated enough to make the more extreme sustainable changes. Based on these findings, what is considered sustainability information features could be expanded beyond what this thesis defined in Chapter 1, to also include functionalities not originally intended to convey information about sustainability.

The sustainability filter was used to sort based on what the participants felt were more concrete and tangible to them, such as “*Reuse of materials*”. Other categories for filtering such as “*Reduced emissions*” were seen as too abstract, leading to speculation as to their meaning. If a retailer employs a filter for sustainability, it should be explained for the consumers what is meant by the different categories possible to sort by. In this study, not knowing lead to speculation about meaning, which in turn led to misunderstandings between what the participant perceived the category to be, and what the retailer’s intention of the category was. Another suggestion for filtering for sustainability was the option to sort based on specific ecolabelling, so that consumers could chose e.g. only Fairtrade products to view. This could assist goal-oriented consumers, as they tend to use faceted navigation to filter their searches and narrow their selections for their evoked sets of options (Morville & Callender, 2010).

The information presented in the sustainability dropdown menu was helpful for participants seeking more information about why a product was marked as sustainable, by providing the ecolabel the product had been given. However, there was again scepticism towards the language used when describing the how the products had gained their certifications, especially towards those made by the retailer. Third-party ecolabels were better received, whereas retailer made ecolabels were scrutinised for being awarded for what seemed like minimal effort. The visibility of the information in the drop down was critiqued, as it seemed as if hidden to some participants. Suggestions to move the information about the ecolabelling along with a short description further up on a product page, to above/beside the purchase button were given. By side-lining price, purchase button and sustainability information, the retailer could connote that they value the three equally, furthering their seriousness about sustainability. More information could be provided further down the page, but moving the curiosity-triggering information into the view of the consumer so that it was easily accessible could improve perceived transparency about the issue.

Even though Northern Playground did not employ the same sustainability information features used by Zalando and H&M, the participants were still able to discern their profile towards the sustainability within seconds of entering the online retailer. They conveyed this through presenting a tiny selection of products on their homepage before they included a panel on their lifetime repair service, connoting their view on consume. In their navigation bar, their tab about the environment and the tab hyperlinking to their products were larger than the other tabs, indicating that they were more, but equally, important.

## 5.4 Answering the Research Questions

*RQ1: What sustainability information features are available in e-commerce?*

In order to investigate RQ1, an exploration of available sustainability information and features was conducted on four of Norway's most popular e-commerce retailers, as well as on a smaller, sustainability forward retailer, to formulate a non-exhaustive list of currently available sustainability information and features. It was discovered that currently used methods of conveying sustainability information to consumers were twofold: A retailer could use sustainability information to present their sustainability profile, or they could provide information about specific products in their inventory that were sustainable. To present their whole profile as sustainable, retailers were seen to inform on their philosophy on their home

page, and provide extensive information about their products, their materials and their origins. For retailers providing both products produced with standard methods and sustainable methods, retailers could convey information about their sustainable products in their inventory by using premade categories, tagging, filtering, ecolabelling, and further information about the ecolabelling, as listed in Section 4.1 and explained in in Section 5.1.

Once explored, the retailers displaying appropriate and enough sustainability information features were included in the practical tasks for the interview conducted to answer RQ2.

### *RQ2 : How are sustainability information features experienced?*

A qualitative semistructured interview process was designed in order to answer RQ2. The study showed that, as mentioned in Section 5.2, the sustainability information features were perceived as nice to have for those that considered sustainability when consuming. For others, distrust towards the intention of the retailers when making use of sustainability information features was present (Section 2.3.1). Whether retailers were using sustainability as a sales technique, taking advantage of sustainability being “in the wind” and greenwashing their products (Section 2.2), or being genuinely trying to be part of a solution was concern throughout. How much a retailer was trusted about their claimed sustainability information depended on their previous history with greenwashing (Section 2.2), in addition to their overall sustainability profile. Retailers with sustainability information features seemingly integrated throughout was experienced as more serious and their information tended to be trusted more than those retailers who gave the impression that sustainability was implemented as a second thought (Section 5.2). Background knowledge was felt as needed to understand several of the sustainability information features, such as the sustainability filter (Section 4.4) and the explanations for the ecolabelling found in the sustainability drop-down menu. A universal system for presenting such information could mitigate this. At the same time as they were found cumbersome, their presence helped trigger curiosity about the issue of sustainability in the clothing industry.

## 5.5 Limitations

There are certain limitations that apply to this study, the first being time. There were many interesting points that could have been investigated, but the selection had to be exclusive, as time was a limited resource. The study was not designed to be able to investigate the effectivity

of the sustainability features, and as such it cannot be used to draw conclusions about their effect on consumer behaviour. The actions the participants performed during the interview were simulated, and not real purchases in an artificial setting, which could have had an influence the reported results. When it comes to the demography of the participants, it is important to note that they were a convenience sample of 12 students at the University of Bergen in similar ages (24-29). A convenience sample was chosen based on the availability of resources such as time.

It is important to note that the sustainability information features are seemingly continuously changing from the retailer's side, as the retailers explored in this thesis (Section 3.2.1) had different information and features when the retailers were scoped for use during the start-up of the project, Autumn 2021. Unfortunately, this was not recorded and therefore there is no evidence of this that could have been used. When conducting the study as explained in Chapter 3 and 4, H&M presented calculations based on the Higg Material Sustainability Index along with their products. This feature was also available before the study, as Table 4.1 was filled out. However, as the thesis was being completed, the explored retailers were revisited in relation to collecting illustrations for Chapter 4. It was then discovered that the feature was no longer available in the web shop, but was still accessible on the mobile application. The existing sustainability information features is therefore based on snapshots in time, April 2022, as the features are seemingly evolved continuously.

## 5.6 Future Work

There exist studies on the subject of sustainability information in e-commerce in as seen in Chapter 2, but little work has been done specifically within HCI. During this thesis, gaps in current knowledge have been discovered, which can be useful to investigate. Primarily, the studies previously done have focused on the influence of sustainability information, while this study wanted to explore definitions and wording used for the features among consumers, as well as the design of the information. It would be useful to know more about if the design of the information and features are influential in these decisions, or to what extent it can be provided, both minimal and as much as possible before information overload is achieved, and consumers are put off.

Future studies could implement the design implications suggested by this thesis and further explore when in the shopping experience and in the consumer decision-making process it would be the most impactful for consumers to encounter sustainability information features. To be

able to ensure the validity of the design implications found in this thesis, it would be useful to expand the demography of participants, and explore the difference, if any, between these. There was also a consistent opinion in participants that they would most likely not make use of the sustainability information features in the future, suggesting that work should be done on this to increase involvement with consumers. Presenting sustainability information as separate features (only applicable to products given to be sustainable) or integrated (applied to all products) should also be explored.

This thesis only performed investigations into how sustainability information features are presented to consumers in online retailers, but consumers still use physical retailers, where sustainability information is provided in different settings and conveyed differently. A future study could compare how in-store sustainability information is perceived, or even investigate the development and uses of a technology assisted information system in-store.

## 5.7 Chapter Summary

This chapter has discussed the findings of the study performed in this thesis and compared it to previous literature from Chapter 2, as well as presenting possible ways of mitigating issues such as mistrust. It has discussed the available sustainability features found in online retailers as of April 2022, and presented their design. How these features were experienced by the participants in the study was then given, first through the lens of shopping as an experience, and then as shopping as a decision-making process.



## Chapter 6

### CONCLUSION

The research completed in this thesis investigated available sustainability information features, how they are designed and how they are perceived and experienced by consumers. Previous studies have focused on the influence of sustainability information, whereas this study wanted to explore design of features and the definitions and wording used for them among consumers. This was done in order to answer the research questions RQ1 “*What sustainability information features are available in e-commerce?*” and RQ2 “*How are sustainability information features experienced?*”.

What sustainability information features were available was answered through explorative examinations of a selection of Norway’s most popular online retailers to create an overview over existing information and features. It was discovered that such information can fall into whether it is information about the general sustainability profile of the retailer or if it gave information about the products provided by the retailer. Its results yielded a non-exhaustive list over available features, such as premade categories, tagging, filtering, ecolabelling, and sustainability drop-down menus with further information about the ecolabelling of a product. For future research, this can be used as terminology when discussing available features for conveying sustainability information.

How consumers experienced the sustainability information features found in the first research question was answered using a qualitative semistructured interview process performed with an observational think-aloud session. It was here discovered that, without encouraging their use, not many made use of the sustainability information features as they were defined in RQ1, but had other patterns which they followed to find their own definition of sustainable products. Based on these findings, the definition of sustainability information features given should be broadened to include features not intentionally made to aid a consumer to make sustainable choices, such as faceted navigation with multiple purposes (e.g. sort by material). When asked to interact with the sustainability information features, notions of it being positive features to have for those that were sustainably conscious emerged. Sustainability information features that gave the impression of a positive sustainability profile implemented throughout were seen as

more trustworthy than those that were perceived to be placed as a second thought. Mistrust due to previous greenwashing and intention of retailers was also discovered.

There are some suggestions to be made for future implementations to consider as found in the research of this thesis. Information from the retailer's side should be clearly defined and cited to avoid misunderstandings between consumer and retailer. Such misunderstandings could lead consumers to not trust the retailer and their provided information. The use of third-party ecolabelling and certifications could mitigate this, when used correctly. When it comes to when in the consumer decision-making process it would be suitable to find sustainability information, the most important would be information search and alternatives evaluation stage. Information in all stages should be simple to find and easy to understand by the consumer. Consumers should not have to go through several pages of information to access information pertinent to their wanted product. Language used should be as concise and detailed as possible. Information should also be easily accessible, and not involve too many steps to access.

This thesis has investigated the currently available sustainability information features on popular online retailers in Norway today, to create terminology around their design. This terminology was then used to investigate how sustainability information features were experienced by consumers. Findings from this study can help understand how this kind of information should be designed in order to have the wanted effect on the consumer.

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# APPENDIX A: Consent form

## Deltakers samtykkeskjema forskningsprosjektet *“Utforskning av bærekraftsinformasjon”*

Du blir med dette spurt om å delta i et forskningsprosjekt der formålet er å finne ut av om dine avgjørelser blir påvirket av informasjonen du blir presentert med i en nettbutikk.

### **Formål**

Formålet med dette studiet er å undersøke om hvordan man forholder seg til miljøpåvirkningsinformasjon i nettbutikker. Prosjektet er en del av mastergradsstudiet i Informasjonsvitenskap ved Det Samfunnsvitenskapelige Fakultetet ved Universitetet i Bergen.

### **Hvorfor får du spørsmål om å delta?**

Du får spørsmål om å delta fordi du passer i demografien definert i prosjektet. Du vil delta i prosjektet sammen med omtrent 14 andre.

### **Hva innebærer det å delta?**

Hvis du samtykker til deltagelse, vil du delta på et intervju og observasjon med forsker i ca. 40 minutter. Under intervjuet vil forsker be deg bruke en datamaskin med et skjermopptak gående. På maskinen vil du bli bedt om å utføre to oppgaver relatert til handling i nettbutikker. Under oppgavene vil du bli oppfordret til å tenke høyt og forklare handlingene dine, mens forsker stiller oppfølgingsspørsmål, etterfulgt av kartleggingsspørsmål om dine shoppingvaner.

**Det er frivillig å delta.** Du kan når som helst trekke tilbake ditt samtykke til å delta. Alle personopplysninger som er samlet inn om deg vil da bli slettet og ikke brukt i prosjektet.

### **Hva vil skje med opplysningene dine?**

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrevet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Du vil ikke kunne gjenkjennes i sluttproduktet (publisering), da dine data vil bli anonymisert. Dine opplysninger vil bli brukt av forsker og prosjektleder og vil ikke deles med andre. De vil kun bli brukt til å svare på forskningsspørsmålet og ikke lagres for andre formål. Lydopptaket av intervjuet og dine opplysninger vil bli slettet ved prosjektets slutt, **1. juli**.

## Dine rettigheter

Hvis det kommer frem opplysninger om deg i det som vi skriver, eller har i dokumentene våre, har du rett til å få se hvilken informasjon om deg som vi samler inn. Du kan også be om at informasjonen slettes slik at den ikke finnes lenger. Det som det er noen opplysninger som er feil kan du si ifra og be forskeren rette dem. Du kan også spørre om å få en kopi av informasjonen av oss. Du kan også klage til Datatilsynet dersom du synes at vi har behandlet opplysningene om deg på en uforsiktig måte eller på en måte som ikke er riktig.

## Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler informasjon om deg bare hvis du sier at det er greit og du skriver under på samtykkeskjemaet.

## Kontaktinformasjon

Dersom du har spørsmål etter intervjuet angående hva som helst relatert til prosjektet, eller ønsker å trekke tilbake din deltagelse, kan du kontakte forsker, Mona Otterstad, på e-post [mona.otterstad@student.uib.no](mailto:mona.otterstad@student.uib.no), eller Professor Frode Guribye, [frode.guribye@uib.no](mailto:frode.guribye@uib.no) som er ansvarlig for studien.

Med vennlig hilsen

Mona Otterstad (Masterstudent) & Frode Guribye (Prosjektansvarlig)

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Jeg har mottatt og forstått informasjon om prosjektet *“Hvordan designe miljøpåvirkningsinformasjon for å ha en påvirkning”* og fått anledning til å stille spørsmål til forsker om uklarheter. Jeg samtykker herved til:

- Å delta i intervju
- At intervjuet blir tatt opp (lydopptak)
- At maskinen som brukes har et skjermopptak gående

\_\_\_\_\_  
Prosjektdeltaker

\_\_\_\_\_  
Dato

# APPENDIX B: Interview guide

## Intervjuguide

**Deltager Nr :**

**Alder :**

**Kjønnsidentitet :**

### **STARTSPØRSMÅL:**

- Kan du si litt om dine shoppingvaner?
- *(Hvordan er ditt forhold til shopping / kjøpe nye ting / klær, osv) Flere ganger i uka (hele tiden), en gang i uka (veldig ofte), flere ganger i måneden (ofte), en gang i måneden, med noen måneders mellomrom, flere ganger i året, veldig sjeldent, når jeg trenger det*
- Hva får deg til å ville kjøpe nye klær?
- Hva er viktig for deg når du skal handle nye klær?
- Kan du fortelle om sist gang du kjøpte noe nytt?
- Hvor handler du de? Butikk eller nett?
  - Hva er grunnen til at du velger en over den andre her?

### **OPPGAVER**

#### **DEL 1:**

- Hvordan ser det ut når du gjør et vanlig kjøp av klær?
  - Ta meg med gjennom hvordan du ville gått fram dersom du skulle kjøpt deg et nytt plagg på nettet, i en butikk du velger selv.
    - Hva ser du etter når du handler?
    - Hva er viktig for deg (pris, kvalitet, materialer, passform, merke, tilgjengelighet, lettvinthet)?

#### **DEL**

**2:**

- Finn to produkter som på noen som helst måte er markert til å være "mer bærekraftige". Bruk zalando eller HM.
  - Hva ser du etter nå?
  - Hvordan vurderer du bærekraft/hva er viktig for deg nå som du ser etter noe mer bærekraftig?
  - Er det noen kriterier som du regner som mer bærekraftige enn andre?
  - Noen verktøy du har mer tiltro til / stoler mer på enn andre?
  - Gå på forsiden deres. Er det tydelig hva slags miljøprofil selskapet har? Sammenlign det med Northern Playground, hva slags miljøprofil har dette selskapet?

*Etter Del 1 og Del 2:*

- **Miljøhjelpemiddel design**
  - Hvordan var miljømerkingen å bruke? lett/middels/vanskelig (Hvis de i det hele tatt brukte den)
  - Var miljømerkingen forståelig?
  - Hvordan så du hvilken miljøprofil nettbutikken hadde? Var det tydelig ut i fra utseende på nettsiden?rette
  - Når du brukte miljømerkingen, hvordan synes du de var å forstå?
  - Klarer du å gjøre en sammenligning mellom et produkt uten og et med markeringer med miljøinformasjon ved hjelp av miljøhjelpemidlene?

- Var det noen av hjelpemidlene som var spesielt gode til å formidle miljøpåvirkningsinformasjon?
  - Hva var det som gjorde at du likte dette hjelpemiddelet best?
- Har du noen forslag til hvordan miljøpåvirkningsinformasjon kunne vært bedre presentert?
- **Miljøhjelpemiddel generelt**
  - Har du gjort nytte av disse verktøyene før i dag?
  - Kan du huske om du har lagt merke til disse verktøyene før?
    - Hvis ja, hvilke tanker har du da gjort deg opp om de?
  - Hva syns du om slik type miljøhjelpemiddel? Er det noe du vil fortsette å bruke nå som du er klar over at de finnes?
- **Generelt**
  - Når du handler til vanlig, er du opptatt av hvordan det du kjøper påvirker miljøet enten i produksjon eller i bruk?
    - Tror du dette er av eget "initiativ" eller tror du du er påvirket av utenforstående krefter om at det er det som er det "riktige"?
  - Hvilke vurderinger tar du før du går til innkjøp av noe?
  - Når du skal ha noe nytt, gjør du undersøkelser om det du vil kjøpe er tilgjengelig brukmarkedsplasser, som for eksempel finn eller tise?
    - (Hva er viktigst for deg, pris eller miljøpåvirkning?)

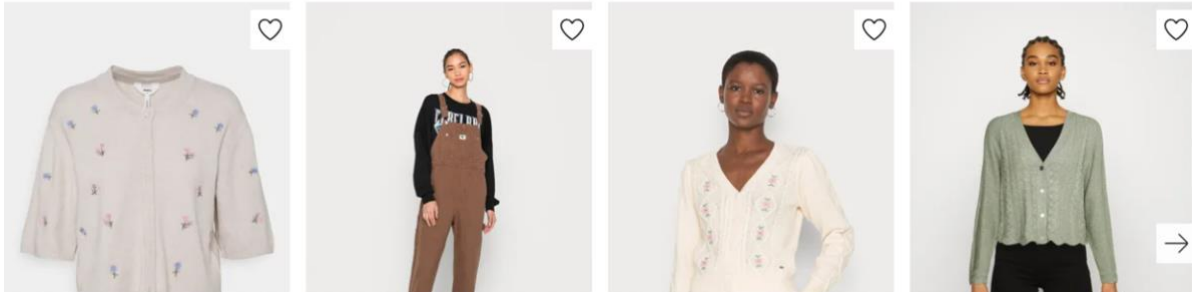
## APPENDIX C: Different Pages of an E-Commerce Site

The different parts of an e-commerce site referred to in the thesis, with Zalando as an example (though applicable to each site used in the thesis).



### Vi tror du vil like dette Anbefalt for deg

[Se mer →](#)



Front page of an e-commerce site (source: h)

1. The main gendered and children's categories for clothing
2. The navigation bar, consisting of different tabs for the different categories.

# Dameklær

## Klær

Kjoler

T-skjorter & topper

Bluser & skjorter

Strikk & cardigans

Sweatshirts & hettegensere

Jakker & blazere

Kåper

Jeans

Bukser & shorts

Shorts

Overalls & jumpsuits

Skjørt

Undertøy

Nattøy & loungewear

Strømper & tights

Badetøy

Sportsklær

Sorter ▾ Størrelse ▾ Merke ▾ Farge ▾ Bærekraftighet ▾ Pris ▾ Overmateriale ▾

Multipack ▾ Mønster ▾ Lengde ▾ Flere størrelser ▾  Flere filter

95 022 produkter 

 Sponset



Even&Odd  
Jumpsuit - khaki  
329,00 kr

 Sponset





Even&Odd  
Bukse - blue  
299,00 kr

 Sponset



Even&Odd  
Bukse - pink  
349,00 kr

Product grid (source: <https://www.zalando.no/dameklaer/>)




**Bærekraftighet**

### Even&Odd Jumpsuit

329,00 kr inkl. mva.


★★★★☆ 49

Farge: khaki



Vil du ha bedre størrelsesanbefalinger?

Velg størrelse ▾

**Legg i handlekurven** 

Product page (source: <https://www.zalando.no/evenandodd-straight-leg-belted-jumpsuit-khaki-ev421t047-n11.html>)