

# Reducing Waste, Building Brand

A Quantitative Study of the Impact of Second-Hand Clothing on Brand Attitude  
in Online Retail

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## **Abstract**

Consumers' growing awareness of the environmental impact of their consumption behaviors has resulted in an increased demand for sustainable and eco-friendly brands. Swedish online retailers have responded by offering second-hand clothing on their websites. While previous research has demonstrated the influence of brand extensions, product line extensions, and new green products on brand attitudes, no previous research has investigated the impact of offering second-hand products on brand-related effects. Thus, the purpose of this thesis was to examine if offering second-hand clothing alternatives in online retail stores ultimately impacts consumers' attitudes toward the brand. More specifically, this thesis applied signaling theory to evaluate this effect. An experimental scenario-based role-playing design was used in which participants were randomly allocated to one of our four choice situations in an online retailing context. Two factors were manipulated: the second-hand clothing alternative and the price. The study showed that second-hand clothing alternatives offered in online retail stores positively affect consumers' attitudes toward brands and that signaling mechanisms mediate the positive effect of offering second-hand clothing alternatives on brand attitude. This thesis thus contributes to the literature on sustainable consumption, second-hand, and the broader application of signaling theory by exploring the connection between second-hand clothing and brand-related effects. It provides a compelling argument for offering second-hand clothing alternatives, not only to reduce waste and benefit the environment but also to build stronger brands.

**Keywords:** Sustainable consumption, second-hand clothing, signaling theory, brand attitude, online retail stores

## Definitions

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Green consumer	Defined as anyone whose purchase behavior is influenced by environmental concerns (Shrum et al., 1995).
Green products	Refers to products that offer environmentally sustainable features (e.g. Griskevicius et al., 2010; Olsen et al., 2014).
Second-hand clothing	Alludes to previously owned or used clothes, where these types of products generally have a lower financial value in comparison to new products (Guiot & Roux, 2010; Carrigan et al., 2013; Cervellon et al., 2012; Roux & Korchia, 2006).
Second-hand alternatives	Refers to products that are being offered by a brand in a used or pre-owned condition. This means that the product has been previously owned and used by someone else before being sold again by the brand (See appendix A.3 for our stimuli versions).

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# **1. Introduction**

## **1.1 Background**

Brand attitude, referring to the overall assessment of a brand (Keller, 2003), is commonly influenced by new product introductions (Keller & Lehmann, 2006). Yet does offering second-hand clothing alternatives in online retail stores ultimately impact consumers' attitudes toward the brand? Previous research has illustrated how brand extensions (e.g., Boush and Loken, 1991), product line extensions (Kirmani et al., 1999), and new green products can shape attitudes toward a brand (Olsen et al, 2014); however, there is no research available on whether and how the offering of second-hand products can change brand attitudes. As consumers become more aware of the environmental impact of their consumption behaviors (Carrington et al., 2014; De Pelsmacker et al., 2005), companies are seeking ways to address this concern (Banerjee et al., 2003; Grinstein & Nisan, 2009). One way brands can tackle this issue is by giving products a second life (Borusiak et al., 2020). This paper aims to examine consumers' psychological responses to brands offering second-hand clothing alternatives next to their core assortment in online retail stores.

With over 150 billion garments being produced worldwide each year (Koperniak, 2015), the fashion industry ranks as the world's third-largest manufacturing industry, trailing only behind the automotive and technology sector (Francis, 2014). The fashion industry generated more than 1.5 trillion dollars in the global economy in 2022 (Smith, 2023) and employed 300 million people worldwide, substantially contributing to economic growth (McKinsey & Company, 2019). However, despite its crucial role in global GDP (Boston Consulting Group, 2020), it is ranked as the second most polluting sector globally – falling behind only oil (Conca, 2015). The fashion industry accounts for up to ten percent of global carbon dioxide output (more than international flights and shipping combined), 20 percent of the 300 million tons of plastic produced annually worldwide (Dottle & Gu, 2022), and 20 percent of global wastewater (United Nations, 2019). According to the Ellen MacArthur Foundation (2017), if the industry maintains its present trajectory, it could contribute to 26 percent of the worldwide carbon budget by 2050.

The "fast fashion" business model – supplying quick, trendy, and cheap products (Cachon & Swinney, 2011) – is a notable contributor to this downward spiral. The adoption of inexpensive manufacturing and procurement from foreign industrial markets has made novel clothing

designs accessible to the public on a weekly basis – fostering a culture of impulse buying (McNeill & Moore, 2015). The trend of having more frequent collections is not limited to fast fashion brands alone; even luxury fashion brands, which used to release only two collections annually, now offer six or more (Zhang et al., 2021). The rise of e-commerce has also fundamentally transformed the industry; consumers can now easily access a broader range of products and purchase them online (Sweet et al., 2019). The negative impacts of clothing have sparked apprehension among individuals within the fashion sector, prompting them to consider ways to create apparel with minimal harm to humans, animals, and the environment (Castagna et al., 2022; Grazzini et al., 2021; Moon et al., 2015; Papasolomou et al., 2022). Likewise, individuals are not only becoming more open-minded to change and more inclined to adopt sustainable lifestyles, but they also put higher pressure on brand transparency and ability (Jestratijevic et al., 2022) – ultimately preferring brands that are known for sustainability and CSR initiatives (Lai et al., 2010). The enhanced consciousness of sustainability demands novel approaches; businesses are confronted with the necessity to re-evaluate their role in society (Blasi et al., 2020; Porter & Kramer, 2006).

The circular economy has spurred businesses to shift towards sustainability, but there is still uncertainty about its impact and application. Consequently, to initiate transformative change in business operations, experimentation with circular business models is crucial (Poldner et al., 2022). One-way brands can reduce their environmental impact by procuring pre-owned goods (Borusiak et al., 2020). The shift in consumer behavior has resulted in increased demand for environmentally friendly and sustainable brands across all price segments (Noh & Johnson, 2019), acting as a catalyst for the growth of second-hand (Abbes et al., 2020; Ekholm, 2023; Tanner & Wölfling Kast, 2003; Tey et al., 2018). Over time, second-hand purchases have evolved from being primarily driven by cost savings to playing a more significant role in ethical concerns and identity expression, contributing to its popularity among the masses (Herjanto et al., 2016). This marketplace now consists of everything from charities and curated commission shops to Facebook groups and services that sell consumers clothes for them, expanding avenues for consumers to buy used clothes instead of new ones. Although the second-hand market has traditionally been seen as a threat to new product sales due to its risk of cannibalizing the core assortment, research now suggests that the second-hand market can benefit brands by enhancing their image value (Abbes et al., 2020; Dessart et al., 2015). The year to date, Swedish online retailers such as Zalando, H&M, and NA-KD have added circular concepts to their core assortment and are giving second-hand items their own space on their websites (Zalando, 2023; H&M, 2023; NA-KD, 2023). However, there is still a lack of



research investigating the brand-related effects of brands offering second-hand clothing alternatives next to their core assortment in an online retailing context.

## **1.2 Research gap**

So far, research on sustainable consumption in a retailing context has examined the typical green consumer (Schlegelmilch et al., 1996; Shrum et al., 1995), consumers' motivation to acquire green products (Griskevicius et al., 2010; Van Doorn & Verhoef, 2011), marketing tactics to increase green product purchases (Kronrod et al., 2012), implications of introducing new environmentally sustainable products (Olsen et al., 2014), and consumption behavior of green products post-purchase (Lin & Chang, 2012). While the impact of introducing new green products on brand attitudes (Olsen et al., 2014) and consumer perceptions of brand sustainability efforts on brand attitudes (Kong et al., 2021) have been studied, the area of second-hand shopping presents a promising yet insufficiently explored research area (Padmavathy et al., 2019; Guiot & Roux, 2010; Turunen & Leipämaa-Leskinen, 2015). The existing literature on second-hand consumption only covers a limited number of topics. These include various forms of second-hand buying, such as vintage shops, swap meets, flea markets, and auctions (Cervellon et al., 2012; Roux & Korchia, 2006; Guiot & Roux, 2010). Additionally, research has been conducted on what motivates consumers to shop second-hand offline (Roux & Guiot, 2008; Guiot & Roux, 2010) and online (Padmavathy et al., 2019). However, even though clothes are among the top items frequently purchased online and the most bought item in the second-hand market (PostNord, 2021; Chevalier, 2023), online second-hand shopping has not been extensively explored in terms of consumers' perceptions. The implication of online retailers offering second-hand clothing alternatives on consumers' evaluative judgments has not yet, to the knowledge of the authors, been determined or investigated. This study thus aims to fill that gap by evaluating brand-related effects of offering second-hand alternatives in an online retail context.

## **1.3 Purpose**

This thesis aims to evaluate if offering second-hand clothing alternatives influences consumers' evaluative judgments. More precisely, it examines whether, why, and how second-hand clothing alternatives impact consumers' attitudes toward the brand in an online retailing context. It is proposed that this relationship is mediated by signaling theory (perceived brand effort, brand ability, and product quality). The main contribution of this thesis is extending

prior research on sustainable consumption (Griskevicius et al., 2010; Katz et al., 2017; Lin & Chang, 2012; Maxham & Netemeyer, 2003; Van Doorn & Verhoef, 2011) and second-hand (Guiot & Roux, 2010; Padmavathy et al., 2019; Roux & Guiot, 2008) while providing a more comprehensive and nuanced understanding of how signaling theory can explain brand-related effects. Consequently, this study contributes to the academic discipline of marketing by utilizing signaling theory in a manner that surpasses prior applications of the theory in the field (e.g., Boulding & Kirmani, 1993; Dahlén et al., 2008; Erdem & Swait, 1998; Kirmani, 1990; Kirmani & Rao, 2000; Liljedal et al., 2020). As online retailers are starting to offer second-hand clothing alternatives, practitioners should benefit from an enhanced understanding of customer responses to such alterations. Findings from this thesis can assist retailers in deciding whether to offer consumers the alternative to purchase second-hand clothing in their online retail store. To evaluate this, two empirical studies were carried out. The prestudy examined the perceived realism and clarity of the experiment, while the main study employed an experimental research design in which participants were randomly allocated to one of the four treatments.

## **1.4 Delimitations**

Some delimitations are set for this thesis. The concept of "second-hand" alludes to previously owned or used clothes, where these types of products generally have a lower financial value in comparison to new products (Carrigan et al., 2013; Cervellon et al., 2012; Guiot & Roux, 2010; Roux & Korchia, 2006). The parallel concept referred to as 'vintage' is similar to second-hand in that it refers to previously owned clothing but differs in several ways. Vintage items often represent a specific style or era, and their monetary value is determined by factors like their age and condition. Due to their rarity and limited availability as brand-new items, they generally have a higher financial value (Cervellon et al., 2012; Guiot & Roux, 2010). However, vintage items are not the focus of the current study. This thesis focuses on online retailers offering second-hand clothing as an alternative to their core assortment. Second-hand clothing is available in various conditions, such as fair, good, very good, and as new. This study specifically examines second-hand clothing in 'as new' condition, which indicates that the item is unworn and free of any defects or flaws. Additionally, this study is limited to the Swedish market as sustainability initiatives are susceptible to variances across different countries (McWilliams et al., 2006).

## 1.5 Disposition

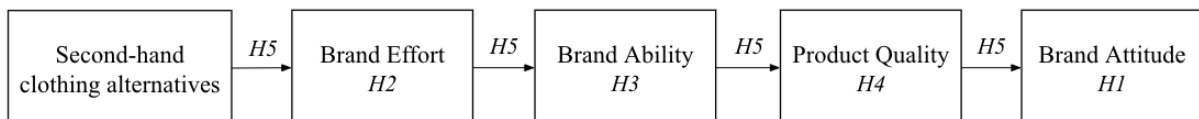
The upcoming chapter will provide a comprehensive review of pertinent literature, establish the theoretical foundation of the thesis, and present the hypotheses that will guide our research. We will also discuss the methodological perspectives and procedures that were employed before presenting our findings. Finally, we present the results and analysis of the thesis, including the theoretical contributions, managerial implications, limitations of the study, and suggestions for future research.

## 2. Prior literature, theoretical framework, & hypotheses development

### 2.1 Overview of the framework

The primary argument of this thesis is that offering second-hand clothing in an online retail store impacts consumers' attitudes toward that brand. Aligned with reasoning on signaling theory, the key mechanism behind this change in consumer psychological responses is that offering second-hand clothing alternatives sends positive signals that enhance consumers' perceptions of brand effort, which reflects in perceived brand ability, and consequently impacts the perceived quality of the product. The perceived brand effort, ability, and product quality thus serve as mediating variables. This sequence of events ultimately influences consumer attitudes toward the brand (Dahlén et al., 2018). This section will present relevant literature, offer conceptual arguments about the proposed relationship among variables, and establish hypotheses for the empirical aspects of the thesis.

**Figure 1.** The proposed model



## **2.2 Consumer-based brand equity: A signaling perspective**

The significance of branding for businesses is widely acknowledged and has been extensively studied over the years (e.g., Farquahar, 1989; Keller, 2001). A brand can be a name, term, sign, symbol, or any other element intended to differentiate a firm's offering from its competitors (González-Benito et al., 2015; Keller, 1993; Kotler, 1997). A strong brand can generate various benefits in the marketplace (e.g., greater customer loyalty, less vulnerability to competitive marketing, higher perceived quality, and higher price elasticity; Hoeffler & Keller, 2003; Keller, 2001; Keller, 2009). Marketing researchers have paid significant attention to brand equity, as demonstrated by studies such as Leuthesser (1988) and Shocker et al. (1994). Brand equity refers to the extra value a brand provides to a product (Farquhar, 1989). This additional value can be examined from the viewpoint of either the consumer or the firm (Shocker & Weitz, 1988). The worth of a brand (i.e., the total value of brand assets and liabilities; Aaker, 1991) to consumers is commonly referred to as consumer-based brand equity (Keller, 1993).

Brand equity has been widely researched within the marketing domain (e.g., Aaker, 1991; Keller, 1993). Aaker (1991) and Keller (1993) emphasized consumers' brand associations in their research on brand equity; this perspective centers around consumer cognitive processes – derived from cognitive psychology. However, this viewpoint does not explicitly acknowledge the informational aspects of the marketplace resulting from the dynamic interaction between firms and consumers (Erdem & Swait, 1998). Unlike the cognitive psychology view, signaling theory – derived from information economics (Spence, 1973) – considers the imperfect and asymmetrical information structure of the market, which is based on the premise that there exists an imbalance in information between parties (Kirmani & Rao, 2000). In this view, consumer-based brand equity is defined as the value of a brand signal to consumers. Signaling theory has been applied to various aspects of marketing, including firms' signaling to consumers and firm-to-firm signaling (Erdem & Swait, 1998). Studies on firms' signaling to consumers have examined marketing mix elements such as advertising (e.g., Kirmani, 1990), warranties (e.g., Boulding & Kirmani, 1993), and price (e.g., Kirmani & Rao, 2000), and found that these positively affect attitudes toward the brand and perceptions of product quality (Liljedal et al., 2020). In later studies, advertising creativity and nonstereotyped occupational gender-role portrayals have also been recognized as marketing cues that impact consumers' perceptions of the brand (Dahlén et al., 2008; Liljedal et al., 2020) and are explained by signaling mechanisms (Liljedal et al., 2020). Signaling theory is highly adaptable, as it has

explained similar outcomes in business-to-business, recruitment, and investor relations (Dahlén et al., 2018).

## **2.3 The role of signaling theory in understanding brand signals and consumer perceptions in supply-demand relationships**

Signaling theory is a valuable tool for elucidating the behaviors of firms and customers in situations where they possess asymmetric information (Connelly et al., 2011; Spence, 2002), common in supply-demand relationships (Connelly et al., 2011; Spence, 1973). In such relationships, customers lack definite knowledge of the quality of the products or services offered by firms, while firms possess this information. Consequently, firms, being the more informed party, have the choice to signal information to customers, the less informed party, to reduce the information asymmetry (Connelly et al., 2011; Spence, 1973).

Brands play a crucial role as signals to convey information about product attributes to consumers. A brand signal comprises a firm's past and present marketing mix strategies and activities linked to the brand. This means that a brand embodies all previous marketing strategies adopted by the firm and can be manipulated to alter current associations with the brand. Signaling theory in the field of marketing explores how market signals influence consumer perceptions of brands. It is usually employed to explain how consumers deduce information about unencountered brands, products, and services (Kirmani & Rao, 2000). The disparity in information between the brand and its potential customers necessitates the use of signals to assist consumers in forming their perceptions of the brand and its offering (Kirmani & Rao, 2000). These signals can help disclose missing information and address the consumer's issue of distinguishing truth from deception by the seller, ultimately resolving their classification problem (Boulding & Kirmani, 1993). Marketing mix elements such as advertising, packaging, and warranties can beyond providing direct product information also convey indirect information on product attributes (of physical, functional, purely perceptual, or symbolic nature) of which consumers may be imperfectly informed (Erdem & Swait, 1993). These signals can yield attention from consumers and bring value to the offering (Kirmani & Rao, 2000). Moreover, the modern marketplace offers consumers an overwhelming abundance of product options, leaving them with difficulties in sampling available options and assessing product quality. Consequently, consumers rely on marketing signals as a means of informing their purchasing decisions (Kirmani & Rao, 2000).

## **2.4 Sustainable consumption: Second-hand clothing**

Second-hand clothing refers to garments and accessories that have been previously owned and/or used by someone else before being resold or passed on to another individual (Guiot & Roux, 2010; Carrigan et al., 2013; Cervellon et al., 2012; Roux & Korchia, 2006). These items can be sourced from various channels, such as thrift stores, consignment shops, online marketplaces, flea markets, garage sales, and even through personal exchanges or donations (Bardhi & Arnould, 2005). Ethical and environmental considerations have influenced consumers' choice to purchase second-hand items, including clothing (Guiot & Roux, 2010). This choice to purchase second-hand clothing is driven by its inherent sustainability. Second-hand clothing gives a new life to existing garments, promotes recycling and waste reduction, and diverts them from ending up in landfills where textiles contribute to environmental degradation (Farrant et al., 2010; Pookulangara & Shepard, 2013). Moreover, second-hand clothing provides a more affordable alternative to purchasing brand-new items. It offers consumers the opportunity to access high-quality clothing at lower prices, making fashion more accessible to a wider range of individuals, including those with limited financial resources (Padmavathy et al., 2019; Roux & Guiot, 2008). In addition to its environmental and economic advantages, second-hand clothing also carries cultural and social significance. It allows individuals to express their personal style, explore unique fashion aesthetics, and embrace individuality through one-of-a-kind pieces (Padmavathy et al., 2019; Turunen & Leipämaa-Leskinen, 2015). The rise in popularity of second-hand clothing has created new business opportunities for online retailers (Padmavathy et al., 2019). Consumers' increasing concern for social and environmental issues has led brands to promote sustainable product initiatives (Han et al., 2017; Jang et al., 2012) and demonstrate corporate social responsibility (Aoki et al., 2019; Fineman, 2001; Minton et al., 2012). Research has also indicated that transparent and socially responsible brands can significantly impact consumer trust, attitudes, and behavioral intentions (Katz et al., 2017; Maxham & Netemeyer, 2003).

## **2.5 The impact of second-hand clothing alternatives on consumer brand attitudes**

Brand attitudes are considered to be a part of brand equity (Aaker, 1991; Keller, 1993) and pertains to consumers' overall judgment and evaluation of brand related information (Keller, 2003). More precisely, it is the degree to which consumers evaluate a brand favorably or not (Keller, 1993) and is often altered by various marketing efforts, such as new product introductions (Keller & Lehmann, 2006). The significance of brand attitudes lies in its role as a

crucial factor in determining a brand's value and success (Farquhar, 1989; Keller & Lehmann, 2006), serving as the foundation for consumer behavior (e.g., brand choice). Concepts referring to behavioral dispositions, such as attitudes, have played an important role predicting and explaining human behavior (Ajzen, 1991). Within marketing literature, the examination of brand attitudes has yielded valuable insights into consumers' purchase intentions (e.g., Lee et al., 2017). Fishbein and Ajzen (1975; 1980) proposed a widely accepted perspective on attitudes, defining them as a function of (1) the salient beliefs a consumer has about a product or a service (i.e., beliefs activated by a person from memory and considered in a given situation; Fishbein & Ajzen, 1975; Mitchell & Olson, 1981) and (2) the evaluative judgment of those beliefs (i.e., how good or bad it is that the brand has those attributes or benefits; Keller, 1993; Mitchell & Olson, 1981).

The attitudes consumers have towards a brand can be influenced by their beliefs about various aspects. These include product-related attributes, functional and experiential benefits, consistent with work on perceived quality (Zeithaml, 1988), as well as beliefs about non-product-related attributes and symbolic benefits (Rossiter and Percy, 1987). Since it is challenging to accurately determine all the relevant attributes and benefits, researchers building models of consumer preference often incorporate a general component of brand attitude that goes beyond specific attributes or benefits. Moreover, research has demonstrated that attitudes can be formed through less deliberate decision-making processes (Keller, 2003). For example, consumers may rely on simple heuristics and decision rules when they lack the motivation or ability to thoroughly evaluate a product or service. In such cases, they may use extrinsic cues or signals (Olson & Jacoby, 1972) to infer the quality of a product or service based on what they already know about the brand, such as its appearance or scent (Keller, 2003).

The fundamental proposition of Fishbein's attitude perspective is that beliefs cause attitude. As attitude is shaped by a set of salient beliefs, any changes in attitude must be facilitated through modifications in those specific beliefs. Therefore, in order to alter an individual's attitude towards a concept (e.g., a brand), it is necessary to revise the prominent beliefs associated with that concept (Fishbein & Ajzen, 1975; Mitchell & Olson, 1981). According to this perspective, a marketing stimulus, such as an advertisement, initially influences consumers' beliefs. These influenced beliefs, in turn, shape consumers' attitudes, and the altered attitudes subsequently impact their behavioral intentions. Beliefs can be altered by changing the strength of a salient belief, changing the evaluation of a belief, establishing a new salient belief, or by diminishing the prominence of an existing belief (Lutz 1975, 1977; Mitchell & Olson, 1981).

Aligned with previous research demonstrating the substantial influence of transparent and socially responsible brands on attitudes (Katz et al., 2017; Maxham & Netemeyer, 2003), we postulate that offering second-hand clothing alternatives would serve as a marketing stimulus generating comparable effect on consumers' brand attitudes. Accordingly, we propose that brands that offer second-hand clothing alternatives in their online retail store will elicit more positive brand attitudes among consumers compared to those that do not offer such options. Hence, our hypothesis follows:

***H1:** Consumers will have more (less) positive attitudes toward brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.*

This thesis proposes signaling theory as an explanation for the positive effects of offering second-hand alternatives in a brand's online retail store.

## **2.6 Perceived brand effort, ability, and product quality**

The concept of perceived brand effort has received academic interest due to its impact on various outcomes (Liljedal et al., 2020). Prior research has shown that brand effort mediates the effect of advertising creativity and nonstereotyped occupational gender role portrayals on favorable advertising attitudes and brand attitudes (Dahlén et al., 2018; Liljedal et al., 2020; Modig et al., 2014). This is argued to occur since advertising expense or creativity is an indicator of greater effort (Dahlén et al., 2008; Kirmani & Wright, 1989). In the eyes of consumers, the amount spent on advertising serves as a compelling signal of the product's quality as it indicates that the advertiser has committed substantial resources to back up their claims (Ambler & Hollier, 2004; Dahlén et al., 2008; Kirmani, 1997; Kirmani & Wright, 1989). Since greater investment in marketing signals like brand logos, sponsorships, or powerful advertising entails more significant risks and sunk costs that cannot be recovered, consumers feel assured that the advertiser will fulfill their pledge (Erdem & Swait, 1998; Kirmani, 1990, 1997) – leading to the higher perceived brand effort. This thesis proposes that brands that offer second-hand clothing alternatives in their online retail store will generate similar consumer reactions. Offering second-hand alternatives at a fashion brand aligns with the 3R concept (i.e., "reduce-reuse-recycle") of sustainable consumer behavior, which emphasizes reducing waste by reusing products previously owned by others (Borusiak et al., 2020; Palmeira & Musso, 2020). Offering second-hand alternatives is a circular initiative that



has the potential to reduce waste (Lane et al., 2009); we, therefore, believe that this can demonstrate a brand's commitment to the environment and thereby signal brand effort.

Further, offering second-hand clothing alternatives on a brand's website is more demanding for retailers than simply selling the core collection. The process of reclaiming products for reuse (i.e., offering second-hand alternatives) often involves more manual operations than those to which companies are currently accustomed (Grubbström & Tang, 2006), entailing additional activities or processes on top of the existing linear manufacturing operations and outbound logistics activities (Carrasco-Gallego et al., 2012); this makes offering second-hand clothing alternatives more challenging than selling the standard collection, akin to the creativity demanded of advertisers in generating novel concepts (Dahlén et al., 2008), rather than merely relying on an established solution derived from prior endeavors. Modern consumers should thus deduce that offering second-hand clothing is more complicated. In other words, offering second-hand clothing alternatives is not equal to creative advertising, but it may signal information to recipients in a similar way. We thus hypothesize that offering second-hand clothing alternatives will signal brand effort.

***H2:** Perceived brand effort will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.*

Brands that are perceived to have put more effort into their advertising are also perceived to exhibit a greater level of brand ability (Dahlén et al., 2008, 2018). Perceived corporate ability is consumers' belief in a firm's capacity to enhance the quality of its existing products and generate new products through innovation (Luo & Bhattacharya, 2006). If consumers perceive a brand as putting in significant effort, such as through a highly creative advertisement, they may assume that the brand is intelligent and innovative, leading to the belief that the brand can produce high-quality products (Ambler & Hollier, 2004; Dahlén et al., 2008; Kirmani & Rao, 2000; Kirmani & Wright, 1989). Additionally, a brand identity centered around social responsibility efforts reinforces consumers' beliefs in the brand's ability to provide additional functional benefits (Du et al., 2007; Olsen et al., 2014). The development of a new creative advertising concept also demonstrates the brand's ability and willingness to think in unconventional and distinct ways compared to competitors and the brand's previous history (Dahlén et al., 2008). Again, offering second-hand clothing alternatives may not be equivalent to creative advertising, but it can communicate a message to the audience in a similar manner. Therefore, the authors of this thesis hypothesize that brands offering second-hand clothing

alternatives in their online retail store will generate higher degrees of perceived brand ability compared to brands that do not offer such alternatives.

***H3:** Perceived brand ability will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.*

Despite increasing consumer concern for sustainability in the fashion industry, previous research has suggested that product quality often takes priority over environmental preservation during purchasing (Achabou & Dekhili, 2013), and that sustainability may even conflict with quality (Kong et al., 2021). Furthermore, consumers have various concerns about purchasing second-hand items, including perceived quality (Hur, 2020). Therefore, it would be reasonable to assume that brands offering second-hand clothing alternatives might be perceived as having lower product quality than those who do not. However, previous research on signaling theory has shown that perceived marketing effort signals confidence on the part of the marketer (e.g., Kirmani and Rao, 2000) and that higher perceived effort results in higher perceived ability (Dahlén et al., 2008). When consumers perceive a brand as capable (i.e., high brand ability), they anticipate that the brand will be able to outperform its competitors in terms of quality (Kirmani & Rao, 2000). Consumers also expect companies to fulfill implicit commitments conveyed through signals, as failing to do so would be economically unwise (Nelson, 1974; Kirmani & Rao, 2000). This, combined with the fact that consumers increasingly demand eco- friendly and sustainable fashion brands (Tanner & Wölfling Kast, 2003; Tey et al., 2018), leads us to infer that the signaling mechanism is robust enough to apply to second-hand clothing. Therefore, we hypothesize that brands offering second-hand clothing alternatives in their online retail store will be perceived as having higher product quality compared to those who do not.

***H4:** Perceived product quality will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.*

As noted in earlier research on signaling theory, a brand's initiatives can send a positive signal that enhances consumer perceptions of brand effort. This signal is linked to perceived brand ability, which then affects perceived product quality, ultimately shaping consumer attitudes towards the brand (Dahlén et al., 2018; Liljedal et al., 2020; Modig et al., 2014). The authors of this thesis contend that this same underlying theoretical path of effects, which involves serial mediation, is applicable to the offering of second-hand alternatives on a brand's online

retail store.

***H5:** Perceived brand effort, brand ability, and product quality will serially mediate the positive effects of offering second-hand clothing alternatives on attitudes toward the brand.*

### **3. Methodology**

The objective of this thesis, to investigate whether offering second-hand clothing alternatives in online retail stores impacts consumers' attitudes toward the brands, is evaluated in two empirical studies – a prestudy for the development of scenarios and stimuli, and a main study to test the hypotheses. This chapter presents the methodological approach and procedures employed in both studies.

#### **3.1 Research approach**

This thesis adopts a deductive research approach, meaning that our hypotheses are developed based on existing signaling theory and are examined in empirical studies. The findings are thus based on quantitative research, closely linked to the deductive approach, often referred to as "theory testing" (Bryman & Buchanan, 2018, p. 50; Hausman, 2015). Quantifying the psychological effects of brands offering second-hand alternatives' impact on brand attitude is crucial for evaluating the efficacy of such efforts. According to Eliasson (2018, p. 31), a quantitative approach is appropriate when the study aims to investigate attitudes toward a particular object or phenomenon, which is the case for this thesis. The theoretical foundation of this thesis is mainly articles from academic journals, and academic books by authors who adhere to a positivist philosophy of science, traditionally dominated in marketing and consumer research (Anderson, 1983; Deshpande, 1983).

This thesis assumes a positivistic research perspective. Due to the predominant utilization of this research approach in prior studies on consumer evaluative judgments (Hausman, 2015), opting for this method was justifiable and reasonable. Critique of the positivistic approach in consumer research has been articulated, with some arguing that claims of the research paradigm are exaggerated and that this approach to consumer research may not necessarily align with positivism (Hunt, 1991). Further, more recent critiques within the field of consumer research suggest that the hypothetico-deductive epistemology, which currently dominates the

discipline, may lead to overly theoretical research that places excessive emphasis on psychological constructs and processes rather than on the actual behaviors of consumers themselves. Other critics argue that researchers and research readers are prone to excessively rely on and generalize statistically significant results (Pham, 2013). Despite the significance of these methodological discussions, the utilization of the scientific perspective in this thesis remains appropriate. The focal interest of this thesis is consumer responses; theories and measurements of psychological responses are used as explanatory factors. The scientific perspective and research approach utilized in this study enable statistical testing of evaluative judgments and relationships, as well as generalization from the sample to the population (Eliasson, 2018, p. 30-31). Additionally, its congruence with the long-standing tradition of research in this area further supports its appropriateness and application.

### **3.2 Research perspective**

This thesis adopts a consumer perspective on signaling theory to investigate the effects of offering second-hand clothing alternatives in a brand's online retail store on brand attitude. The consumer is the primary unit of analysis in both empirical studies. The psychological reactions to offering second-hand alternatives are considered only to the extent that they are presumed to impact or clarify the consumer reactions. While the primary focus is on the consumer perspective, managerial implications are also discussed from a corporate perspective.

### **3.3 Experimental research designs**

A prestudy was conducted to assess the feasibility of their experimental design, identify potential problems, and make any necessary adjustments before conducting the main study. This is a recommended step by Koschate-Fischer & Schandelmeier (2014) to efficiently address potential issues and reduce the risk of an ineffective variation in the main experiment. The prestudy used a within-subject design, where each participant experienced all four treatment versions (i.e., the participants were re-used for several treatments; Koschate-Fischer & Schandelmeier, 2014; Söderlund, 2018, p.53). This experimental design was chosen because it both requires fewer participants than alternative designs (Koschate-Fischer & Schandelmeier, 2014) and helps to address potential problems of individual differences among participants that can influence their reactions (Söderlund, 2018, p.53). Additionally, as each participant is exposed to all four manipulations of the treatment, any individual differences of the participants are accounted for and can be controlled in the experiment, reducing the

likelihood that these differences confound the results (Koschate-Fischer & Schandelmeier, 2014). However, there are some drawbacks to this design, such as the carryover effect. Carryover effects occur when experiences gathered by a participant in one experimental condition influences their behavior in subsequent experimental conditions (Koschate-Fischer & Schandelmeier, 2014). This can make it challenging to determine the specific reaction that one particular treatment produced (Field & Hole, 2003; Harris, 2002; Koschate-Fischer & Schandelmeier, 2014; Söderlund, 2018, p.53). To reduce these potential effects, the technique of counterbalancing was used, varying the order in which the treatments were presented to participants. This helps ensure that any effects caused by the order of treatments are spread out evenly across all participants (Koschate-Fischer & Schandelmeier, 2014). Despite these potential drawbacks, the chosen experimental design for the prestudy remains appropriate due to the efficiency bonus and the reduction of the likelihood that individual differences of participants confound the results.

The main study utilized an experimental research design in a controlled setting. The use of an experimental approach was considered suitable for systematically and rigorously testing the hypotheses. This approach allows for empirical testing of causal claims between variables and is particularly advantageous in examining existing theory in a novel context (Söderlund, 2010, p. 33; Söderlund, 2018, p. 16). The research procedure entailed manipulations of stimuli followed by comparing the reactions of different groups after being exposed to the experimental treatments. The experiment treatments consisted of exposure to a fictive online retail product page, where the presence or absence of the second-hand alternative and the price (low-price versus mid-price) were the manipulated variables. The main interest of this thesis lies in examining how the presence of second-hand clothing alternatives influences consumers' attitudes towards a brand. However, recognizing the potential influence of price as a key determinant that affects the outcome, we deliberately manipulated the price to ensure the validity of our findings across different price levels. The experiment employed a full-factorial between-subjects design, and participants were randomly assigned to experimental groups. The study attempted to isolate the examined phenomena as much as possible to minimize the impact of any confounding variables. Further details of the methods employed in the two studies are described in the following separate sections *3.5 Prestudy* and *3.6 Main study*.

Experimental methods have been subject to criticism due to the impact that the experimental settings may have on participants, such as the potential influence of participants' desire to conform to expectations (Söderlund, 2010). Respondents may exhibit social desirability bias, a

tendency to overreport socially desirable attitudes and behaviors, and underreport less desirable attitudes due to ego-defensive or impression management reasons (Fisher, 1993; Latkin et al., 2017). Social desirability bias is not exclusively pervasive, but it can moderate variable relationships, increase measurement errors, and impact variable means (Fisher, 1993). Given the existence of an attitude-behavior gap in sustainable consumption (Young et al., 2010), this concern could have been considered pertinent to investigate. However, as participants were solely asked to evaluate the online retail product page based on their observations, it is unlikely to have had an impact on the outcome of this thesis. Additionally, to estimate how consumers respond to real-life decision-making situations, the authors of this thesis employed a text-based role-play scenario to manipulate the variables (see Chapter 3.5.2 for full disclosure). This approach has been widely used in retail experiments (cf. Sharma & Stafford, 2000; Song & Zinkhan, 2008; Söderlund, 2016, 2019), particularly in research focused on ethical issues (Wason et al., 2002). The method involves presenting a description of a situation (i.e., a scenario) and instructing participants to adopt the assigned role given by the scenario. The reactions of the participants are then measured (Söderlund, 2018, p. 81). Role-play experiments offer two primary benefits. First, the ability to control non-manipulated variables, and second, the ability to manipulate variables and contexts that can be challenging to study in a real-world context (Söderlund, 2018, p. 82). By approximating real-life decision-making situations through situational or contextual factors, the use of role-play scenarios can provide greater realism (Wason et al., 2002).

### **3.4 Measurements and questionnaire construction**

Both studies collected consumer responses using self-administered questionnaires. The stimuli exposed to participants were presented at the start of a questionnaire and followed by relevant measures for the research being conducted. Both the prestudy and main study were distributed online and in Swedish, as data collection involved participants from Sweden. In self-administered questionnaires, the wording and structure of questions may influence the results obtained (Jacoby, 1978; Peterson, 2005; Schwarz, 2003). Several steps were taken to prevent potential methodological biases and guarantee the measurement quality of the questionnaires utilized in this thesis. To begin with, the majority of variables were assessed using multi-item question designs that incorporated both Likert and Semantic differential rating scales, on a 7-point scale. This scale has been used in previous studies investigating similar variables (Liljedal, 2016; Thomas et al., 2013). Based on the answers obtained, Cronbach's alpha was calculated. An average was computed to form an index whenever the resulting value was

greater than the generally accepted lower threshold of 0.7 (Söderlund, 2018, p. 136). Therefore, we contend that the measurements employed demonstrate acceptable reliability (i.e., the degree multiple measures of a particular variable produce similar outcomes; Söderlund, 2018, p. 135). Examples for when this approach has been used to assess reliability can be found in Liljedal (2016), Martin et al. (2007), Rosengren & Dahlén (2013) and Åkestam et al. (2017). Yet, when using multi-item measures, caution should be exercised to ensure that the items evaluate the same underlying construct (Söderlund, 2006). The questionnaires were therefore designed with content validity in mind, achieved by carefully selecting which items to include to ensure a high level of overlap between the question content and response options (Söderlund, 2018, p. 136). Further, most consumers' responses were collected using validated measurements and scales recognized in previous research (Viswanathan, 2008). Moreover, following Söderlund (2018, p. 136), an experienced researcher in the field reviewed all questions used in the study before administration. A classic assumption in many attitude models – assumed on a theoretical basis – is that a positive attitude towards the brand leads to a positive intention (Brown & Stayman, 1992; Söderlund, 2006). Thus, to assess the nomological validity of the dependent variable in the main study, one brand purchase intention item and one word-of-mouth intention were included (Söderlund, 2018, p. 137).

### **3.5 Prestudy**

Operationalizing abstract and intricate variables, such as sustainability or brand, into corresponding treatments can be challenging (Söderlund, 2018, p. 86). Consistent with the recommendation of Rungtusanatham et al. (2011), a separate prestudy was conducted to pretest the survey stimuli and ensure the effectiveness of the developed treatments. The objective of the prestudy was to validate the selected price levels of the product in the stimuli, assess the perceived clarity and realism of the product page and the two scenarios described, before their utilization in the main study. This approach aimed to eliminate any potential confounding factors for the main study.

#### **3.5.1 Study design**

To ensure the effectiveness of the designed treatment conditions, a within-subject design was employed in the prestudy, exposing all participants to the four treatment variants in a randomly allocated order (Söderlund, 2018, p. 53). The prestudy manipulated two factors, namely the presence or absence of a second-hand alternative and the price (low-price versus mid-price).

### 3.5.2 Stimuli development

Before the stimulus presentation, all participants received a written description outlining the scenario. The purpose of the descriptive scenario was to guide the respondents through the shopping experience and minimize potential confounding variables affecting the participants' responses (e.g., their personal view of the product design or price). The scenario instructed participants to imagine shopping for a cashmere sweater at a brand's online retail store, and that the product on the product page met their criteria. The description also mentioned that the brand considered in the study needed to be kept anonymous. This action was implemented to eliminate consumers' preconceptions regarding the brand, as previous associations could influence the study results.

Two versions of the descriptive scenario text were produced to manipulate the price (low- price versus mid-price). The first version highlighted that the brand is known for producing low-priced products and can be categorized as a fast fashion brand. The second version stated that the brand is known for producing mid-priced products and can be categorized in between a fast fashion and a luxury brand. Again, to reduce the influence of confounding variables, everything else in the descriptive text was kept constant (Söderlund, 2018, p. 61). Furthermore, a cashmere sweater was selected as a representative, possibly generic product that we believed that the participants could envision themselves purchasing second-hand – regardless of gender, age, style, or size. Previous research has suggested that consumers tend to prioritize high-quality when shopping for second-hand products (Hur, 2020), hence the selection of a premium-quality item like a cashmere sweater as the product for this study.

After having read the descriptive scenario text, participants were shown an image of a fictitious product page (i.e., our developed stimuli) that displayed an overview of the cashmere sweater and its product features (i.e., price, color, material, and fit). To ensure external validity, the stimulus was designed to resemble the typical appearance of websites. They were based on website designs and product pictures used by fashion brands in their online retail stores but stripped from brand-related features that could potentially bias the results. Further, a size guide and the possibility to choose a size were included to provide greater realism and minimize hypothesis guessing (Söderlund, 2018, p.63). For the manipulation of the presence or absence of the second-hand alternative, two versions of the product page (i.e., the treatment) were constructed. The first version included the alternative to choose the condition of the cashmere sweater. To avoid overburdening participants with details (Wason et al., 2002), the condition



alternatives were limited to two alternatives: (1) "New item", and (2) "Second-hand: As New", offered at a 25 percent lower price. None of the alternatives were pre-selected as a default since the purpose of the thesis was not to investigate defaults but rather to examine how offering second-hand alternatives impact consumers' attitudes toward the brand. The second version did not offer an alternative condition for the cashmere sweater, meaning this treatment version represented the non-second-hand stimuli (absence of a second-hand alternative). For the manipulation of the price (low-price versus mid-price), two more complementary versions of the product page (i.e., the stimuli) were built based on the first and second versions.

In total, four different treatment versions of the stimuli were constructed: 1) a low-priced brand (1 100 SEK) not offering a second-hand alternative, 2) a low-priced brand (1 100 SEK) offering a second-hand alternative at a 25% lower price, 3) a mid-priced brand (2 800 SEK) not offering a second-hand alternative, and 4) a mid-priced brand (2 800 SEK) offering a second-hand alternative at a 25 percent lower price. Everything else was kept constant between the four stimuli versions. Both chosen price levels were based on approximate average current market prices. The stimuli employed were reviewed by an experienced researcher in the field and underwent pre-testing on a small convenience sample, easily accessible and available to the researchers. Detailed comparisons of the manipulations can be found in Appendix B.

### 3.5.3 Data collection and participants

A convenience sample from the personal networks of the authors was utilized – comprising 42 individuals ( $N = 42$ ). Out of these, 21 identified as female, 20 identified as male, 1 identified as non-binary, and 0 preferred not to answer. The sample's age ranged from 21 to 83 years old, with a mean age of 31.52 ( $SD = 16.23$ ). The four treatment conditions were shown in random order to all participants, followed by the related questions (see Appendix B for full disclosure of the survey used in the prestudy). As aforementioned, the participants were instructed to carefully read the description, observe the product page, and respond to the questionnaire items as if they were in the given situation. To verify that the participants comprehended what they were subjected to, an instructional manipulation check asking, "What was the survey about?" was included, with three response options: "cars", "sports equipment", and "clothes"; zero participants failed.

### 3.5.4 Measures

#### *Manipulation checks*

Performing manipulation checks in a separate prestudy offer the benefit of early detection of issues related to the treatment (Söderlund, 2018, p.87). To prove our assumption that second-hand products are perceived to be more sustainable than new products, the item: “Do you believe that second-hand fashion is more environmentally sustainable than new fashion?” was used. This item was measured on a 7-point Likert scale: “Do not agree at all” (1) to “Agree completely” (7).

#### *Perceived price levels*

The respondents were exposed to one price item per treatment to assess that the authors' and the respondents' perceptions of a reasonable price level for the low-priced and the mid-priced cashmere sweaters were aligned with current market prices. After participants were exposed to the low-priced stimuli, they were asked the following questions: "Do you consider this price reasonable for a low-priced cashmere sweater?", which was scored using a 7-point Likert scale: "Do not agree at all" (1) to "Agree completely" (7). After participants were exposed to the mid-priced stimuli, they were asked the same altered questions: "Do you consider this price reasonable for a mid-priced cashmere sweater?", which was scored using a 7-point Likert scale: "Do not agree at all" (1) to "Agree completely" (7). To assess if the discount for the second-hand clothing alternative was perceived to be reasonable, the following item was used: "Do you consider this discount reasonable for a second-hand cashmere sweater?", which was scored using a 7-point Likert scale: "Do not agree at all" (1) to "Agree completely" (7).

#### *Perceived realism*

To evaluate to what extent the participants' perceived the scenarios and stimuli to be realistic, a common practice in role-play experiments (Rungtusanatham et al., 2011; Söderlund, 2018, p.133), two statements were presented: “I could imagine myself in the described situation” and “The product page in the scenario was realistic”. Both items were measured using a 7-point Likert scale: “Do not agree at all” (1) to “Agree completely” (7). Comparable items have been employed in prior research by Pulles & Loohuis (2020) and Thomas et al. (2013). Additionally, to measure the perceived realism of the presence of second-hand alternatives, a complementary statement was included: "I would not have been surprised if I came across a

product page where I could choose the condition of the garment I intended to purchase”. The statement was measured on a 7-point Likert scale: “Do not agree at all” (1) to “Agree completely” (7).

#### *Perceived clarity*

To ensure the participants' deemed the scenario clear, they were asked to express their level of agreement with the statement: "The situation described was clear". This item was measured on a 7-point Likert scale: "Do not agree at all" (1) to "Agree completely" (7). To measure the perceived clarity of the difference between the new item and the second-hand alternative, the participants were given an additional statement: "The difference between the conditions of the garment was clear". This item was also scored on a 7-point Likert scale: "Do not agree at all" (1) to "Agree completely" (7).

#### *Brand recognition*

To prevent participants' prior experiences or associations with a brand from influencing the study results, an open-ended question asking: "What brand do you think this cashmere sweater belongs to?" was included. This measure was taken to ensure that participants did not have preconceived notions about the brand. Previous studies have employed similar measures to ensure unfamiliarity with brand treatments, such as in Liljedal (2016).

#### *Improvements of the study*

To capture if the participants had any suggestions for potential improvements of the study, the survey was concluded with a final open-ended text-entry question: "Is there anything you think we can improve for our main study?".

### 3.5.5 Results

For the manipulation check, we assessed participants' responses to the query, "Do you believe that second-hand clothing is more environmentally sustainable than new clothing?". Analysis of these responses yielded a mean of 6.43 (SD = 0.93). This result demonstrates that the participants perceived that second-hand clothing is more environmentally sustainable than new clothing. Thus, we can assert that our treatment effectively translated our variable of interest. To assess the participant's perception of the price level for the low-priced and mid-priced

cashmere sweaters, the responses of the four treatment versions were combined into two groups: 1) the low-priced (i.e., the responses of the low-priced and low-priced second-hand treatment version), and 2) mid-priced (i.e., the responses of the mid-priced and mid-priced second-hand treatment version). The means of the two treatments were then analyzed, this produced a mean of 5.06 ( $SD = 1.53$ ) for the low-priced stimuli and a mean of 3.74 ( $SD = 1.61$ ) for the mid-priced stimuli. The findings suggest that, although the participants deemed the price of the low-priced stimuli reasonable, they did not hold the same perception of the mid-priced stimuli. To assess whether the reduction in price ("discount") was reasonable, we analyzed the means of the two treatments (low-priced second-hand stimuli and mid-priced second-hand stimuli). The low-priced second-hand stimuli resulted in a mean of 4.81 ( $SD = 1.78$ ), and the mid-priced second-hand stimuli resulted in a mean of 4.50 ( $SD = 1.78$ ). These results demonstrate that the participants considered the price reduction ("discount") for the second-hand alternative rather reasonable, with slightly higher perceived reasonableness for the low-priced stimuli than the mid-priced stimuli.

The perceived realism of the described scenario was assessed by combining the responses of all four treatment versions. This resulted in a mean of 6.06 ( $SD = 0.88$ ), indicating that participants considered the described scenario realistic. Regarding the perceived realism of the product page, combining the responses of all four versions of the treatment resulted in a mean of 5.72 ( $SD = 0.97$ ), indicating that the participants also considered the product page to be realistic. The perceived realism of the second-hand treatment was also assessed, which produced a mean of 4.65 ( $SD = 1.61$ ), indicating that participants considered it rather realistic.

The perceived clarity of the described scenarios was assessed by combining the results of the four versions of the scenario descriptions. This produced a mean of 5.92 ( $SD = 0.97$ ). Consequently, respondents considered the described scenario to be clear. Further, the perceived clarity of the difference between the two conditions of the garment was assessed. This resulted in a mean of 4.55 ( $SD = 1.61$ ), showing that participants considered the presence of second-hand alternatives rather clear.

In examining whether the participants' recognized the brand, the test results showed that zero participants could recognize the brand of the sweater featured on the product page used in the stimuli. This implies that any pre-existing experiences or associations that participants may

have had with the brand would not have influenced the outcomes of the study.

Regarding the question asking participants for recommendations on improvements for the main study, some participants expressed concerns about the price (it being too high) of the selected stimulus product and the fabric choice. Specifically, a small proportion of participants raised questions about the sustainability of cashmere, citing prior associations with the fabric and perceiving it as having gone "out of style."

### 3.5.6 Improvements of the treatment

As previously mentioned, the prestudy aimed to examine the used treatment to evaluate whether it was reasonable, realistic, and clear. Following the data analysis, the study underwent minor modifications to improve its design for the main study.

Although the cashmere sweater was initially chosen as the product for the study due to its non-gender-specific nature and broad appeal, some participants had concerns with the fabric. In addition, even though the price levels in the prestudy stimuli were based on current market prices, the results determined that the respondents perceived the price level for the mid-priced stimuli as too high to be reasonable. To avoid potential biases, the stimulus was changed to a mohair blend fabric, which also allowed for a lower price point. After considering the market average price of mohair sweaters, calculated from a range of brands (see Appendix E for details), and factoring in participants' perceived value for a mid-priced cashmere sweater, an intermediate price point was chosen. Moreover, the shift in fabric prompted a price reduction for the two different prices. Additionally, the scenario was modified slightly from the prestudy by eliminating the previously presented fabric of the product and emphasizing that the product would meet the respondent's budget. This as the fabric (i.e., mohair blend) of the sweater was not a variable of interest and we wanted to minimize the impact of the consumers own budget to impact the results. Therefore, for the main study, participants were instructed to imagine shopping for a sweater at a brand's online retail store, where the product on the product page met the respondents' preferences and budget. All other elements of the scenario remained constant and unchanged from the prestudy. The fabric was however still visible on the product page to provide greater realism and minimize hypothesis guessing.

During the prestudy, another factor that emerged as potentially problematic was the perceived

clarity regarding the stated price – specifically, participants were uncertain whether the price referred to the new sweater or its second-hand alternative. To address this concern, an additional box was added to the stimuli in the main study, displaying the second-hand price after a 25% reduction (600 SEK for the low-priced sweater and 1800 SEK for the mid-priced sweater). The four different treatment versions used in the main study was therefore: 1) a low-priced brand (800 SEK) not offering a second-hand alternative, 2) a low-priced brand (800 SEK) offering a second-hand alternative at a 25% lower price (600 SEK), 3) a mid-priced brand (2400 SEK) not offering a second-hand alternative, and 4) a mid-priced brand (2400 SEK) offering a second-hand alternative at a 25% lower price (1800 SEK). For a detailed overview of the final treatment conditions used in the main study, please refer to Appendix A.

### 3.5.7 Stimuli limitations

The study assumes role-play scenario-based experiment where participants respond to a real-life issue in a simulated context (Rungtusanatham et al., 2011). While the stimuli were designed to resemble typical websites, the means for the perceived realism of the presence of second-hand alternatives (“I would not have been surprised if I came across a product page where I could choose the condition of the garment I intended to purchase”), and perceived clarity of the difference between the new item and the second hand alternative (“The difference between the conditions of the garment was clear”) fell around the midpoint of the scale. This might be since the stimuli do not represent a complete website, but only a simulated picture of an actual website. Additionally, since offering customers to purchase an item they are looking for, but in a second-hand condition, is a rather new phenomena, this may be due to the novelty of the stimuli. Further, it is possible that participants may not have had prior experience with buying second-hand clothing online. Nevertheless, various situations in real-life involve a certain degree of role-play, and it is distinctly human to envision oneself in different situations before they have occurred (Söderlund, 2018, p.83), which objects to this limitation.

## 3.6 Main study

### 3.6.1 Study design

A 2 x 2 between-subjects factorial experiment was conducted to test the hypotheses in this study. Two factors were manipulated: the second-hand clothing alternative (presence versus absence) and the price (low-price versus mid-price). Based on the results of the prestudy, minor alterations to the scenario and stimuli were made for the main study (previously

presented in Chapter 3.5.6). As argued in Chapter 3.3, a text-based role-play scenario for the manipulations of variables was employed.

### 3.6.2 Procedure

Data collection was carried out through an online survey. The survey, which is available in its entirety in Appendix C, was structured into three parts: (1) an introduction, 2) scenario description and a product page, and (3) a self-administrated questionnaire.

The first page of the survey introduced the study and its underlying concept to the participants. The second part contained the randomized treatment condition, where the participants were randomly assigned to one of the four treatment versions, a between-subjects factorial design (Söderlund, 2018, p. 43). Participants were then asked to "Please envision yourself in the following situation" and instructed to assume the role of the customer in the described scenario (Söderlund, 2018, p.81). The role-play scenario was designed to approximate consumer attitudes to the stimulus as if it was a real-life situation. They were informed that they were shopping for a sweater on a brand's website and that the product met their preferences and was within their budget. The description also mentioned that the brand considered in the study needed to be kept anonymous. During this part, participants were also presented with the product page.

The third section, following that the participants had been exposed to the treatment, contained a questionnaire to capture the participants' responses (see Chapter 3.6.4 for a detailed explanation of these measures). Participants were instructed to answer the questions based on their perception of the brand in the stimuli. Particular care was taken to ensure that the questionnaire's design and the questions' phrasing did not impact the results; for instance, the manipulation checks were exclusively presented at the end of the questionnaire. Finally, participants were asked to respond to questions about demographic variables and their own purchasing behavior, before being given the option to send an email voluntarily, to one of the authors, for the chance to win a gift voucher.

### 3.6.3 Data collection and participants

Participants were recruited through the personal network of the authors and Facebook invitations in groups for people with interest in fashion (see Appendix D for full disclosure).

Although convenience sampling is widely used to recruit participants for experiments, critics argue that true random probabilistic sampling is the only viable option to infer population characteristics based on the sample (Söderlund, 2018, p. 190). However, whereas random sampling guarantee's chance sample differences from the source population on all characteristics, random allocation guarantees that any differences between groups on all variables, whether evaluated or not, are non-systematic (Shaver, 1993, p. 297). As scholars are primarily interested in the relative rather than the absolute effects of experimental treatments, the random assignment of participants to treatment groups is more crucial than ensuring sample representativeness (Söderlund, 2010, p. 37). Given the constraints of time and resources, convenient sampling was considered the logical choice for data collection in this study, enabling the recruitment of a sufficient number of participants to our treatment groups. Furthermore, the type of sample used for testing the theory is inconsequential since experiments aim to test theory expressed in a universal way and the lack of representation of any specific validity or invalidity in relation to either randomly or non-randomly sampled participants (Söderlund 2018, p. 190).

A total of 753 respondents completed the survey. Several control measures were put into effect. In contrast to the pre-study, a question requiring a "yes" or "no" answer was included in which participants were requested to verify that they had carefully observed the stimuli; 7 participants did not pass this check. To ensure respondents' attention throughout the survey, participants were asked to: "Please select the option "strongly agree" to indicate that you have paid attention to this question" among four options ("strongly agree", "agree", "disagree", and strongly disagree"); 15 participants failed. Later in the study, to ensure that they continued to read all questions carefully, participants were asked to answer the following question: "Here is an attention check to make sure you keep reading all the questions properly. Please select the number 5", out of four options ("9", "4", "5", and "1"); 2 participants failed. To ensure that respondents understood what they were subject to, the following instructional manipulation check was used: "What was the survey about?", with three response options: "cars", "sports equipment", and "clothes"; 0 participants failed this check. Finally, a manipulation check was included to establish that the participant had carefully observed the product page: "In what condition were you offered to purchase the garment?", followed by three response options ("both as new and second-hand", "only as new" and "only as second-hand"); 53 participants failed. This manipulation check was placed at the end of the questionnaire to reduce the risk of the manipulation check working as a cause variable toward the effect variable (Söderlund, 2018, p. 91). The answers of those who did not meet the above-mentioned control measures,



including attention and manipulation checks, were excluded (77 participants in total), leaving a total of 676 participants for analysis. Out of these participants, 396 were identified as female, 277 were identified as male, 1 was identified as non-binary, and 2 preferred not to disclose their gender. The participants' ages ranged from 18 to 68 years, with a mean age of 34.23 years (SD = 10.17). No significant differences in gender ( $\chi^2 = 6.42$ ,  $p = 0.70$ ) or age ( $F = 2.06$ ,  $p = 0.105$ ) distribution across the four treatment groups was present at the standard alpha level of 0.05.

### 3.6.4 Measures

#### *Attitude measure*

To measure attitudes towards the brand, the survey participants were requested to "State your spontaneous perception of the brand even if the brand is anonymous". It was measured using a 7-point semantic differential scale consisting of three bipolar adjective pairs, namely "bad" (1) to "good" (7), "dislike" (1) to "like" (7), "unpleasant" (1) to "pleasant" (7) (Fuchs & Schreier, 2011; Holbrook, 1987; Liljedal, 2016; Liljedal et al., 2020); Cronbach's  $\alpha = 0.972$ . The high Cronbach's alpha value (i.e., higher than the threshold of 0.7) indicates that the items on the scale are highly internally consistent, which suggests that they are measuring the same underlying construct – brand attitude. This finding supports the reliability of the measurement instrument used in the study.

#### *Validity measures*

As a nomological validity check, considering the common belief that positive attitudes influence multiple behavioral intentions (Brown & Stayman, 1992; Söderlund, 2018, p. 137), we incorporated one purchase intention item ("I would like to purchase a product from this brand") and a word-of-mouth intention item ("How likely is it that you would recommend this product to a friend?") – both scored using a 7-point scale, ranging from "very unlikely" (1) to "very likely" (7). A Pearson correlation analysis revealed that the responses were significantly and positively associated with brand attitude ( $r = 0.72$ ,  $p < 0.001$ ;  $r = 0.69$ ,  $p < 0.001$ ). Therefore, the attitude measure demonstrated expected behavior consistent with numerous prior studies, suggesting that it possesses a satisfactory degree of nomological validity (Söderlund, 2018, p. 137). Similar measures for evaluating behavioral intentions have been employed by various researchers, including Boulding & Kirmani (1993), Cronin et al. (2000), Söderlund & Rosengren (2008) and Söderlund & Öhman (2003, 2005).

### *Signaling theory measures*

Three measures were included to explore the potential of signaling theory as a theoretical explanation for the results of this experiment.

Perceived brand effort was measured on a 7-point Likert scale ranging from "disagree" (1) to "agree" (7); Cronbach's  $\alpha = 0.948$ , using three items that assessed respondents' perception of brand effort. The three items were "I feel that the brand has put a lot of time behind the product page", "I feel that the brand has put a lot of effort behind the product page", and "I feel that the brand has put a lot of thought behind the product page". The Cronbach's alpha of 0.948 indicates a high level of internal consistency among the items used to measure perceived brand effort. Thus, the measurement instrument is reliable and consistent in assessing the measured construct. Similar items to evaluate the perceived brand effort have been used in prior research by Liljedal et al., (2020) and Modig et al., (2014).

Perceived brand ability was similarly measured using a 7-point Likert scale ranging from "disagree" (1) to "agree" (7) for three items: Cronbach's  $\alpha = 0.863$ . The items were "The brand is leading", "The brand is successful", and "The brand is modern", adapted from prior research (Dahlén et al., 2008). The Cronbach's alpha value of 0.863 indicates a satisfactory level of internal consistency among the three items used to measure perceived brand ability. This suggests that the measurement instrument is reasonably reliable and consistent in assessing the construct being measured. Similar measures have been used in prior research by Dahlén et al., (2008) and Liljedal et al., (2020).

Perceived product quality was measured with the statement asking participants to "State your spontaneous perception about the perceived product quality, even if the product information is limited". Perceived product quality was measured using a 7-point semantic differential scale consisting of three bipolar adjective pairs; "low" (1) to "high" (7), "lower than average" (1) to "higher than average" (7), "worse than competing brands" (1) to "better than competing brands" (7); Cronbach's  $\alpha = 0.912$ . The high Cronbach's alpha value indicates that the 7-point semantic differential scale used to measure perceived product quality is highly reliable and consistent in assessing perceived product quality. Similar measures have been employed in prior research (Dahlén et al., 2008; Liljedal et al., 2020).

## 4. Results and Analysis

This chapter presents the empirical findings of the main study. First and foremost, the hypotheses are examined and presented using inferential statistics. A 0.05 (2-tailed) threshold was utilized for the significance level throughout the analysis (Söderlund, 2018, p. 156). To avoid any unforeseen interaction effects caused by the stimuli sampling, a multivariate analysis was performed. Gender and age were included as covariates to evaluate if it impacted how the offering of second-hand clothing alternatives is perceived. The study's dependent variable, brand attitude, showed that gender did not serve as a covariate,  $F(1, 672) = 0.80, p = 0.37$ , nor age  $F(1, 672) = 2.50, p = 0.11$ . The entire sample was thus analyzed jointly.

### 4.1 Assessing the impact of second-hand alternatives on brand attitude

The analysis of whether offering second-hand clothing alternatives in an online retail store impact consumers' attitudes toward the brand will be expanded upon in the following sections.

In hypothesis 1, it was predicted that consumers will have more (less) positive attitudes toward brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store. To assess this hypothesis, an independent  $t$ -test was performed. The outcome of the test revealed that the mean brand attitude for respondents who were exposed to the second-hand stimuli ( $M = 5.33, SD = 1.31$ ) was significantly higher than for those respondents who were exposed to the non-second-hand stimuli ( $M = 4.91, SD = 1.46; t(674) = -3.87, p < 0.001$ ; see table 1 below). Thus, consumers' attitudes toward brands were significantly higher when they offered second-hand clothing alternatives in their online retail store. **These results imply that hypothesis 1 was supported.**

**Table 1.** Impact of second-hand alternatives on brand attitude

	<i>Second-hand</i>	<i>Non-second-hand</i>		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>p</i>
Brand Attitude	5.33 (1.31)	4.91 (1.46)	-3.87	$p < 0.001$

## 4.2 Examining the effects on brand effort, ability & product quality

To test whether previously mentioned results can be explained by signaling theory, three separate independent sample *t*-tests for perceived brand effort, brand ability, and product quality were conducted.

Hypothesis 2 predicted that perceived brand effort will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store. The independent *t*-test indicated that brand effort was significantly higher for respondents who were exposed to the second-hand stimuli ( $M = 4.71$ ,  $SD = 1.46$ ), than respondents exposed to the non-second-hand stimuli ( $M = 4.10$ ,  $SD = 1.56$ ;  $t(674) = -5.21$ ,  $p < 0.001$ ; see table 2 below). Thus, the results are in line with previous research leading up to higher perceived brand effort. **Consequently, hypothesis 2 was supported.**

In hypothesis 3, it was predicted that perceived brand ability will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store. The independent *t*-test showed that brand ability indeed was significantly higher for respondents who were exposed to the second-hand stimuli ( $M = 5.19$ ,  $SD = 1.26$ ) than respondents exposed to the non-second-hand stimuli ( $M = 4.59$ ,  $SD = 1.42$ ;  $t(674) = -5.83$ ,  $p < 0.001$ ; see table 2 below). Thus, the results are in line with previous research leading up to higher perceived brand ability. **Accordingly, hypothesis 3 was supported.**

Hypothesis 4 predicted that perceived product quality will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store. The independent *t*-test showed that perceived product quality was significantly higher for respondents who were exposed to the second-hand stimuli ( $M = 4.93$ ,  $SD = 1.20$ ), than respondents exposed to the non-second-hand stimuli ( $M = 4.66$ ,  $SD = 1.31$ ;  $t(674) = -2.71$ ,  $p = 0.007$ ; see table 2 below). Thus, the results are in line with previous research that has evaluated perceived product quality from a signaling perspective. **Hence, hypothesis 4 was supported.**

**Table 2.** Effect of second-hand alternatives on perceived brand effort, brand ability and product quality

	<i>Second-hand</i>	<i>Non-second-hand</i>		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>p</i>
Brand Effort	4.71 (1.46)	4.10 (1.56)	-5.21	$p < 0.001$
Brand Ability	5.19 (1.26)	4.59 (1.42)	-5.83	$p < 0.001$
Product Quality	4.93 (1.20)	4.66 (1.31)	-2.71	$p = 0.007$

### 4.3 Examining the effects of the mediating variables

To confirm that the offering of second-hand alternatives on brand attitude was mediated by perceived brand effort, brand ability, and product quality (*cf.* Dahlén et al., 2018), as predicted in hypothesis 5, the authors conducted serial mediation analyses.

More specifically, to formally assess the hypothesis that provided the underlying theoretical explanation for the direct effects, two serial mediation analyses using bootstrap analyses by Preacher & Hayes (2008) in PROCESS Version 3.0, were conducted. To address hypothesis 5, which addresses the underlying explanation for the effects found for brand attitude in hypothesis 1, Preacher & Hayes' Model 6 was utilized to test the serial mediation (i.e., offering versus not offering second-hand clothing alternatives → perceived brand effort → perceived brand ability → perceived product quality → brand attitude) (Dahlén et al., 2018; Liljedal et al., 2020). First, a multivariate analysis was conducted with age and gender as covariates for the three serial mediation variables (perceived brand effort, brand ability, and product quality). The result indicated no significant effect for gender; however, significant results for age (See table 3 below). Thus, the mediation analysis was completed without gender as a covariate yet included age as a covariate to eliminate its interaction effects.

**Table 3.** Results for gender and age as covariates for the three serial mediation variables

	<i>Brand Effort</i>	<i>Brand Ability</i>	<i>Product Quality</i>
	<i>F (df, error)</i>	<i>F (df, error)</i>	<i>F (df, error)</i>
Gender	F (1, 672) = 0.78 <i>p</i> = 0.38	F (1, 672) = 1.78 <i>p</i> = 0.18	F (1, 672) = 2.71 <i>p</i> = 0.10
Age	F (1, 672) = 24.91 <i>p</i> < 0.001	F (1, 672) = 46.21 <i>p</i> < 0.001	F (1, 672) = 13.68 <i>p</i> < 0.001

The results from the subsequent mediation analysis indicated a significant indirect effect of the independent variable (i.e., offering versus not offering second-hand clothing alternatives) on the dependent variable (i.e., brand attitude) through brand effort, brand ability, and product quality  $b = 0.08$  (5,000 bootstrap samples, 95% percent confidence interval [CI]: 0.05 to 0.12). However, the direct effect of the independent (i.e., offering versus not offering second-hand clothing alternatives) and the dependent variable (i.e., brand attitude) was not significant  $b = 0.05$  ( $p = 0.57$ ; [CI]: -0.11 to 0.20). Hence, there is a full serial mediation of perceived brand effort, brand ability, and product quality on the relationship between the independent variable (i.e., offering versus not offering second-hand clothing alternatives) and the dependent variable (i.e., brand attitude). This leads to fostering the explanatory model that utilizes signaling theory, as the brand-related effects can be explained by signaling mechanisms. **Thus, the serial mediation in Hypothesis 5 was supported.** The mediation summary is presented in Table 4 below.

**Table 4.** Mediation Analysis Summary

	<i>Effect (b)</i>	<i>Confidence Interval</i>	<i>Significance</i>
Indirect Effect	0.08	0.05 - 0.12	Significant
Direct Effect	0.05	-0.11 - 0.20	Not significant

## 4.4 Examining the effects of price

This thesis primarily aimed to investigate the impact of second-hand clothing alternatives on consumers' attitudes towards a brand. However, to acknowledge the significant role of price as a determining factor that affects outcomes, we included two different price levels to ensure the credibility of our findings across the two price levels. In order to examine this, a univariate analysis was utilized to see whether the price had a significant impact or interaction effects on brand attitude. This showed that the price did not have a significant impact on brand attitude,  $F(1, 672) = 0.46, p = 0.50$ . Neither did this test show any interaction effect of price on brand attitude,  $F(1, 672) = 1.63, p = 0.20$ .

**Table 5.** The effects of price on the dependent variable

	<i>Impact</i>	<i>Interaction Effects</i>
Variables	<i>F (df, error)</i>	<i>F (df, error)</i>
Brand Attitude	$F(1, 672) = 0.46$ $p = 0.50$	$F(1, 672) = 1.63$ $p = 0.20$

## 4.5 Summary of hypothesis testing

In conclusion, support for hypotheses 1, 2, 3, 4, and 5 were found. Table 8 presents an overview of the results of testing this thesis' hypotheses.

**Table 8.** Summary of hypothesis testing

Hypotheses		Results
<b>H1</b>	Consumers will have more (less) positive attitudes toward brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.	Supported $p < 0.001$
<b>H2</b>	Perceived brand effort will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.	Supported $p < 0.001$
<b>H3</b>	Perceived brand ability will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.	Supported $p < 0.001$
<b>H4</b>	Perceived product quality will be higher (lower) for brands offering second-hand (not offering second-hand) clothing alternatives in their online retail store.	Supported $p = 0.007$
<b>H5</b>	Perceived brand effort, brand ability, and product quality will serially mediate the positive effects of offering second-hand clothing alternatives on attitudes toward the brand.	Supported $p < 0.001$



## **5. Discussion**

This chapter begins by summarizing the main findings of this thesis. Subsequently, we explore the ways in which the study adds to prior research and examine the potential managerial implications. Lastly, the limitations of the thesis are discussed as well as the authors' suggestions for future research.

### **5.1 Summary of main findings**

This study aimed to provide an answer to the question: “Does offering second-hand clothing alternatives in online retail stores ultimately impact consumers’ attitudes toward the brand?”. More specifically, this thesis applied signaling theory to explain this effect. The findings indicate that consumers’ attitudes towards brands that offer second-hand clothing alternatives in their online retail store are indeed higher than brands that do not offer second-hand clothing alternatives in their online retail store. Further, we found that consumers report higher perceived brand effort, perceived brand ability and perceived product quality when brands offer second-hand clothing alternatives in their online retail store. In line with previous research on signaling theory, the relationship between our independent (offering second-hand clothing alternatives versus not offering second-hand clothing alternatives) and dependent variable (brand attitude) can be explained by the mediating role of perceived brand effort, perceived brand ability, and perceived product quality. To conclude, brands that offer second-hand clothing alternatives next to their core assortment, in an online retailing context, can expect positive brand-related effects.

### **5.2 Contributions**

The findings reported in this paper contribute to existing research on sustainable consumption, signaling theory and brand-related effects in several ways. First and foremost, previous research on sustainable consumption has primarily focused on the typical green consumer, exploring factors such as consumers' motivation for acquiring green products (Griskevicius et al., 2010; Van Doorn & Verhoef, 2011), green post-purchase consumption behavior (Lin & Chang, 2012), and how consumers' attitudes toward a brand can be positively influenced by transparent or socially responsible initiatives (Katz et al., 2017; Maxham & Netemeyer, 2003). However, within the field of sustainable consumption, there is a limited amount of research on second-hand clothing. This study thus contributes to the growing body of research on

sustainable consumption by examining the positive effects of second-hand clothing alternatives on consumers' attitudes toward a brand. It goes beyond current research on second-hand clothing, such as what motivates consumers to shop for second-hand items online or offline (Guiot & Roux, 2010; Padmavathy et al., 2019; Roux & Guiot, 2008), by introducing how offering second-hand clothing, next to the core assortment, in an online retail store positively impacts brand attitude.

Our study makes a novel contribution to the existing literature by applying signaling theory to explain the positive effects of offering second-hand clothing alternatives on consumers' attitudes toward a brand. Prior research on signaling in marketing has examined the impact of various marketing mix elements, such as advertising (e.g., Kirmani, 1990), warranties (e.g., Boulding & Kirmani, 1993), and price (e.g., Kirmani & Rao, 2000), on attitudes toward the brand and perceptions of product quality (Liljedal et al., 2020). Studies have also recognized the influence of advertising creativity (Dahlén et al., 2008) and nonstereotypical portrayals of occupational gender roles (Liljedal et al., 2020) on brand-related effects explained by signaling mechanisms. However, to the authors' knowledge, no previous research has explored the signaling effects of offering second-hand clothing alternatives in an online retailing context. We demonstrate that offering second-hand clothing alternatives can signal brand effort, brand ability, and product quality. Thus, our findings suggest that offering second-hand clothing alternatives next to brands' core assortment joins other marketing signals, like, nonstereotyped occupational gender-role portrayals (Liljedal et al., 2020), creative advertising (Dahlén et al., 2008), and expense (Kirmani & Wright, 1989). In line with what was previously discussed by Dahlén et al. (2018), this paper highlights the versatility of signaling theory, underscored by its ability to be applied to diverse marketing strategies and contexts.

Previous research on sustainable consumption has suggested that although consumers are increasingly concerned about sustainability in the fashion industry (Achabou & Dekhili, 2013), they believe sustainable fashion conflicts with quality (Kong et al., 2021). Therefore, one could expect consumers to perceive brands that offer second-hand clothing alternatives in their online retail store as having lower product quality than those that do not. However, in contrast to this reasoning, but in line with signaling theory (e.g., Dahlén et al., 2018; Kirmani & Rao, 2000; Liljedal et al., 2020; Modig et al., 2014), we found a positive effect on the perceived product quality of brands offering second-hand clothing alternatives in their online retail stores. Thus, we contribute to the existing research on signaling theory by demonstrating that the mediating effect remains robust even in situations where conflicting forces may contest it.

Previous research has highlighted the benefits of a strong brand in the marketplace (Hoeffler & Keller, 2003; Keller, 2001, 2009). Furthermore, studies have shown that brand attitude, which can be influenced by various marketing efforts (Keller & Lehmann, 2006), is a crucial element that impacts a brand's success and value (Farquhar, 1989; Keller & Lehmann, 2006). Building upon this existing literature, our study demonstrates that offering second-hand clothing alternatives can shape consumer perceptions and positively influence brand attitudes.

### **5.3 Managerial implications**

With retailers adopting circular business models to meet changing consumer demands and tackle the environmental issues of our time, resale is starting to blossom (Abbes et al., 2020; Ekholm, 2023; Tanner & Wölfling Kast, 2003; Tey et al., 2018). The findings presented in this thesis provide novel implications for managers on how offering second-hand clothing alternatives in an online retail store impacts consumers' perception of the brand. This thesis should be seen as a strong encouragement to managers who contemplate the brand-related effects of offering second-hand clothing alternatives in their online retail store. It proposes that it is not always imperative to dedicate extensive resources toward the creation of new collections to produce positive brand-related effects. A viable alternative involves offering second-hand clothing alternatives on a brand's online store to signal a brand effort, brand ability, product quality – leading to more favorable brand attitudes. Hence, offering second-hand clothing alternatives not only enables brands to reduce waste and the environmental impact of their operation, but also provides a way to build stronger brands. All things considered, the authors of this thesis hope that these findings, together with the urgency to protect our planet, can support managers in their decision to start offering their customers the option to purchase second-hand clothing.

### **5.4 Limitations and suggestions for further research**

The findings of this thesis are subject to limitations. While the chosen experimental research design of text-based role-play scenarios was proposed to offer advantages in creating psychological and behavioral reactions similar to real-world settings (Wason et al., 2002), the authors of this thesis cannot be certain that the same responses would be generated outside of a controlled experimental setting. Additionally, the study was conducted in Sweden, with a Swedish-speaking sample. As cultural norms vary across different regions, conducting the same study in other parts of the world could yield different results. For example, European

countries have a more extensive history of environmental concerns than the United States (Olsen et al., 2014), and corporate sustainability initiatives are susceptible to cross-country differences (McWilliams et al., 2006). Thus, conducting further research in other countries could expand the applicability and generalizability of the findings in this thesis.

All brand-related effects measured in this thesis were significantly higher for brands that offered second-hand clothing alternatives in their online retail store than those that did not. However, normative standards (such as people's values, beliefs, and attitudes toward sustainability) and online behaviors are dynamic (Colliander et al., 2015). Thus, the result of this study could be different if conducted at a later point in time. Therefore, as it remains to be seen for how long the offering of second-hand clothing alternatives on a brand's online retail store will have the potential to positively influence consumer evaluative judgments, similar studies are encouraged to verify the viability of this research in the future.

This thesis focused on examining the impact of second-hand clothing alternatives on brand attitude when offered in a "new" condition. In contrast, second-hand items exist in various conditions, such as "used" and "well-used". To obtain a comprehensive understanding of how different conditions of second-hand clothing may affect brand perceptions, further research should be conducted. Additionally, the study only considered one product type (a knitted sweater) and two price levels (low-price and mid-price). However, other variables, such as high-end or luxury brands and other product types, could produce different results. Future research should explore other possible factors to gain a more thorough understanding of how second-hand clothing alternatives may affect brand-related effects. Finally, future research on second-hand clothing could benefit from exploring additional dependent variables beyond those investigated in this study. For instance, it would be valuable to investigate how offering second-hand clothing alternatives in an online retail store impacts customer satisfaction and customer profitability. By understanding these variables, retailers can gain insights into the potential long-term benefits of implementing sustainable practices in their businesses.

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# Appendices

## Appendix A. Treatment conditions

### A.1 Scenario versions (in Swedish)

#### Scenario 1 - Low-priced brand

Föreställ dig att du ska handla en tröja på ett varumärkes hemsida och att produkten på kommande sida uppfyller dina preferenser och ligger inom din budget. Varumärket behöver vara anonymt för studiens syfte. Varumärket är känt för att producera **lågprisprodukter** och kan kategoriseras som ett **fast fashion-varumärke**. Vi ber dig att besvara ett antal frågor utifrån att du befinner dig i denna givna situation, det är därför viktigt att du läser denna beskrivning och observerar produktvyn noggrant.

#### Scenario 2 - Mid-priced brand

Föreställ dig att du ska handla en tröja på ett varumärkes hemsida och att produkten på kommande sida uppfyller dina preferenser och ligger inom din budget. Varumärket behöver vara anonymt för studiens syfte. Varumärket är känt för att producera **medelprissatta** produkter och kan kategoriseras som ett **premiumvarumärke**. Vi ber dig att besvara ett antal frågor utifrån att du befinner dig i denna givna situation, det är därför viktigt att du läser denna beskrivning och observerar produktvyn noggrant.

### A.2 Scenario versions (translated to English)

#### Scenario 1 - Low-priced brand

Imagine that you are going to buy a sweater on a brand's website and that the product on the next page meets your preferences and budget. The brand needs to be anonymous for the purpose of the study. The brand is known for producing **low-priced** products and can be categorized as a **fast-fashion brand**. We ask you to answer a number of questions based on the fact that you are in this given situation, it is therefore important that you read this description and observe the product view carefully.

#### Scenario 2 - Mid-priced brand

Imagine that you are going to buy a sweater on a brand's website and that the product on the

next page meets your preferences and budget. The brand needs to be anonymous for the purpose of the study. The brand is known for producing **mid-priced** products and can be categorized as a **premium brand**. We ask you to answer a number of questions based on the fact that you are in this given situation, it is therefore important that you read this description and observe the product view carefully.

### A.3 Stimuli versions

#### Stimulus 1

Low-priced brand



Mohair Blend Sweater

800 SEK

- Knitted sweater mohair & wool blend
- Relaxed fit

☒ BLACK

SELECT SIZE



ADD TO BAG

#### Stimulus 2

Low-priced brand with second-hand alternative



Mohair Blend Sweater

800 SEK

- Knitted sweater mohair & wool blend
- Relaxed fit

☒ BLACK

CHOOSE CONDITION:

☐ New item

☒ Second hand: As new

600 SEK (-25%)

SELECT SIZE



ADD TO BAG

### Stimulus 3

Mid-priced brand



#### Mohair Blend Sweater

2 400 SEK

- Knitted sweater mohair & wool blend
- Relaxed fit

 BLACK

SELECT SIZE



ADD TO BAG

### Stimulus 4

Mid-priced brand with second-hand alternative



#### Mohair Blend Sweater

2 400 SEK

- Knitted sweater mohair & wool blend
- Relaxed fit

 BLACK

CHOOSE CONDITION:

☐ New item

☒ Second hand: As new

1 800 SEK (-25%)

SELECT SIZE



ADD TO BAG

## Appendix B. Prestudy survey

### Q1.1

#### Hej och välkommen!

Den här undersökningen utförs av två studenter vid Handelshögskolan i Stockholm som del av vår masteruppsats. Arbetet genomförs inte i samarbete med något företag och enkäten tar ca 3 min att genomföra. Du kan när som helst välja att avsluta din medverkan genom att stänga ner webbläsarfönstret. Har du några frågor är du varmt välkommen att kontakta oss på 42099@student.hhs.se.

#### Stort tack för din medverkan!

Sofia Lindborg & Ebba Österlund

### Q2.1

Denna enkät är en förstudie till vår huvudstudie. Du kommer nu att få ta del av två scenarion samt fyra produktsidor som vi planerar att använda oss av i vår huvudstudie. Därefter kommer du bli ombedd att svara på några frågor. Vänligen observera scenariot och produktbilderna noggrant då små skillnader förekommer.

### Q3.1

Föreställ dig att du ska handla en kashmirtröja på ett varumärkes hemsida och att följande produkt uppfyller dina kriterier. Varumärket behöver vara anonymt för studiens syfte. Det här varumärket är känt för att producera **lågprissatta** produkter och kan kategoriseras som ett **fast fashion-varumärke**. Observera bilderna noggrant (zooma in om det behövs).

### Q3.2





### Q3.3

Tycker du att detta pris är rimligt för en lågprissatt kashmirtröja?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q3.4

Jag kan föreställa mig i den beskrivna situationen

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q3.5

Var produktsidan realistisk?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q3.6

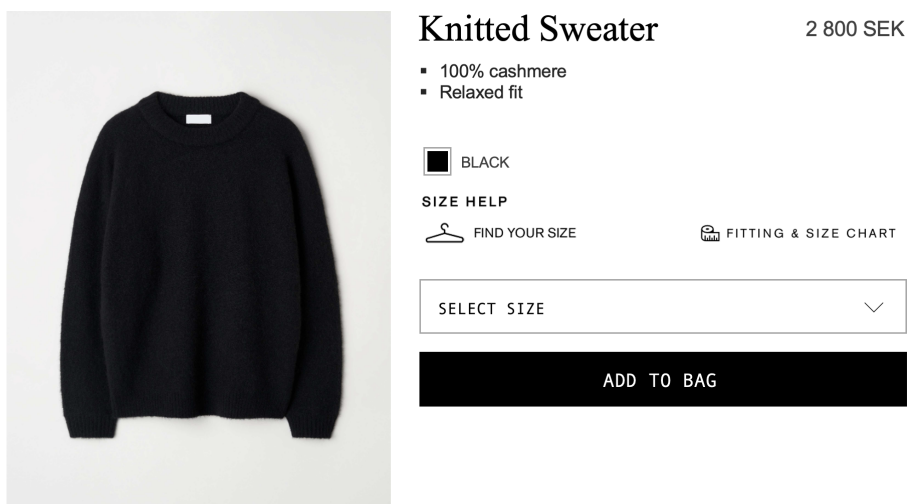
Situationen som beskrevs var tydlig

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q4.1

Föreställ dig att du ska handla en kashmirtröja på ett varumärkes hemsida och att följande produkt uppfyller dina kriterier. Varumärket behöver vara anonymt för studiens syfte. Det här varumärket är känt för att producera **medelprissatta** produkter och kan kategoriseras som ett **mellanting** mellan ett fast fashion- och ett lyxigt varumärke. Observera bilderna noggrant (zooma in om det behövs).

### Q4.2



#### Q4.3

Tycker du att detta pris är rimligt för en medelprissatt kashmirtröja?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

#### Q4.4

Jag kan föreställa mig i den beskrivna situationen

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

#### Q4.5

Var produktsidan realistisk?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

#### Q4.6

Situationen som beskrevs var tydlig

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

#### Q5.1

Föreställ dig att du ska handla en kashmirtröja på ett varumärkes hemsida och att följande produkt uppfyller dina kriterier. Varumärket behöver vara anonymt för studiens syfte. Det här varumärket är känt för att producera **lågprissatta** produkter och kan kategoriseras som ett **fast fashion-varumärke**. Observera bilderna noggrant (zooma in om det behövs).

#### Q5.2



### Q5.3

Tycker du att detta pris är rimligt för en lågprissatt kashmirtröja?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.4

Tycker du att denna rabatt är rimlig för en second-hand kashmirtröja?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.5

Jag kan föreställa mig i den beskrivna situationen

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.6

Var produktsidan realistisk?

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.7

Jag hade inte blivit förvånad om jag stötte på en produktsida där jag kunde välja skicket på plagget jag tänkte köpa

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.8

Situationen som beskrevs var tydlig

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q5.9

Skillnaden mellan skicken på plagget var tydligt

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q6.1

Föreställ dig att du ska handla en kashmirtröja på ett varumärkes hemsida och att följande produkt uppfyller dina kriterier. Varumärket behöver vara anonymt för studiens syfte. Det här

varumärket är känt för att producera **medelprissatta** produkter och kan kategoriseras som ett **mellanting** mellan ett fast fashion- och ett lyxigt varumärke. Observera bilderna noggrant (zooma in om det behövs).

### Q6.2



### Q6.3

Tycker du att detta pris är rimligt för en medelprissatt kashmirtröja?

Instämmer inte alls ○ ○ ○ ○ ○ ○ ○ Instämmer helt

### Q6.4

Tycker du att denna rabatt är rimlig för en second-hand kashmirtröja?

Instämmer inte alls ○ ○ ○ ○ ○ ○ ○ Instämmer helt

### Q6.5

Jag kan föreställa mig i den beskrivna situationen

Instämmer inte alls ○ ○ ○ ○ ○ ○ ○ Instämmer helt

### Q6.6

Var produktsidan realistisk?

Instämmer inte alls ○ ○ ○ ○ ○ ○ ○ Instämmer helt

### Q6.7

Jag hade inte blivit förvånad om jag stötte på en produktsida där jag kunde välja skicket på plagget jag tänkte köpa

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q6.8

Situationen som beskrevs var tydlig

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q6.9

Skillnaden mellan skicken på plagget var tydligt

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q7.1

Vad handlade studien om?

Sportutrustning

Bilar

Kläder

### Q7.2

Vem anser du skulle köpa den här produkten?

Alla

Kvinnor

Män

Ikkebinära

Inget av ovanstående

### Q7.3

Vilket varumärke tror du att denna kashmirtröja tillhör?

### Q7.4

Anser du att second-hand mode är mer miljövänligt än nytt mode?

Instämmer inte alls    ☐ ☐ ☐ ☐ ☐ ☐ ☐    Instämmer helt

### Q8.1

Din ålder

0      10      20      30      40      50      60      70      80      90      100



### Q8.2

Ditt kön

Kvinna

Man

Ickebinär

Föredrar att inte svara

### Q9.1

Är det något du tycker att vi kan förbättra till vår huvudstudie?

## Appendix C. Main study survey

### Example from treatment group 2 (scenario 1 and stimulus 2)

#### Q1.1

##### Hej och välkommen!

Den här undersökningen utförs av två studenter vid Handelshögskolan i Stockholm som en del av vår masteruppsats.

Arbetet genomförs inte i samarbete med något företag. Enkäten tar ca 4 minuter att genomföra. Du kan när som helst välja att avsluta din medverkan genom att stänga ner webbläsarfönstret.

Har du några frågor är du varmt välkommen att kontakta oss på 42099@student.hhs.se.

##### Stort tack för din medverkan!

Sofia Lindborg & Ebba Österlund

#### Q2.1

##### GDPR

Genom att fortsätta till följande sidor godkänner du att vi använder dina svar i vår forskning. I enlighet med dataskyddsförordningen (GDPR) kommer dina personuppgifter att hanteras konfidentiellt. Uppsatsen kommer inte att innehålla någon information som kan identifiera dig som deltagare i undersökningen. Datan kommer att raderas permanent i juni 2023.

Du är välkommen att besöka <https://www.hhs.se/en/about-us/data-protection/> för att läsa mer och få information om dina rättigheter relaterade till personuppgifter.

#### Q3.1

Föreställ dig att du ska handla en tröja på ett varumärkes hemsida och att produkten på kommande sida uppfyller dina preferenser och ligger inom din budget. Varumärket behöver vara anonymt för studiens syfte. Varumärket är känt för att producera **lågprisprodukter** och kan kategoriseras som ett **fast fashion-varumärke**. Vi ber dig att besvara ett antal frågor utifrån att du befinner dig i denna givna situation, det är därför viktigt att du läser denna beskrivning och observerar produktvyn noggrant.

#### Q4.1



##### Mohair Blend Sweater

800 SEK

- Knitted sweater mohair & wool blend
- Relaxed fit

☒ BLACK

CHOOSE CONDITION:

☐ New item

☒ Second hand: As new

600 SEK (-25%)

SELECT SIZE



ADD TO BAG

#### Q4.2

Det är viktigt att du observerar bilden noggrant för att kunna besvara följande frågor. Har du observerat bilden noggrant?

Nej

Ja

#### Q5.1

Frågorna som följer på kommande sidor skall besvaras utifrån **din uppfattning** av varumärket du precis sett.



### Q6.1

Ange ditt spontana intryck av **varumärket**, även om varumärket är anonymt

Dåligt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Bra
Ogillar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Gillar
Negativt intryck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Positivt intryck

### Q7.1

Jag skulle vilja köpa en produkt från detta varumärke

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q7.2

Hur troligt är det att du skulle rekommendera varumärket till en vän?

Inte alls troligt ☐ ☐ ☐ ☐ ☐ ☐ ☐ Mycket troligt

### Q8.1

Vänligen välj alternativet "instämmer helt" för att visa att du uppmärksammat denna fråga

Instämmer helt

Instämmer

Instämmer inte

Instämmer inte alls

### Q9.1

Jag upplever att varumärket har lagt mycket **tid** bakom produksidan

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q9.2

Jag upplever att varumärket har **ansträngt sig** när de konstruerat produksidan

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

### Q9.3

Jag upplever att varumärket har lagt mycket **tanke** bakom produktsidan

Instämmer inte alls    ☐ ☐ ☐ ☐ ☐ ☐ ☐    Instämmer helt

### Q10.1

Varumärket är i **framkant**

Instämmer inte alls    ☐ ☐ ☐ ☐ ☐ ☐ ☐    Instämmer helt

### Q10.2

Varumärket är **framgångsrikt**

Instämmer inte alls    ☐ ☐ ☐ ☐ ☐ ☐ ☐    Instämmer helt

### Q10.3

Varumärket är **modernt**

Instämmer inte alls    ☐ ☐ ☐ ☐ ☐ ☐ ☐    Instämmer helt

### Q11.1

Ange din spontana åsikt om upplevd produktkvalitet, även om produktinformationen är begränsad

Låg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Hög
Lägre än genomsnittet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Högre än genomsnittet
Sämre än konkurrerande varumärken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Bättre än konkurrerande varumärken

### Q13.1

Här är en uppmärksamhetscheck för att se till att du fortsätter läsa alla frågor ordentligt. Vänligen välj siffran 5.

9

4

5

1

#### Q14.1

Frågorna som följer på kommande sida berör dig och ditt köpbeteende.

#### Q14.2

Hur ofta handlar du mode **online**?

Aldrig ☐ ☐ ☐ ☐ ☐ ☐ ☐ Alltid

#### Q14.3

Är du van vid att handla mode **second-hand**?

Mycket ovan ☐ ☐ ☐ ☐ ☐ ☐ ☐ Mycket van

#### Q14.4

Är du van vid att handla mode **second-hand online**?

Mycket ovan ☐ ☐ ☐ ☐ ☐ ☐ ☐ Mycket van

#### Q14.5

Du använder produkter som du har köpt så länge som möjligt

Instämmer inte alls ☐ ☐ ☐ ☐ ☐ ☐ ☐ Instämmer helt

#### Q14.6

Din ålder (i siffror)

#### Q14.7

Ditt kön

Kvinna

Man

Icebebinär

Föredrar att inte svara

### Q15.1

Vad handlade undersökningen om?

Bilar

Sportutrusning

Kläder

### Q15.2

I vilket skick erbjöds du att köpa plagget?

Både som nytt och second hand

Endast som nytt

Endast som second hand

### Q16.1

Om du vill vara med och tävla om ett presentkort på 500kr vänligen maila oss på: 42099@student.hhs.se. Detta görs för att dina svar i studien inte ska gå att koppla till dina personliga uppgifter.

### Q17.1

Tack för att du tog dig tid att göra denna undersökning. Ditt svar har registrerats.

## Appendix D. Data collection

### Facebook groups for survey distribution

- **Lyxloppis för hela Sverige**  
34,000 members; buying and selling of clothing, accessories and furniture.
- **Lyxloppis Mode**  
73,000 members; buying and selling of luxurious clothing.
- **Circle of Clothes**  
55,000 members; buying and selling of clothing and accessories.
- **What We Wear**  
4,500 members; buying and selling of branded menswear.
- **Labels We Love**  
58,000 members; buying and selling of branded clothing and accessories.
- **Köp och sälj ENDAST herrkläder i Stockholm**  
3,900 members; buying, selling and donating men's clothing.

## Appendix E. Average market price calculation

### Average market price calculation for a mohair blend sweater

Low-priced	Price	Mid-priced	Price
H&M	499	Second Female	1799
Lindex	599	Filippa K	1900
Nakd	449	Acne	3000
Arket	990	Toteme	2600
& Other stories	890	Rodebjer	4000
COS	990	Ganni	2395
Stockholm Im (MQ)	1199	J.Lindeberg	1800
<b>Average</b>	<b>802 kr</b>	<b>Average</b>	<b>2 499 kr</b>