

The Influence of Eco-Labels and their Diagnosticity on Credibility Perceptions, Consumer Trust and Visit Intentions in the Fashion Industry

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Affidavit

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Abstract

The implementation of sustainability within the fashion industry's business processes is constantly increasing to establish favourable brand images and adapt to changing customer needs. Labelling strategies, such as the utilization of eco-labels, are often used to communicate ecological messages to potential target customers and influence their purchase behaviour. This thesis aims to investigate the exact implications of various labels and their diagnosticity levels on consumer perceptions regarding e-tailers' credibility, trust and visit intention. In the empirical part of the thesis, an online experiment has been conducted to test the theoretically developed hypotheses. The survey's sample includes 201 valid respondents. The influence of labels' diagnosticity on credibility perceptions described in the literature has not been confirmed by the data. However, a general positive impact of eco-labels on credibility perceptions has been detected. The results also state a positive influence of retailer credibility on consumers' visit intention and word-of-mouth marketing. Based on these findings, it is recommended that fashion brands should employ sustainable practices with their business operations and design their (eco-)labelling strategy accordingly. Communicating credible ecological messages to customers results in economic benefits such as higher consumer traction and word-of-mouth marketing.

Keywords: Fashion, Sustainability, Environment, Labelling, Eco-Label, Diagnosticity, Credibility, Visit Intention, Consumers' Trust



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LMICs = Low- and middle-income countries



1 Introduction

Within the past two decades, the global economy has been experiencing a significant shift towards sustainability and ecological business operations (Pícha & Navrátil, 2019). Customers worldwide are becoming increasingly aware of the environmental impacts not only caused by large organizations but their individual purchase behaviours as well (Moussa & Touzani, 2008). Consequently, a rising number of consumers is expressing the need and demand for eco-friendly products and services. This increase of potential buyers, innovative markets and new marketing strategies has also taken place within the fashion industry and will significantly impact future businesses (Brach et al., 2017). As one of the largest industries worldwide, the fashion industry has been the centre of attention in recent years due to public backlashes against unsustainable business operations and wasteful production processes (Niinimäki et al., 2020). To counteract these developments, increase market share and adapt to changing consumer trends, eco-labels have become an increasingly popular marketing tool for fashion brands (Pícha & Navrátil, 2019). Eco-Labels include credence claims such as 'climate neutrality' or 'organic production' and relate to different aspects of the customers' shopping experience (Bougherara & Combris, 2009). Especially in the light of the fast-growing online fashion market, labels are one of the most important cues significantly affecting customers' purchase intentions (Atkinson & Rosenthal, 2014). Already conducted research in the fields of labelling and signaling theory have identified labels as a major influence on consumers' credibility perceptions towards retailers (Bauer et al., 2013). According to an article published by Atkinson and Rosenthal (2014), labels' diagnosticity and the quality of label information are important aspects for consumers' credibility and trust perceptions as well.

Academic research about eco-labelling within the fashion industry is scarce and the resources regarding label's diagnosticity in general are very limited. Current literature sources do not sufficiently cover the effects of labelling on consumers' shopping behaviour and the author identified a research gap especially within the fashion industry. The aim of this thesis is to analyse in-house eco- and delivery labelling in more detail and evaluate the importance of specific arguments and tangible examples on perceived credibility and consumers' trust in the e-tailer. Furthermore, the thesis



focuses on the extent to which different types of labels and their diagnosticity influence customers' visit intention and word-of-mouth marketing within the fashion industry. Therefore, the following research questions have been formulated:

RQ1: To what extent do eco-labels influence e-tailers' credibility and consequently consumers' visit intention and word-of-mouth marketing within the fashion industry?

RQ2: To what extent does labels' diagnosticity influence e-tailers' credibility and perceived consumer trust within the fashion industry?

The thesis' structure can be divided into three broad sections concerned with the environmental impacts of the fashion industry in general, theories and implications about labelling and diagnosticity and the conducted empirical analysis in form of an online experiment. The in-depth literature review provides the reader with the necessary theory to gain an overview about sustainability issues within the fashion industry. Furthermore, a detailed description about the theories behind labelling, signalling cues and credibility perceptions have been included in the literature analysis. The methodology section is concerned with the conducted online experiment and a subsequent discussion and interpretation of the results. The experiment is testing different label versions and their implications within a hypothetical online store. Throughout the methodology chapter, the reader gains specific insights about the various effects of two different labels (eco- and delivery label) and their changing diagnosticity levels (low and high diagnosticity) on perceived credibility. The thesis answers the research questions mentioned above and provides significant data about the impact of high trust levels on consumers' visit intentions and word-of-mouth marketing. Fashion brands and organizations might benefit from the findings of the online experiment and set priorities within their labelling strategy accordingly.



2 Literature review

2.1 The Fashion Industry's Impact on the Environment

The business with fashion is one of the largest industries worldwide with an expected annual market growth rate of 6.2% for the year 2021 (Shahbandeh, 2020). More than 80 billion new fashion items were purchased in 2018 alone, which resulted in a global net revenue of approximately 1.2 trillion US dollars (Bick et al., 2018). These numbers represent the vast dimension of the fashion industry operating within globally scattered supply chains which range from agricultural production over textile manufacturing to complex logistics and various retailing channels (Mukherjee, 2015; Niinimäki et al., 2020). Due to the complexity and corresponding intransparency of many global textile supply chains, the fashion industry has been faced with several environmental backlashes and bad press over the past two decades (Caniato et al., 2012). Inhumane working conditions in cheap labour countries, environmentally harmful dying processes, unsustainable water usage and wasteful short product life cycles have often been the main accusations against large fashion labels such as H&M, Zara, and Nike (Butler, 2015; Caniato et al., 2012; Hodal, 2018; Xu & Leibold, 2020). According to a recent article published by Niinimäki et al. (2020), the global fashion industry has been responsible for an annual environmental impact of producing more than 92 million tonnes of waste and consuming approximately 97 trillion litres of water throughout the year 2020. A research paper published by McKinsey & Company in 2020 states that the global fashion industry has been responsible for at least 4% of global greenhouse-gas emissions in 2018 (Berg et al., 2020).

To gain a deeper understanding about the fashion industry's specific impact on the environment, the author has identified three main environmental issues correlating with traditional fashion and garment supply chains as "Raw Materials and Resource Consumption", "Manufacturing and Dying" and "Textile Waste Generation". This categorization is based on the conducted research of secondary sources throughout the literature review.



2.1.1 Raw Materials and Resource Consumption

The first step in the global fashion industry's supply chain is the procurement of raw materials needed for producing fabrics and garments (Bick et al., 2018). According to Claudio (2007), the most popular fibres in textile production are conventionally grown cotton and synthetically generated polyester, which is mainly derived from crude oil. In 2018, an estimated 90% of total garment sales in the United States consisted of cotton and/or polyester based textiles (Bick et al., 2018). The primary and excessive usage of these two fibres for fabric production entails a significant environmental footprint because of their unsustainable properties (Claudio, 2007).

Naturally grown cotton is one of the most water-dependent crops used in any industry, requiring resource-consuming irrigation in mainly water-scarce countries (Mukherjee, 2015). A water-footprint assessment conducted by the World Wildlife Fund (2016) states that on average one kilogram of cotton consumes more than 20.000 litres of water. Additional to the significant water requirements, cotton also depends on many pesticides and insecticides making it one of the world most chemically intensive crops (NWF, 2006). According to Mukherjee (2015), 25% of insecticides' and 10% of pesticides' global supply is used within the process of cotton procurement. The environmentally harmful consequences of this intensive usage of chemicals and large-scale cotton monocultures are amongst others land degradation, loss of biodiversity and soil/groundwater pollution (NWF, 2006).

The synthetic fibre polyester, whose demand has doubled over the last decade, is based on the non-renewable resource crude oil and generated throughout energyintensive production processes involving various environmental implications (Caniato et al., 2012). As stated by Claudio (2007), the fabrication of synthetic fibres such as polyester or nylon often includes untreated emissions of hazardous by-products such as monomers, solvents and carcinogens into air and water. In contrast to natural fibres, the majority of used polyester is not recyclable due to its plastic components and consequently needs to be incinerated or processed like regular plastic waste products (Wicker, 2021). Furthermore, polyester and nylon are not biodegradable either and are one of the main contributors for micro-plastic pollution according to a recent research article by Gavigan et al. (2020). They concluded that on a global scale,



approximately 176.500 metric tons of synthetic fibres are discharged every year, mainly deriving from polyester- and nylon-based products (Gavigan et al., 2020).

Within the last two decades, various sustainable alternative fibres have been developed and already implemented across the fashion industry (Bick et al., 2018). According to Claudio (2007), sustainably grown fibre crops such as hemp, bamboo cellulose and kapok are currently harvested in more than 12 countries and significantly reduce potential negative effects of common cotton production. Bick et al. (2018) claim that a mainstream implementation of sustainable fibres would be the most important step for creating an environmentally friendly textile production.

2.1.2 Manufacturing and Dying

The second major supply chain step within the fashion industry is manufacturing, including processes such as milling, weaving, cutting, sewing, dyeing, washing, drying and finishing (Caniato et al., 2012). According to Macchion et al. (2018), particularly textile manufacturing is heavily depended on numerous external companies along cost efficient globally scattered supply chains within the fashion industry. The majority of these companies is currently located in China, as Chinese manufacturing is responsible for approximately 30% of global garment exports (Claudio, 2007). Resulting from the internationality and scattered supply chain designs, one environmental impact factor of the fashion industry is the increasing CO₂ pollution due to global transportation routes (Caniato et al., 2012). Berg et al. (2020) have identified 'transportation of apparel' to account for 3% of fashion industry's total greenhouse-gas emissions of 2106 million tonnes of CO₂ in 2018. More than a third of these environmentally harmful emissions have occurred during energy-intensive manufacturing processes.

Apart from the harmful emissions generated through raw material transportation routes, the actual manufacturing processes of apparel account to one of the main contributors of the fashion industry's total environmental pollution (Caniato et al., 2012). The manufacturing of synthetic fibres such as polyester and nylon, for instance, consumes large amounts of energy, accompanied by multiple toxic emissions into the atmosphere and the constant usage of non-renewable resources throughout the entire production process (Mukherjee, 2015). According to Niinimäki et al. (2020),



atmospheric pollution due to many unregulated textile production plants in LMICs, is the fashion industry's second largest environmental impact factor after water pollution. Throughout the manufacturing processes of textile items, high volumes of water are consumed, polluted, and released back into the oceans, soil, and groundwater (Mukherjee, 2015). As stated in the UN environment program (2020), approximately 20% of global wastewater supply results directly from textile manufacturing, treatment and dying processes. Reportedly, the average production and manufacturing of one kilogram of textile requires between 100 and 150 litres of water (Common Objective, 2018). The high volumes of generated wastewater which contain toxic chemicals and by-products need to be treated in purpose-built wastewater management plants which in turn are responsible for additional CO₂ emissions (Bick et al., 2018).

In particular, the process of textile dying involves various environmentally harmful consequences related to wastewater and chemical pollution (Caniato, 2012). According to Niinimäki et al. (2020), most chemicals used within textile dyeing and finishing processes have severe negative impacts on the environment if released untreated. One of the major issues of fabric dying is that about 20% of the synthetic colours are not absorbed by the fabric and therefore integrate with the wastewater (Mukherjee, 2015). Due to intransparent, underfunded and unregulated manufacturing plants mostly in LMICs, significant amounts of untreated and highly toxic wastewater are discharged into local water sources every year (Bick et al., 2018). The sustainable fashion platform "SustainYourStyle.org" (2021) has published recent numbers, stating that around 200.000 tons of untreated dyes are released every year and 22.000 litres of toxic waste are exhausted into Bangladesh's water sources on a daily basis. The released synthetics, toxicants and waste products result in destructions of ecosystems, loss of biodiversity and a severe decline of clean water supply in water-scarce countries.

According to an article about sustainable dying, printing, and processing by Patel and Kanade (2019), there is currently a lot of research conducted in the field of natural dyes and more sustainable padding and printing techniques. The authors highlight the importance of using natural materials for dying and claim that their energy and wastewater output is significantly less compared to synthetic dyes. The different

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techniques presented in their research are relatively new and have not been implemented by large fashion companies yet.

2.1.3 Textile Waste Generation

Concluding from the previous two chapters (see Chapter 2.1.1 & Chapter 2.1.2), the fashion industry's negative environmental impacts mainly arise and can be measured within the textile production and manufacturing countries (Niinimäki et al., 2020). Textile waste, on the other hand, happens on an international scale including energy-intensive maintenance of clothes and textile disposal on landfills or incineration facilities. As stated by Claudio (2007), 60% of total energy consumed within the product life cycle of a fashion item results from post-purchase maintaining such as washing with high heat and drying. The average household in the US consumes around 60.000 litres of water every year for washing and maintaining fashion items and apparel (SustainYourStyle.org, 2020).

In addition to the energy-intensive maintenance of sold apparel, another major accumulation of waste occurs at the end of the fashion products' lifecycles (Bick et al., 2018). Large volume disposal of clothing and textiles represents a significant environmental liability of the fashion industry, especially considering the rise of fast fashion and its short product life cycles. According to a study conducted by the Environmental Protection Agency (2020), annual textile waste in the US amounted to 17 million tons in 2018, whereof only 2.5 million tons have been recycled. The average fashion consumer in the US disposes more than 35 kg of textile products every year, accounting to more than 5% of total solid waste. As a direct result from insufficient waste management systems in the US, more than 65% of textile waste ends up on landfills and is often described as an environmental contamination (Bick et al., 2018). A recent infographic, published by the European Parliament (2021), states that less than 1% of globally disposed garments and apparel get recycled or reused. In contrast to the US and EU, LMICs often experience a much more severe lack of appropriate waste management and solid textile waste is responsible for direct environmental pollution of waterways, oceans, green space, and sensitive ecosystems (Niinimäki et al., 2020).



According to an article published by Brydges (2021), shifting the mainstream fashion industry from a linear to a circular economy could be a potential sustainable solution for its severe textile waste generation. This business cycle change includes multiple recycling and reusing activities for used fashion products and promoting them to consumers (Niinimäki, 2017). Popular and already implemented examples would be take-back programs, clothing swaps, second-hand product portfolios and offering repair services for damaged goods (Brydges, 2021).

The three main environmental issues discussed throughout this chapter are mainly referring to the traditional fashion industry but involve significant overlaps with the constantly and rapidly increasing market of fashion e-tailing (Grant & Fernie, 2019). Online purchases of fashion items have significantly increased over the past decade and, consequently, a lot of resulting impacts on externalities have arisen (Li et al., 2019). Therefore, this thesis not only analyses the physical retail of apparel but also fashion e-tailing and its environmental implications.



2.2 Fashion E-tailing

This thesis defines e-tailing in the fashion industry as the exclusive usage of digital tools and technology such as websites and online stores to enable consumers to purchase fashion items on the Internet (Bertram & Chi, 2018; Li & Gery, 2000). In 2020, sold apparel, accessories, handbags, and footwear amounted to the largest e-commerce sector worldwide (Orendorff, 2021). The online fashion industry's market value is currently experiencing an expanding growth rate of 7.18% and is estimated to reach one trillion US dollars by 2025. A fashion case study by Balasyan and Casais (2018) states that e-tailing is not only more cost-efficient concerning the sale processes of products and services, but also expands the target audience to an international scale. Characteristics of online communication and distribution channels such as convenience, accessibility, adaptive pricing, and product variety are the reasons for e-commerce's relevance within the fashion industry (Balasyan & Casais, 2018).

Especially in the light of the Covid-19 pandemic emerging globally in 2020, the fashion industry is expected to annually expand its digital channels by more than 20% starting in 2021 (Amed et al., 2021). According to the "State of Fashion Report 2021" by McKinsey & Company (2021), fashion e-tailers such as 'FARFETCH' and 'Zalando' which exclusively sell online experienced an increase of 35% in sales over the period of 2020.

Concerning the environmental impact of fashion e-tailing, several studies suggest that the average traditional brick-and-mortar retail store reports a higher carbon footprint and waste of resources than online/web shops (Bertram & Chi, 2018). These circumstances are mainly due to the customers' distance to physical stores or shopping centres which is often covered by car. However, e-tailing of fashion items has introduced new severe negative environmental impacts and challenges (Grant & Fernie, 2019), which are further discussed in Chapter 2.3.



2.3 Environmental Impacts of Fashion Delivery

Due to the rise of fashion e-tailing (see Chapter 2.2), international transportation and delivery have become essential elements of this industry's processes (Amed et al. 2021). To analyse the specific environmental impacts of fashion delivery, the supply chain literature discussed in this chapter relates to packaging, home delivery and returns. Applying these components of the fashion supply chain to the previously discussed main environmental impacts, packaging accounts to textile waste generation and home delivery and returns towards excessive resource consumption (see Chapter 2.1).

According to Meena (2019), online purchases within the apparel industry have increased by more than 60% by 2019 and this number is constantly rising. This is seen as the main reason for most global fashion retailers to invest and adopt into the online market and expand their delivery systems to an international scale. As Bertram and Chi (2018) stated in their research, the logistic departments of fashion companies concerned with the final delivery of the products and corresponding returns have a significant impact on organizations' carbon footprint and the global environment. E-tailing compared to in-store retail has introduced new negative environmental impacts such as the packaging of shipped goods, the consumer-orientated shipping speed and delivery times and longer transportation routes due to returns (Grant & Fernie, 2019). As discussed in a journal article by De Brito and colleagues (2008), the customers' desire for quick delivery results in many small deliveries and a higher frequency of necessary transports. Physical retail stores get their new apparel stock in mass deliveries which require only one transport route in contrast to the high number of individual home deliveries.

2.3.1 Packaging

Due to the constant increase of home deliveries of fashion products, the need for packaging material is rising significantly (Bertram & Chi, 2018). According to the director of the non-profit organization *Fibre Box Association* Dennis Colley, the global demand for cardboard boxes has quadruplicated in the past decade, solely because of the significant rise in the e-tailing industry (Colley, 2016). The importance of packaging can be divided into protection of the products physique as well as



advertisement reasons (Williams et al., 2008). Most fashion companies ship their items in in-house designed packages mainly because of consumer preferences and company image reasons. A study carried out by *Sealed Air* (2014) showed that "66% of consumers believe that the type of packaging used reflects the company's attitude towards the customer, because the quality and amount of materials show how much effort the company will put forth to protect the product, so it arrives safely at one's doorstep" (p. 37).

Regarding the environmental impact of packaging, the rising shipping of single-use cardboard boxes results in increasingly more waste and usage of natural resources (Williams et al., 2008). As research found out, the packaging used for home deliveries accounts for 22% of total carbon emissions from an online order (Environmental Protection Agency, 2020). The packaging of online deliveries amounts to a third of the United States' total waste. These numbers have gained increasing awareness among fashion e-tailing companies such as *Zara* and resulted in sustainable countermeasures, for instance recycling programs and reduced raw material consumption (Zara, 2020).

2.3.2 Home Delivery

The definition of home delivery used in this thesis involves the physical distribution of fashion items from the retail channel to the final point of sale (Hesse, 2002). Bertram and Chi (2018) claim that the carbon emissions of transport routes involved in home deliveries amount to 32% out of total emissions within the fashion industry. Comparing this number with the average CO₂ emissions of in-store shopping, a study conducted by Wiese et al. in 2012 shows that the environmental impact of the average in-store customer is higher by 2% compared to the online customer. Song et al. (2009) state that the highest environmental impact of fashion delivery is due to the last mile problem, which is defined as the negative environmental impacts of failed first-time home deliveries and following delivery attempts to the consumer. These additional attempts result in a higher number of transportation routes and corresponding increasing carbon emissions (Macioszek, 2018).

To reduce their negative impacts, many delivery services such as *Deutsche Post DHL* have increased the number of vehicles with alternative fuels within their total



inventory (Edenhofer, 2020). *DHL* has launched several sustainability projects and implemented delivery services by bike, electric cars, and e-scooters. Further projects to decrease the environmental impact of delivery services are still in development such as *Amazon's Prime Air Delivery* (Amazon, 2016). This particular delivery method is a pilot project of the international online marketplace *Amazon* and involves in-home deliveries by drone. Within recent years, these attempts among online retailers to design delivery processes as sustainable and environmentally friendly as possible have merged to an increasingly used term and label called "climate neutral" delivery.

2.3.3 Climate Neutral Delivery

Within the process of researching secondary sources for the literature review, the author identified a lack of academic articles about climate/carbon neutral delivery. This thesis aims to fill this gap to some extend and utilizes "clime neutral delivery" as the main label in the conducted experiment (see Chapter 3).

The non-profit environmental and consumer protection association "Deutsche Umwelthilfe" defined the term climate neutrality as the condition when a product or service has absolutely no impact on the environment (Deutsche Umwelthilfe, 2018). A more exact description found on their homepage states that a product or service is climate neutral when it does not increase or decrease the amount of CO₂ emission in the atmosphere. According to ClimatePartner (2021), companies can achieve climate neutrality through three different strategies, which are implemented by various international businesses today. The first approach is described as most effective from an environmental perspective as it includes completely avoiding CO2-emissions within every step of a company's supply chain (Deutsche Umwelthilfe, 2018). This way of achieving climate neutrality is the least common, due to significantly higher costs and unfeasibility within many industries. A widely used alternative to achieve carbon neutrality is to offset accrued CO₂ emissions through investing into sustainability projects (ClimateNeutral, 2021). Total carbon emissions within the entire supply chain are measured and consolidated into CO₂ kilograms, which need to be neutralized to become climate neutral (DHL, 2020). If a fashion store's net CO₂ emissions for delivery are for example 30 kg CO_2 , the company's funding into climate projects must result in at least 30 kg CO₂ neutralized.



The non-profit organization ClimateNeutral (2021), which awards brands with official climate neutral certificates, claims that most companies would be able to offset their CO₂ impact with an average of 0,4% of their revenue. An increasing number of organizations in various industries is currently implementing this offsetting strategy to justify their climate neutral labelling (Avocadostore, 2021; DHL, 2021; Farfetch, 2021; Kickstarter, 2021; Mjam, 2021).

Regarding the fashion industry, a company example implementing climate neutrality within their delivery process would be the largest online retailer of luxury fashion "Farfetch.com" (Farfetch, 2021). A subsection on their homepage states that every kilogram of CO₂ produced through home deliveries and returns is offset via investments into sustainable projects focusing on reforestation in the US and Brazil and funding renewable energy sources in China.

2.3.4 Returns

Bertram and Chi (2018) state that returns of unwanted deliveries are a significant impact factor on the environment. Out of the total online deliveries of fashion, 30% are returned and sent back to the retailer. These processes of returning and resending packages cause an exponential increase in the number and length of transportation routes. Apeagyei (2010) claims in her research about Body-Scanning technologies that more than half of these 30% return their goods because of sizing reasons. These developments result not only in higher costs for the retailer to develop a functional and customer-friendly return structure, but also in a significant increase of carbon emissions. According to Edwards et al. (2010), returning fashion items as an individual via postal services has much lower CO₂ emissions than by taking goods to a physical store and letting them handle the resending process. This effect occurring within the context of omni channel retailing is explained by the average route customers need to take to get to physical retail stores (for further information see Adivar et al., 2019).

Counteracting the high percentage of returns, fashion retailers such as *Hugo Boss* and *Zara* are investing into new technologies to ensure correct sizing and fit of online orders (Apeagyei, 2010). These technological tools include *3D-Body-Scanning*, virtual avatars, and sizing profiles for instance.



2.4 Labels as Signals

To influence customers' purchase behaviour and their general perceptions of particular products and services, the most important and effective tool for marketers is the usage of signals (Atkinson & Rosenthal, 2014). According to Bloom and Reve (1990), a signal is defined as "a marketer-controlled, easy-to-acquire informational cue, extrinsic to the product itself, that consumers use to form inferences about the quality or value of that product" (p. 59).

From an economical perspective, signals might take form of prices, brand names, warranties, and advertising, for instance (Boulding & Kirmani, 1993). Within the fashion industry, signals can also extend to different labels highlighting characteristics such as durability, fabric quality and sustainability (Fotopoulos & Krystallis, 2003). In general, signals are only described as effective for the purchasing decision if they are perceived as useful, credible, and trustworthy (Atkinson & Rosenthal, 2014). If a particular signal is faced with doubt and a lack of consumer trust, it instantly loses its function and might even reduce overall perceived credibility of the product or brand. As discussed by Bloom and Reve (1990), customers research necessary information about products or services as long as the cost, effort and time do not exceed the perceived value of the purchase. Therefore, advertising is the most common signal used because it provides quick information and reduces customer research efforts to a minimum (Atkinson & Rosenthal, 2014).

Based on the definition of a signal by Bloom and Reve (1990), this thesis identifies every kind of label attached to a particular product or service as a signal. Within the context of the fashion industry, the author does not equalize the term label with fashion brands but discusses labels more as additional extraordinary product titles such as "green", "eco-friendly", "sustainable" or "climate-neutral" (see Chapter 2.3.3). As discussed by Bauer et al. (2013), labels function as suggestions for the consumer to evaluate certain products' unobservable characteristics. The overall importance of labelling is highlighted in a study conducted by Parkinson (1975), which concluded that, in general, customers perceive products with seals and labels as more favourable compared to non-labelled products.



2.4.1 Signaling Theory

This thesis utilizes signaling theory by arguing that eco-labels such as "climate neutral delivery" are used as signals for customers to increase purchase intention and avoid shopping cart abandonment (Atkinson & Rosenthal, 2014). Signaling theory implies that consumers are experiencing a significant information deficit when analysing and evaluating company's claims about products or services (Karasek et al. 2012). According to Janssen and Hamm (2012), there are three types of attributes assessed by customers when buying a certain product or service. Within the fashion industry, search attributes include obvious characteristics (e.g.: item type, price, colour) and experience attributes relate for instance to the fabric's feeling and durability (Jegethesan et al., 2012). Both attribute types are directly assessed by the customer prior and after the purchase, in contrast to credence attributes such as sustainability claims and climate neutral delivery (Janssen & Hamm, 2012). Credence attributes or claims cannot be directly evaluated by the customers because of a lack of knowledge, information or/and involvement (Srinivasan & Till, 2002). Therefore, eco-labels for example, which can be identified as credence claims, implicate a high level of uncertainty for the customers (see Chapter 2.4.2). This uncertainty is both a reason for and an effect of decreasing credibility of "green/eco-claims" within the fashion industry (Bonini et al., 2008).

Especially, when it comes to environmental claims, consumers must rely on the information stated by the marketers which can be incomplete, misleading, and wrong (Rex & Baumann, 2007). Therefore, customers depend on certain signals such as labels or certificates to assess the truthfulness of specific claims concerned with sustainability or climate neutral processing, for instance (see Chapter 2.5).



2.4.2 Eco-Labels

Eco-Labels or 'green advertising' in general are common diversification strategies which include sustainable and environmentally friendly aspects about certain products or services as a sales argument (Kärnä et al., 2001). This marketing technique is increasingly used by companies in the fashion industry because, according to Pícha and Navrátil (2019), a rising number of consumers are stating a higher willingness to buy eco-friendly products. The increasing relevance of sustainability claims is also discussed in a study conducted by Moussa and Touzani (2008) stating that the average consumer has become increasingly aware of the environmental and ethical aspects of his/her purchase behaviour. Especially within the fashion industry, an increasing public sensitivity concerning corporate social responsibility has been observed, resulting from various public backlashes against large fashion labels (see Chapter 2.1).

This thesis defines eco-labels according to Bougherara and Combris (2009) as signaling tools for informing customers about a product or service's sustainable and environmentally friendly aspects, parallel to guaranteeing the truthfulness of these claims. Products are provided with eco-labels to allow customers to involve environmental and sustainable considerations as well as other attributes, such as fair and humane working conditions into their purchase decisions (Case, 2004). Hansen and Kull (1993) state that, depending on the source and content of an environmental claim, signals such as eco-labels are an effective tool for increasing customers' perceived credibility and general trust in the brand. From the consumer perspective, eco-labels function as signals and indicators for including environmental, sustainable, and social concerns within the shopping experience (Rex & Baumann, 2007). From an economic standpoint, eco-labels' main function is to increase product demand and consequently sales through highlighting green and eco-friendly attributes of certain products (Castka & Corbett, 2015).

As stated in the signaling theory chapter (see Chapter 2.4.1), sustainability claims and eco-labels such as climate neutral delivery or environment-preserving characteristics are credence claims and therefore increasingly circumstantial for customer to evaluate (Brach et al., 2017). According to Atkinson and Rosenthal (2014), customers are unable to directly verify if a product or service is sustainable or "green" and therefore depend on different signals such as eco- or climate neutral labels. Large



fashion companies which have already implemented eco-labels are for instance Zara with their "Join Life" campaign and *Gucci* with their "Gucci Equilibrium" project (Gucci Equilibrium, 2021; Zara, 2021). "Join Life" is concerned with Zara's implementation of recycled polyester within selected apparel and "Gucci Equilibrium" summarizes *Gucci*'s corporate responsibility of maintaining transparent and sustainable supply chains within climate neutral processes.

2.5 Labels' Diagnosticity and Credibility

When consumers assess products and services, they rely on a given set of cues/ labels related to the product or service which have an influence on their buying behaviour and purchase intention (Zou & Liu, 2019). Within the fashion industry, these cues can take form of (eco-)labels, price, sizing, colour, quality, brand, delivery fees and return policies, for instance (Yu et al., 2018). Consequently, the term diagnosticity refers to the value of information used for differentiating between these various cues (Liviatan & Trope, 2007). The so-called cue diagnosticity framework implies that consumers asses every given cue/label within a categorization process (Zou & Liu, 2019). The cues' categories rank from high quality to low-quality information and importance for each consumer individually. According to a research conducted by Purohit and Srivastava (2001), labels with higher diagnosticity are of higher importance for consumers than labels with low diagnosticity. Within the same study, the researchers also differentiated between high-scope cues, which are accumulated over a longer period of time and low-cope cues, which are relatively new and might change frequently. Research suggests that high-scope cues experience a higher perceived credibility than low-scope cues and are therefore also more important for customers' buying behaviour and purchase intention (Zou & Liu, 2019).

Transferring diagnosticity theory to the context of eco-labelling, a study conducted by Manrai et al. (1997), concludes that especially food products with "green" and ecofriendly attributes benefit from more specific and detailed claims on their packaging or within their advertising. More exact and tangible descriptions of the products' sustainable aspects improve customers' perception of the brand and strengthens their perceived credibility. The same findings have been reported by Atkinson and Rosenthal (2014), that consumers perceive eco-labels (without any industry context) more trustworthy, truthful, and positive when they include specific and more tangible



sustainability arguments and attributes. An eco-label with high diagnosticity can be observed on the online fashion platform "Farfetch.com", as they name and include descriptions of funded environmental projects for achieving climate neutrality (Farfetch, 2021).

The term credibility is listed in the Oxford dictionary as the quality that something or someone has that makes people believe or trust them (Oxford Dictionary, 2021). Within an economical context, credibility is defined as the extent to which customers perceive a certain product or service as trustworthy based on expertise (Erdem & Swait, 2004). Based on these definitions, credibility is nothing that resides directly from a service or product itself, hence is always a subjective perception of the customers (Moussa & Touzani, 2008). Therefore, when discussing eco-labels' credibility within the fashion industry, this thesis always relates back to customers' perceived credibility of such labels. According to Toufaily et al. (2013), the most important element of establishing consumers' trust is through analysing perceived credibility.

A consumer survey conducted by Larceneux (2001) reports that labels' credibility is highly dependent on the organization or company's credibility responsible for the label. His studies were limited to 'cultural products' such as music CDs, but he generally concluded that a label is only perceived as credible when coming from an independent third-party organization, which is perceived as competent and absolutely unbiased within the certification process (Larceneux, 2001). This claim is also supported by a more recent study within the food industry reporting that, in general, customers perceive third-party certifications as more credible and trustworthy than company owned in-house labels (Albersmeier et al., 2010). Two independent studies by Pancer et al. (2017) and Roe and Sheldon (2007) concluded that the utilization of third-party certifications has been established as the most effective way to increase perceived credibility of green claims.

Relating credibility theory to eco-labelling, perceived credibility plays an essential role for environmental marketing because green claims are more critically evaluated by customers (Atkinson & Rosenthal, 2014). According to De Chiara (2016), customers' perceived value of sustainable and eco-friendly products or services highly depends on the perceived credibility of their sustainable selling arguments. As shown in an



experiment conducted by Brach et al. (2017), eco-labels only result in higher purchase intentions if customers perceive them as credible and trust the brand. Labels functioning as "trust attributes" are essential for sustainable products, because they reduce information asymmetry for consumers and engage customers to choose ecoand green over conventional products (Thøgersen et al., 2010).

According to Bonini et al. (2008), customers report uncertainty and scepticism about eco-labels and companies' claims to act sustainably and environmentally friendly. Consumers perceive such sales arguments more as marketing strategy rather than as an actual green promise. Consequently, companies are faced with consumers' distrust because of their perceived lack in credibility (Brach et al., 2017). Looking at an USA consumer survey conducted by the Nielsen Company in 2011, more than half of US customers perceive corporations' environmental claims as not truthful and therefore not trustworthy or credible. If consumer perceive a lack of credibility and suspect marketing schemes such as 'greenwashing' behind eco-labels, they develop a negative attitude towards the company and therefore are not willing to buy their product or service (Atkinson & Rosenthal, 2014). However, a different survey conducted by Aprile et al. (2012) claims that despite many consumers tend to be distracted by the overload of labels and are particularly critical towards sustainability labels and their truthfulness, most of the research within this field suggests that eco-labels in general increase demand for sustainable goods and services and diminish purchases of conventional non-labelled products.



3 Methodology

The methodology applied in this thesis is divided into several different sections discussed throughout this chapter (see Chapter 3). The first section is a brief overview and explanation of the thesis' two research questions and the corresponding derived hypotheses (see Chapter 3.1). Subsequently, the author introduces his quantitative approach within the constructed research design (see Chapter 3.2) and provides a deeper insight into the online experiment (see Chapter 3.3). This is followed by an explanation and discussion of the measurements applied within the online survey (see Chapter 3.4). At the end of this chapter, the author presents the thesis' sampling methods, characteristics, and the survey's results (see Chapter 3.5). The thesis closes with an interpretation of the findings (see Chapter 3.6) and a critical evaluation of the applied methodology (see Chapter 3.7).

3.1 Research Questions and Hypotheses

The following chapter is concerned with the presentation and derivation of the thesis' two main research questions and their corresponding hypotheses. As already mentioned in Chapter 2.4.2, products and services labelled as sustainable and eco-friendly are experiencing a significant increase in customer demand (Pícha & Navráltil, 2019). The average customer is described as very aware of environmental and ethical controversies within the fashion industry and an increasing number of consumers is stating a higher willingness to buy eco-friendly products (Moussa & Touzani, 2008). Based on these findings from secondary sources, the first main research question has been formulated to observe eco-labels influence on consumers' credibility perceptions, visit intentions and word-of-mouth marketing:

RQ1: To what extent do eco-labels influence e-tailers' credibility and consequently consumers' visit intention and word-of-mouth marketing within the fashion industry?

The corresponding hypothesis H1 is built on a research article conducted by Hansen and Kull (1993), claiming that eco-labels have proven to be effective for increasing customers' perceived credibility and general trust in the brand (see Chapter 2.4.2):



H1: Eco-Labels have a positive influence on consumers' trust in e-tailers within the fashion industry.

Two additional hypotheses concerned with the influence of trust on visit intention and word-of-mouth marketing have been constructed. The author assumes that high levels of trust do not only increase the demand for eco-friendly products as discussed by Thøgersen et al. (2010), but also have a positive impact on consumers' visit intention and word-of-mouth marketing:

H2: High levels of trust in fashion e-tailers have a positive influence on consumers' visit intention.

H3: High levels of trust in fashion e-tailers have a positive influence on consumers' word-of-mouth marketing.

The second main research question of this thesis is concerned with labels' diagnosticity and its impact on consumers' trust and credibility perceptions (see Chapter 2.5). A research conducted by Zou and Liu (2019) concludes that labels including higher-quality information are more relevant and important for customers' purchase behaviour. Another study by Atkinson and Rosenthal (2014) claims that consumers perceive eco-labels as more trustworthy and credible when they include more tangible arguments and information. Based on these findings, the thesis poses its second research question as following:

RQ2: To what extent does labels' diagnosticity influence e-tailers' credibility and perceived consumer trust within the fashion industry?

As previously discussed in Chapter 2.5, academic research suggests that more and higher-quality information has a positive impact on consumers' credibility perceptions about retailers (Atkinson & Rosenthal, 2014). Therefore, this thesis assumes the subsequent hypotheses H4:

H4: High diagnosticity of labels has a positive influence on e-tailers' credibility within the fashion industry.

Toufaily et al. (2013) state in their research that credibility perceptions are the most important element for establishing consumers' trust. An additional study conducted



by Brach et al. (2017) analyses the negative implications of low credibility on consumers' trust towards retailers. Based on these resources, the author assumes the following Hypothesis 5 concerned with the potential positive relationship between high credibility and consumer trust:

H5: High credibility of labels has a positive influence on consumers' trust in e-tailers within the fashion industry.

3.2 Research Design

For this thesis, a quantitative research approach has been selected to detect causal relationships between eco-labels, their diagnosticity and consumer responses within the fashion industry. More specifically, the author aims to collect information about the potential impacts of eco-labels on consumers' trust and in further consequence how trust influences visit intention and word-of-mouth marketing. The chosen tool for data collection has been an online experiment, employing a two-factor (label: eco-label vs. fast delivery label x diagnosticity: high vs. low) between subjects design with additional control group (no label). Participants were randomly allocated to one of these five experimental conditions. Previously applied measurement scales from secondary academic literature have been the basis for the applied Likert scales and answer options utilized in the online survey (see Chapter 3.3).

Due to the thesis' focus on e-tailing, the sizable target sample and the currently ongoing Covid-19 pandemic, the survey has been conducted solely online. For this matter, the online survey platform "clickworker.de" has been chosen for acquiring the sample of the cross-sectional study (Clickworker, 2021).

3.3 Online Experiment

The online experiment for statistical data collection and analysis has been created via the online tool "SoSci Survey" and launched on the "Clickworker" platform (SoSci Survey, 2021). The survey can be broadly divided into three main sections, including a stimulus at first, followed by the actual questionnaire compiled of various Likert scales assessing the different constructs of interest and closed by a demographics segment.



The first section presented a hypothetical online-store with four different labelling options. The photographs, graphics and fonts used for the consistent online store layout have all been derived online and are free-to-use and creative-commons licensed. To test the effect of different labelling and varying diagnosticity on consumer perceptions, four distinctive versions of two labels have been created together with one control version without any label. Participants are randomly assigned to either an eco-label called "CO₂ Neutral Delivery" with high or low diagnosticity, a "Quick Delivery" label with high or low diagnosticity or an online store without any additional label attached. The exact design of the experiment, wording of the labels and their diagnosticity parameters can be seen in the appendix. To ensure sufficient observation of the created online store and its correlating label, a timer has been set forcing participants to look at the stimulus for at least 15 seconds in the first part of the experiment.

In the beginning of the actual questionnaire part of the experiment, an attention check question is posed, asking which label the individual participants have been confronted with. In the case of a wrong answer, the participants are no longer eligible for answering the remaining questions of the survey. Apart from the demographics segment in the end, every remaining question is posed via a Likert scale from one (very negative; completely disagree) to seven (very positive; completely agree).

3.4 Measurement

To measure customers' credibility perceptions of the different label options, the first set of items is based on Go et al. (2016) and asks for a rating of the online store's labelling as fair, reliable or clear. This question has been removed from the surveys including the experimental online store without any label attached, since these specific label characteristics cannot be assessed without any stimulus label. The questionnaire's second set of items is concerned with consumers' trust in the e-tailer to apply sustainable supply chains or environmentally friendly delivery (Yuen et al., 2018). It is evaluated through eight different statements about truthful and honest implementation of sustainable processes which were ranked along a Likert scale from one (not agree) to seven (completely agree). The author's aim was to measure if ecolabels with high or low diagnosticity influence consumers' trust in e-tailers' environmentally friendly claims. Following this construct, the next two questions



based on Kim et al. (2007) are related to customers' visit intention and word-of-mouth marketing regarding the generated online store. Seven broad statements indicating the likelihood of revisiting or recommending the online store are again rated on a scale from 'not agree' to 'completely agree'. The next item tests participants' ecological concern by the means of rating statements related to the humans' role in the natural environment adopted from Cruz and Manata (2020). Ecological Concern is meant as a one of the survey's control variables, as well as the next item, shopping orientation. The shopping orientation scale developed by Hansen and Jensen (2008) has been transformed into a Likert scale and aims to test any potential correlations between efficient or emotional shoppers with variables such as consumers' trust in the e-tailer or credibility perceptions. Before the survey closes with the demographic section, the participants are confronted with four final scales measuring their state of knowledge and familiarity with the fashion industry. These scales are adopted from Kelting et al. (2007) and have been reformulated to ask about supply chain knowledge and awareness of delivery processes as well. This last item has been implemented to test a potential impact of customers' knowledge on trust in e-tailers' eco-labels.

The final section of the survey consists of demographic questions about age, nationality, gender, and highest completed education. The gender item is designed as optional to answer and the three categories available are 'male', 'female' and 'diverse'. Nationality is also an optional scale and does not include predefined categories, neither does the age item. The final question asking for highest completed education is based on the German education system and ranges from 'no compulsory education' to 'university/advanced college'. The exact wording of the questions, scales and statements can be found in the appendix.

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3.5 Results

This chapter presents and analyses the survey's findings and results. In the first section, a detailed breakdown of the sample's sociodemographic characteristics is given, followed by a section explaining the scales' reliabilities (see Chapters 3.5.1 & 3.5.2). Before discussing the main results and answering the hypotheses in Chapter 3.5.4, the author presents and analyses the manipulation checks (see Chapter 3.5.3).

3.5.1 Sample Description

The chosen sample for this thesis' survey includes only persons meeting the predefined specifications and requirements necessary to enter the survey. These were: being within the age range 18 to 65, possessing the ability to understand the German language and having access to online services. Due to the utilization of the German online survey platform 'clickworker.de', the entire questionnaire and experiment has been conducted in the German language. The availability of the survey has been limited to a three-day access from 18th May 2021 to 20st May 2021 and was solely retrievable online via a 'SoSci Survey' link provided through 'cklickworker.de'. There were no further restrictions for participating and in total 214 respondents took part in the survey. Out of the entire sample, 13 participants were not able to complete the survey due to exclusion criteria such as not correctly identifying the presented label. Therefore, the final number of collected surveys amounts to 201 valid completions.

Regarding the different gender frequencies observed in the sample, out of the total 201 valid participations, 124 respondents selected the category 'male' which amounts to 62.3%. The gender category 'female' has been chosen by 75 participants which results in a total of 37.7% of the sample. No respondents attending the online survey identified themselves as 'diverse', which has also been a potential category of the optional gender question. Concerning the valid sample's age distributions, the minimum age selected is 19 and the oldest respondent is 65, which is the maximum age allowed for participating in the online survey. The mean of the sample's age composition is 40.28 with a respective standard deviation of 11.76 years. Regarding the highest completed education level, out of 199 valid completions, 95 respondents selected 'University, University of Applied Sciences'. This category amounted to 47.7%



and represents most participants of the total sample, followed by the category 'High School (Abitur)' as highest completed education, which includes 60 respondents totalling to 30.2% of the sample. The composition of the other categories in descending academic order are 5% 'Vocational Middle School', 15.1% 'Apprenticeship' and 2% 'Compulsory School'.

3.5.2 Scale Reliability

Cronbach's α has been calculated for every scale to assess its reliability, which needs to be above 0.7 to be considered reliable. All constructs exceeded the threshold of 0.7 and hence can be considered as reliable (Table 1). To further evaluate the items' reliabilities, the item discrimination has been conducted as well. A correlation value above 0.3 is usually portrayed as sufficient. The survey's individual items state a minimum correlation value of 0.32 along the 'perceived trust in the e-tailer' scale. The maximum correlation value amounting to 0.9 can be found within the same scale and both items have been concerned with the authenticity of the e-tailers' sustainability actions. For further analysis, composite scores (means) of all constructs have been calculated.

Constructs	Items				
	The retailer seems to be competent in implementing sustainable supply chain practices.				
	The retailer seems knowledgeable with respect to implementing sustainable shipping practices.				
	The retailer seems truthful in its disclosure of sustainable shipping practices.				
Consumers' Trust in the	The retailer seems sincere in implementing sustainable shipping practices.				
E-Tailer	The retailer's involvement in s	ustainability seems altruistic.	0.94		
	The retailer seems genuine in	implementing sustainable shipping practices.			
	The retailer's involvement in s	ustainability seems to be guided by self-interest.			
	The retailer seems to be effec	tive in implementing sustainable supply chain practices.			
		Fair	0.87		
	The presented label seems:	Accurate			
Credibility Perceptions		Balanced			
		Comprehensive			
		Reliable			
	I would visit this online shop.				
Visit Intention	In the future, I would very probably shop at this online shop.				
visit intention	I would visit this online shop regularly.				
	I would consider this online shop for my purchases.				
	I would speak positively about this online shop.				
Word-of-Mouth Marketing	I would recommend this online shop to my friends.				
	If my friends were looking for apparel products, I would recommend them to try this online shop.				
	The online shop includes detailed information about the delivery process.				
Perceived Diagnosticity	The given information has been sufficient for assessing this online shop.				
	The delivery process' characteristics are clearly explained.				

Table 1: Cronbach's α of Constructs



3.5.3 Manipulation Checks

This subchapter analyses the manipulation checks which have been conducted to test whether the participants were able to differentiate between the three labels and their corresponding diagnosticity levels. The first manipulation check relates to the respondents' differentiation between the three presented label versions in terms of the online shop's propagation of ecological benefits such as environmentally friendly processes (Table 2). The respondents indicated their agreement along a Likert scale ranging from 1 (completely disagree) to 7 (completely agree).

Descriptive Statistics						
Group	Mean	Std. Deviation	Ν			
No Label	2.19	1.37	37			
Deliver Label	3.09	1.60	81			
Eco Label	5.33	1.38	83			
Dependent Variable: Online Shop's Propagation of Ecological Benefits						

Table	2: M	anipul	lation	Check	Label

Highly significant differences between the three means in Table 2 can be observed (F(2,198)=76.27, p<.001). The respondents exposed to the eco-label showed a significantly higher consent regarding the online shop's propagation of ecological benefits compared to the "No Label" and "Delivery Label" group (Table 2).

The second manipulation check analyses the participants' ability to distinguish between the two different diagnosticity levels. Three items, asking respondents about the details communicated by the label, assessed differences in diagnosticity between the two experimental conditions (high vs. low diagnosticity). A composite score was calculated which served as dependent variable in the ANOVA, while the group represented the factor variable.

Descriptive Statistics						
Group Mean Std. Deviation N						
Low Diagnosticity	2.84	1.42	118			
High Diagnosticity 4.53 1.49 83						
Dependent Variable: Perceived Diagnosticity						

Table 3: Manipulation Check Diagnosticity



The two means in Table 3 are significantly different from another (F(1,199)=66.01, p<.001). The average respondent presented with the 'high diagnosticity' label indicated a significantly higher agreement regarding the online shop's information quality and sufficiency compared to the 'low diagnosticity' group. The exact phrasing of the items used for the manipulation checks can be found in the appendix.

3.5.4 Data Analysis and Results

The following section provides a brief presentation of the statistical methods used for data collection and analysis. Furthermore, it also presents and analyses the survey's results regarding the research questions and their corresponding hypotheses introduced in Chapter 3.1.

Absolut frequencies and percentages have been used for the descriptive analysis of the sample and its demographic characteristics. The entire process of data collection and analysis is based on metric scale levels as composite scores of published reliable scales, which also proved reliable in the current data set (see Chapter 3.5.2). To test all variables on their reliability, a reliability analysis has been conducted and their Cronbach's Alpha values have been reviewed. For further analysis and hypotheses testing, composite scores in form of means have been calculated for every construct. The main analysis has been conducted via testing the predefined hypotheses derived from the research questions (see Chapter 3.1). H1 and H4 have been tested using an ANOVA analysis to evaluate if eco-labels have a positive influence on consumers' trust in the e-tailer and to what extent diagnosticity levels are impacting credibility perceptions. The remaining hypotheses H2, H3 and H5 concerned with the interrelationships between consumers' trust, word-of-mouth marketing, visit intention and credibility perceptions have been subjects of various regression analyses.

The various findings of the conducted survey are summarized in several tables and visualized by statistical graphs such as bar charts and scatterplots. The first part of the results' analysis is concerned with research question RQ1, investigating to what extent eco-labels influence e-tailers' credibility and consequently consumers' visit intention and word-of-mouth marketing within the fashion industry (see Chapter 3.1). One of the hypotheses generated for this research question H1 states a positive influence of



eco-labels on consumers' trust in the e-tailer. Table 4 summarizes the relationship between the presented label and consumers' perceived trust in the e-tailer (Table 4). For testing this hypothesis an ANOVA has been conducted, including a pairwise comparison in form of a Scheffé test. As seen in Table 4, the distinction between the labels' respective means is highly significant (F(2,198)=38.71, p<.001). The Scheffé test's findings conclude that the results for all three label groups can also be distinguished from each other highly significantly (all p<.001).

Descriptive Statistics						
Group Mean Std. Deviation N						
No Label	2.73	1.26	37			
Delivery Label	3.73	1.26	81			
Eco Label	4.66	0.95	83			
Dependent Variable: Consumers' Trust in the E-Tailer						

Table 4: Consumers' Trust in the E-Tailer based on Label

The survey's respondents stated their agreement level on various items assessing trust in the e-tailer from 1 (completely disagree) to 7 (completely agree). The ecolabel group has received the highest mean value of 4.7 (Table 4). Within this label group a standard deviation of about 0.95 can be observed. Setting the delivery label in relation to consumers' trust in the e-tailer, a mean of 3.7 has been detected with a corresponding standard deviation of 1.26. The lowest average agreement has been measured among the participants who were not presented with any label, resulting in a mean value of about 2.7 and a standard deviation of 1.26.

The significant relationship between the type of label and consumers' trust in the etailer has been illustrated in a bar chart as well (Figure 1). Due to the significant results indicating a positive influence of eco-labels on perceived consumer trust in the etailer, H1 can be accepted. Putting this information in the context of the experiment, respondents who were presented with an eco-label (high and low diagnosticity) stated higher trust perceptions towards the online-shop and e-tailer compared to the other two labels.



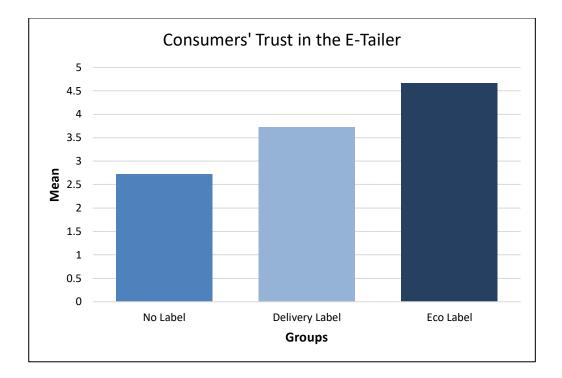


Figure 1: Consumers' Trust in the E-Tailer for Different Label Conditions

The second hypothesis formulated for research question RQ1 assumes that high levels of trust in the e-tailer result in a positive influence on consumers' visit intention (see Chapter 3.1). To test this potential relationship, a linear regression analysis has been conducted. As visualized by the scatterplot in Figure 2, the model predicting visit intention by means of consumers' trust in the e-tailer results in a highly significant R² (R²=0.19, R²_{adj}=0.18, F(1,199)=45.56, p<.001) (Figure 2). According to the regression analysis, consumers' trust in the e-tailer can be seen as a positive predictor for consumers' visit intention (B=0.43, β =.432, p<.001). Therefore, hypothesis H2 is supported stating that high levels of trust in fashion e-tailers have a positive influence on consumers' visit intention. The more trustworthy participants of the survey perceived the online shop and retailer, the higher their wish has been to visit the online shop again.



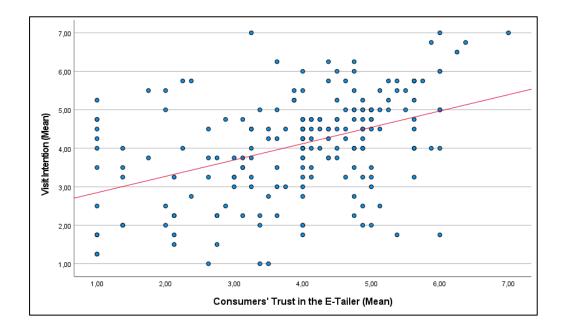


Figure 2: Visit Intention based on Consumers' Trust in the E-Tailer

Hypothesis H3, derived from the first research question, states that high levels of trust in the e-tailer have a positive influence on consumers' word-of-mouth marketing (see Chapter 3.1). The author has tested this hypothesis with a linear regression analysis, resulting in a highly significant R² for predicting word-of-mouth marketing based on consumers' trust in the e-tailer (R²=0.29, R²_{adj}=0.28, F(1,199)=80.02, p<.001). Due to the resulting positive β value being greater than 0.5, high levels of consumer trust are a strong positive predictor for consumers' word-of-mouth marketing (B=0.52, β =.54, p<.001). This positive relationship between the two variables has also been visualized in a scatterplot created in SPSS (Figure 3). Based on these findings and calculations, H3, describing the positive influence of high trust levels on consumers' word-ofmouth marketing, can be confirmed. Survey respondents who perceived the online shop and retailer as trustworthy are also more likely to positively talk about it with their friends and family.



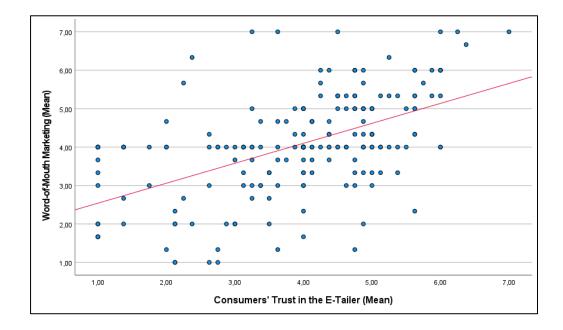


Figure 3: Word-of-Mouth Marketing based on Consumers' Trust in the E-Tailer

The second part of the results' analysis is dedicated to the hypotheses H4 and H5, both derived from the research question RQ2 (see Chapter 3.1): To what extent does labels' diagnosticity influence e-tailers' credibility and perceived consumer trust within the fashion industry? The first hypotheses H4 assumes that a label with high diagnosticity has a positive influence on e-tailers' credibility. For testing the implications of H4, an ANOVA analysis has been conducted. The two calculated means in Table 5 relating to the different diagnosticity groups 'low' and 'high' do not significantly differ from each other (F(1,162)=0.04, p=.848). The mean score resulting from participants who were presented with the low diagnosticity label amounts to 5.16 with a corresponding standard deviation of 0.84 (Table 5). For the 'high diagnosticity' group, a very similar mean value of 5.19 and a standard deviation of about 1.13 have been measured.

Table 5: Perceived E-Tailers	' Credibility based	on Diagnosticity
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Descriptive Statistics								
Group	Mean	Std. Deviation	Ν					
Low Diagnosticity	5.16	0.84	81					
High Diagnosticity	5.19	1.13	83					
Dependent Variable: Consumers' Perceived Credibility of E-Tailers								



Due to the insignificant results measuring a potential relationship between labels' diagnosticity and consumers' perceived credibility of e-tailers, Hypothesis 4 cannot be confirmed. The data does not support the assumption that labels' diagnosticity has any influence on consumers' perceived credibility of e-tailers.

The final hypothesis H5 relates to the research question RQ2 as well and states that high credibility of labels has a positive influence on consumers' trust in the fashion etailer (see Chapter 3.1). To test this hypothesis, another linear regression analysis has been carried out. The model predicting consumers' trust by means of perceived labels' credibility results in a highly significant R² (R² =0.22, R²_{adj}=0.22, F(1,162)=46.73, p<.001). The calculated β -value of 0.47 suggests perceived labels' credibility being a medium positive predictor for consumers' trust in the e-tailer (B=0.57, β =.47, p<.001). To visualize the two variables' positive linear relationship, a scatterplot has been created (Figure 4).

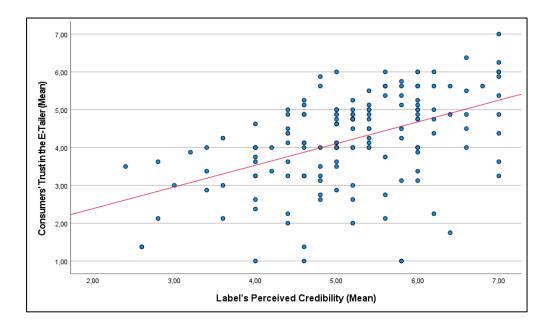


Figure 4: Consumers' Trust in the E-Tailer based on Perceived Label's Credibility

According to the statistical analysis, high label credibility perceived by the consumers has a positive influence on trust towards the e-tailer and therefore Hypothesis 5 can be supported. In the context of the conducted experiment, respondents who perceived the label presented in the online store as credible were more likely to also state high trust towards the e-tailer.



3.6 Discussion of Results and Recommendations

The aim of the following discussion is to relate the analysed literature to the findings of the experiment. In this chapter, the author carries out a detailed comparison of all the results from secondary as well as primary sources and concludes with answering the two main research questions. Based on the discussion and interpretation of the major outcomes and their implications, the author also provides a few careful recommendations for organizations within the analysed industry.

Regarding the conducted experiment, the findings have been partly identical to the results derived from extant literature. According to Hansen and Kull (1993), an effective tool for increasing consumers' perceived credibility and trust in the retailer is the implementation of eco-labels. This exact relationship between eco-labels and credibility perceptions has also been observed in the collected data. Consumers seem to perceive e-tailers in general as more credible and trustworthy when confronted with an eco-label. Elaborating on this increase in trust and credibility, the survey's results as well as previous academic research concluded that these two variables are a strong predictor for higher visit intention and word-of-mouth marketing (Thøgersen et al., 2010) (Figure 2 & 3). Based on these findings, it may be assumed that online shops might be able to increase their customers' (re)visit intention, word-of-mouth marketing and in the long-term sales and profits by establishing credible and trustworthy eco-labelling for their products. Therefore, the author suggests to organizations within the fashion industry to employ sustainable strategies such as climate neutral delivery processes as differentiation strategy among competitors and to potentially increase customer traction and demand.

The second research question RQ2 has been mainly concerned with the potential effects of labels' diagnosticity on consumer perceptions regarding credibility and trust (see Chapter 3.1). Contradicting to the findings of the secondary sources within the literature review and consequently unexpected for the author has been the insignificance of labels' diagnosticity for consumer perceptions. Two external research articles analysed in Chapter 2.5 concluded from their findings that labels including more, and higher-quality information are more relevant, trustworthy, and credible for consumers (Atkinson & Rosenthal, 2014; Zou & Liu, 2019). This stands in stark contrast to the present results, in which additional information for eco- and delivery labels had



no significant impact on consumers' credibility perceptions towards the e-tailer. In the current research, customers do actually differentiate between labels with low or high diagnosticity, however, this differentiation did not result in any influence on perceived credibility (Table 5). Labels such as "climate-neutral delivery" and "fast delivery" have led to the same increase in perceived credibility, regardless of included additional and/or more tangible information. The experiment's results suggest that most online fashion customers might not critically assess eco- or delivery labels based on their actual implications. Consequently, fashion e-tailers could benefit from the positive effects of utilizing eco-labels, without the need of clearly stating the label's exact sustainable impacts or positive environmental effects. A potential reason for the described contradiction between previous academic sources and the present results could be the different industries the research has been conducted in. Customers might be less critical when assessing environmentally friendly claims of fashion products compared to food, healthcare, or transportation for instance.

Another point of connection between the findings of the conducted literature review and the survey results has been the importance of labels' perceived credibility for consumers' trust in the e-tailer (Toufaily et al., 2013; Figure 4). As seen in the testing of H5, the extent to which consumers perceive a presented label as credible is related to the overall perceived trust towards the e-tailer (Brach et al., 2017). Based on the similar findings from secondary and primary sources, it may be assumed that credible labelling is essential for establishing sustainable consumer trust. A potential explanation for this relationship may be found in signaling theory, as labels are increasingly important cues especially for online customers (see Chapter 2.4.1). Therefore, the author recommends fashion e-tailers to sufficiently invest money, time, and effort into transparent sustainable practices to support strong and credible eco-labelling strategies. High levels of consumer trust and their beneficial and profitable outcomes could be achieved through focusing on well-designed and appealing labels regardless of their diagnosticity and actual implications.



3.7 Limitations and Further Prospects

The most significant limitation has been the relatively small sample size of 199 valid survey completions in relation to a randomized experiment with five different groups. Furthermore, it may be assumed that the collected data might underly a certain bias, due to the utilization of the online survey tool 'clickworker.de' targeting a German sample. Additional to this potential bias, the sample's sociodemographic characteristics indicate a majority of respondents being male (62%) and selecting university as their highest completed education (47.7%). The questionnaire should have been sent out in a more diverse form, so that the sample would presumably also be more diverse. In general, representativity of the sample cannot be claimed, neither for a population nor for a specific target population.

A positive characteristic has been the implementation of two manipulation checks within the online survey, increasing the validity of the interpretations. The experiment also received positive participant feedback on its design and realistic layout of the online shop and its generally appealing labels. As discussed in Chapter 3.6, the survey did not deliver a significant relationship between labels' diagnosticity and credibility perceptions, which strongly contradicts the findings of secondary sources. This condition might be due to the inevitable differences between observing customer behaviour within an experiment and real-life observations. It can be assumed that fashion consumers might perceive the importance of labels' diagnosticity differently when shopping familiar brands or in physical retail stores. Due to the limiting survey and experiment's characteristics, the so-called 'Attitude-Behaviour Gap' might have been an unconsidered impact factor of the thesis' findings (for further information see Shaw et al., 2016). One of the most important and relevant aspects for the fashion industry observed in the survey would be the missing necessity for high label diagnosticity.

The author strongly suggests further research in the field of greenwashing, regarding the beneficial implications of eco-labels, regardless of their verifiability for consumers. Additional research may also be conducted for different types of fashion labels, various diagnosticity levels and their implications on customers' buying behaviour. The author recommends a field-study in a physical fashion store, to overcome the previously discussed limitations of an online survey.



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5 Appendix

5.1 Online Shop Layout

Eco-Label – High Diagnosticity

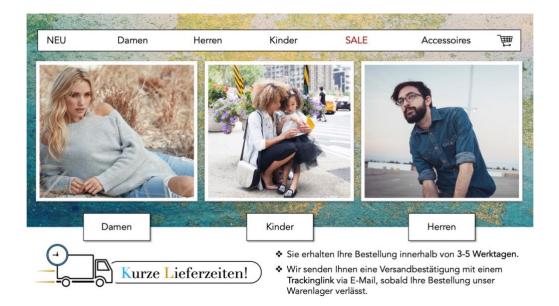
NEU	Damen	Herren	Kinder	SALE	Accessoires) T
MAR.	allon 4					
All a			100			
	A AN				The second	
	F		Cher			
	Damen	And the second	Kinder		Herren	
CO2	Wir liefern Kl	ima-Neutrall			ekte in Europa, die eir utz heimischer Wälder	
Neutral			 Weiters investige und Indien, um 	eren wir in erneuer eine kohlenstoffär	bare Energiequellen ir mere Wirtschaft zu en	n China möglicher

Eco-Label – Low Diagnosticity





Delivery Label – High Diagnosticity

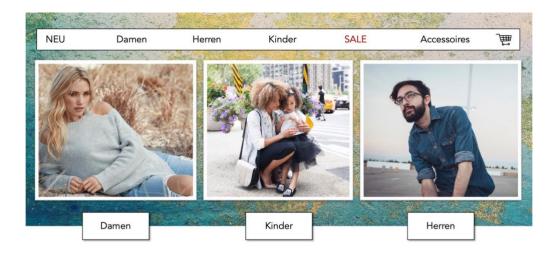


Delivery Label – Low Diagnosticity





No Label



5.2 Questionnaire

Willkommen zur Umfrage!

Diese Umfrage ist anonym und dauert ca. 5 Minuten. Wir sind an Ihrer persönlichen Meinung interessiert - es gibt keine richtigen oder falschen Antworten.

Die Teilnahme ist freiwillig und Sie können jederzeit ohne Angabe von Gründen zurücktreten. Durch die Betätigung der "WEITER" Schaltfläche bestätigen Sie, dass Sie freiwillig an dieser Studie teilnehmen und dass Ihre Daten für Forschungszwecke genutzt werden dürfen.

Vielen Dank für Ihre Unterstützung!

Weiter

Bitte betrachten Sie auf der folgenden Seite für mind. 15 Sekunden den Screenshot eines Online-Shops.

Weiter

Presentation of one of the five online shop versions as seen in Chapter 5.1.

Welches der folgenden Labels haben Sie auf der vorherigen Website gesehen?
Bitte wählen Sie das zutreffende Label aus, welches Ihnen zuvor präsentiert wurde. Falls Sie kein Label gesehen haben, wählen Sie bitte
die "Kein Label" Option.
Kein Label

0	Kurze Lieferzeiten" – Label
0	"Klimaneutral" – Label

Weiter



2. Bitte geben Sie an, wie Sie das gezeigte Label beurteilen: Das gezeigte Label erweckt den Eindruck, es sei:

	Überhaupt nicht 1 2	3	4	5	Sehr		
Fair							
Korrekt							
Ausgewogen							
Verständlich							
Verlässlich							

3. Bitte geben Sie an, inwieweit Sie diesen Aussagen zustimmen:

Die folgenden Fragen beziehen sich auf den zuvor gezeigten Online-Shop.

	Stimme überhaupt nicht zu						Stimme vollkommen zu	
	1	2	3	4	5	6	7	
Die Besonderheiten in Bezug auf die Lieferung werden genau erklärt.								
Die gegebenen Lieferinformationen waren ausreichend, um diesen Online-Shop zu beurteilen.								
Dieser Online-Shop vermittelt detaillierte Informationen über die Lieferung.								
Dieser Online-Shop vermittelt seine ökologischen Vorteile, wie zum Beispiel Umweltfreundlichkeit.								
Dieser Online-Shop ist ansprechend.								

Weiter

4. Bitte geben Sie an, inwieweit die folgenden Aussagen Ihren Eindruck wiedergeben:

Die in zwei Aussagen genannten Lieferketten-Praktiken beziehen sich auf Prozesse wie Herstellung, Produktion und Lieferung von Modeprodukten.

	Stimme überhaupt nicht zu		345			voll	timme kommen zu 7
	1	2	3	4	5	6	/
Dieser Online-Shop erweckt den Eindruck, er sei kompetent bei der Umsetzung nachhaltiger Lieferketten-Praktiken.							
Dieser Online-Shop erweckt den Eindruck, er sei sachkundig in Bezug auf die Umsetzung nachhaltiger Versandpraktiken.							
Dieser Online-Shop erweckt den Eindruck, er sei wahrheitsgemäß in seiner Offenlegung nachhaltiger Versandpraktiken.							
Dieser Online-Shop erweckt den Eindruck, er sei ehrlich bei der Umsetzung nachhaltiger Versandpraktiken.							
Das Engagement dieses Online-Shops für Nachhaltigkeit erweckt den Eindruck, es sei altruistisch (uneigennützig).							
Dieser Online-Shop erweckt den Eindruck, er sei aufrichtig bei der Umsetzung nachhaltiger Versandpraktiken.							
Das Engagement dieses Online-Shop für Nachhaltigkeit erweckt den Eindruck, es sei von Eigeninteresse geleitet.							
Dieser Online-Shop erweckt den Eindruck, er sei effektiv bei der Umsetzung nachhaltiger Lieferketten-Praktiken.							

Weiter



Stimme überhaupt nicht zu

5. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen:

	Stimme überhaupt nicht zu					Stimme vollkommen zu			
	1	2	3	4	5	6	7		
Ich würde diesen Online-Shop besuchen.									
In Zukunft würde ich sehr wahrscheinlich in diesem Online-Shop einkaufen.									
Ich würde den Online-Shop dieses Modeunternehmens regelmäßig besuchen.									
Ich würde diesen Online-Shop für meine Einkäufe in Betracht ziehen.									

6. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen:

	Stimme überhaupt nicht zu				Stimme vollkommen zu				
	1	2	3	4	5	6	7		
Ich würde positiv über diesen Online-Shop sprechen.									
Ich würde diesen Online-Shop meinen Freunden/Freundinnen empfehlen.									
Wenn meine Freunde/Freundinnen auf der Suche nach einem Kleidungsstück wären, würde ich ihnen empfehlen, den Online-Shop auszuprobieren.	0	0	0	0	0	0	0		

7. Bitte kreuzen Sie bei dieser Skala genau den Mittelpunkt an:

1	2	3 〇	4	5

8. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen:

Wenn der Mensch in die Natur eingreift, hat das oft katastrophale Folgen.

Der Mensch missbraucht die Umwelt massiv.

Trotz unserer besonderen Fähigkeiten ist der Mensch noch immer den Gesetzen der Natur unterworfen.

9. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen:

Ich denke, ich kann die Umwelt erfolgreich schützen.
Ich denke, ich habe die Fähigkeit, das Umweltproblem effektiv zu bewältigen.
Ich denke, ich kann dazu beitragen, Umweltprobleme zu überwinden.
Ich habe das Gefühl, dass meine Handlungen tatsächlich im Sinne des Umweltschutzes sind.
Ich denke, ich kann kreative Lösungen finden, um die Umwelt zu schützen.



cht zu 1 2 3 4 5 6 7

Weiter

Stimme vollkommen

Weiter



10. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen:

Die Aussagen beziehen sich auf Kleidungskauf generell, entweder für Sie selbst oder für Ihre Partnerin/Ihren Partner/Ihr Kind/Ihre Kinder.

	Stimme überhaupt nicht zu						timme kommer zu	ı
	1	2	3	4	5	6	7	
Das Einkaufen von Kleidung empfinde ich als interessant und unterhaltsam.								
Das Einkaufen von Kleidung betrachte ich als wunderbare Abwechslung vom Alltagsstress.								
lch finde es spannend, Inspiration und Wissen über Kleidung zu suchen – unabhängig davon, ob ich beabsichtige, sie zu kaufen oder nicht.								
Es ist mir wichtig, dass der Einkauf von Kleidung so schnell wie möglich erledigt wird.	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Wenn ich Kleidung kaufe, möchte ich es meistens so schnell wie möglich hinter mich bringen.								
Normalerweise kaufe ich Kleidung dort, wo ich den Einkauf am schnellsten erledigen kann.								

Weiter

11. Wie oft haben Sie in den letzten ZWEI Monaten Kleidung online gekauft?

Mal		
Alter		
12. Geschlecht		
[Bitte auswählen] 🟮		
Nationalität		
13. Höchste abgeschlos	sene Ausbildung	
[Bitte auswählen]	0	
14. Wollen Sie uns sonst noch etwas mitteilen?		
		_

Weiter

Vielen Dank für Ihre Teilnahme!

Bitte kopieren Sie den folgenden Code und fügen Sie ihn in das dafür vorgesehene Feld innerhalb Ihres Clickworker-Aufgabenformulars ein.

Ohne die Angabe dieses Codes kann eine Gutschrift Ihres Honorars nicht erfolgen!

CODE:FSC2021

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.