SCHOOL OF ECONOMICS AND MANAGEMENT

LUND UNIVERSITY

Ownership is so last year!

An investigation of the relationship between consumer characteristics and attitude towards rental of second-hand clothing

by

Lisa Lombardi & Fleur Querida Dassen

May 2020

Master's Programme in International Marketing and Brand Management 2019/2020

Supervisor: Burak Tunca
Examiner: Javier Cenamor

Abstract

Title: Ownership is so last year! An investigation of the relationship between consumer characteristics and attitude towards rental of second-hand clothing

Date of the Seminar: June 5th, 2020

Course: BUSN39, Degree project for MSc. International Marketing & Brand Management

Authors: Lisa Lombardi and Fleur Querida Dassen

Supervisor: Burak Tunca

Keywords: Product-service systems, clothing rental, second-hand clothing, consumer characteristics, consumer attitude

Thesis purpose: This research investigates the effect of six specific consumers' characteristics, i.e. fashion leadership, shopping enjoyment, instrumental and terminal materialism, green self-identity, and social influence susceptibility, on consumers' attitude towards a product-service system (a use-PSS) in the form of second-hand clothing rental. The relationship between attitude and consumers' intention to adopt the use-PSS is also investigated.

Methodology: The relationship between the six consumer characteristics and attitude was assessed through a quantitative study to assess. Four multiple linear regression models were run, along with additional analyses where users and non-users of the use-PSS were compared.

Theoretical perspective: The Theory of Planned Behavior (Ajzen, 1991) was employed as a conceptual framework. Additionally, studies from the sustainable consumption, product-service systems, and fashion literature streams were thoroughly examined and served as a backdrop for the formulation of the hypotheses guiding the analysis.

Empirical data: Cross-sectional data from 655 Swedish females was collected through an online survey.

Findings/conclusions: The analyses revealed that fashion leadership and green self-identity both exert a positive influence on attitude towards the use-PSS; social influence susceptibility also displayed a positive effect, although with a borderline significance level. Moreover, attitude showed a strong positive effect on adoption intention. Last, users scored higher on fashion leadership and held a more positive attitude towards the PSS compared to non-users.

Practical implications: Results showed that two consumer characteristics are especially relevant for attitude towards a use-PSS for second-hand clothing, which suggests the existence of two segments. This can assist marketers and business developers in determining what kind of consumers may be potential adopters of PSS, as well as the best strategies to target them, which may support organizations in unleashing the full potential of PSS to reduce resource use and waste thereby contributing to mitigating the environmental impact of fast fashion.

Acknowledgements

It is sad to realize that this dissertation is the last stop of our journey at Lund University. It has been a memorable year, despite the social distancing and the "new normal" of the second semester.

Working on this Master thesis has been an experience full of emotions, and we would like to thank some of the people who supported us in the process. First and foremost, we want to express all our gratitude to Burak Tunca, our supervisor, for his extensive availability to answer our doubts, his flexibility, and for his patience. Second, our thanks go to Mikaela Larsell, co-founder of Hack Your Closet, for her time, her willingness to share information, and her work in preparing gifts for the customers who had filled in our survey: we hope this study will help Hack Your Closet make fashion more sustainable and more fun, we truly enjoyed learning more about this service!

Next, Johan Jansson, inspired the topic of our research through his passionate teaching in the course Sustainability and Marketing Ethics, while Javier Cenamor provided very valuable feedback during the first seminar and our meeting with him.

Finally, we would like to thank our fellow students and friends for making this a special year, as well as high-five each other for the mutual support, the constructive feedback, the patience, and the overall fun we had in the process.

Lisa Lombardi and Fleur Querida Dassen

Lund, May 29th, 2020

Table of Contents

List of Tables

List of Figures

1   Introduction

Our consumption habits, constantly changing needs, and continuous patterns of production leave behind a huge ecological footprint which will eventually destroy the Earth. In recent years, rising awareness about the unsustainability of the capitalist system and the dramatic consequences of climate change have led many consumers to try to be at least a little "greener", and a popular path has been reducing one's flying frequency, with the Swedish concept of *flygskam* – shame of flying - also powerfully spreading outside of Scandinavia in 2019 (Hook, 2019). Yet, despite all the criticism around the aviation industry and its huge impact on the environment, the substantial ecological damage caused by other sectors related to everyday consumption often goes unnoticed. For example, the total CO_2 emissions from textiles production is around 1.2 billion tons a year, which is more than all international flights and maritime ships together (EMF, 2017; Magnin & Hedrich, 2019). A large share of these emissions is caused by fast fashion, a sector that has recently begun receiving criticism on its business model focused on short product life cycles and rapidly changing collections. Indeed, the fashion industry is one of the main contributors to climate change, producing about 10% of humanity's carbon emissions, polluting oceans with waste and microplastics, and taking up an extensive share of the water supply worldwide (McFall-Johnsen, 2019). The fashion industry in terms of clothing and shoes alone already accounts for more than 8 percent of the climate impact worldwide (Cerullo, 2019), and this does not include the production of other potentially detrimental items, such as accessories.

The current clothing system is largely linear; clothes are mostly made from nonrenewable resources, while the resulting items are utilized for a short amount of time, after which they are disposed of (EMF, 2017). As the middle-class is rising globally and mass production enables lower prices, general sales per individual are increasing, too (EMF, 2017), especially because of emerging regions. On top of that, garments are majorly underutilized as consumers wear clothes less and less often before discarding them (BoF & McKinsey, 2019).

Compared to almost two decades ago, clothing production has doubled, as fast fashion, with its low prices and numerous collections, is taking over the industry (EMF, 2017). Furthermore, behind these large production volumes and cheap prices, there are human beings making the clothes, 75 million people to be precise, according to Barenblat (2017) from non-profit Remake. Along the whole supply chain, many of the workers operate in dangerous conditions and endure long workdays, while receiving only very low wages (EMF, 2017). On top of that, child labour in the fashion industry is not uncommon (Bureau of International Labor Affairs, 2018). In short, the current fashion system heavily exploits natural resources, produces a terrifying amount of waste, and thereby causes substantial societal harm (EMF, 2017). Despite all these issues, it is expected that clothing purchases will triple by 2050 (EMF, 2017). Change is crucial, as continuing this trend has a catastrophic potential; if nothing changes, the fashion industry alone will take up 26% of the global carbon budget (relative to the 2 ℃ global warming limit) by 2050 (EMF, 2017). Thus, if this unsustainable "take, make, dispose" culture is to stay, and if the fashion industry maintains its linear system, the various negative impacts it brings will be disastrous for the planet and society.

On the bright side, consumers are slowly becoming more aware of the numerous harmful consequences of their fashion consumption. In recent years, their interest in second-hand garments has grown, often attracted by the resurgence of vintage styles. Indeed, the estimated value of the European market value for preowned fashion amounts to EUR13 billion (Togoh, 2019). Yet, while it has the potential to change the fast fashion system by increasing the utilization of clothes, purchasing second-hand for one's everyday attire has not yet become the norm. Furthermore, consumers' demand for innovative systems that counter the issue of overconsumption, such as the idea of renting instead of owning products, has increased in the past years (BoF & McKinsey, 2020). It is recognized by a research by McKinsey (Amed, Balchandan, Beltrami, Berg, Hedrich & Rölkens, 2019) that business models based on rental or preowned products are becoming increasingly relevant as consumers, especially the younger segments, are looking for new ways to combine their desire for newness with their sustainability values. However, most efforts within the industry are still based on the current linear logic, rather than tackling the problem at its roots by developing a disruptive, systemic change focused on prolonging product life cycles (EMF, 2017). It is hence strongly encouraged that the fashion industry reinvents itself (World Bank, 2019), as the Earth cannot handle the startling rising volumes of production, its disposal-focused system, and the harmful consequences that come with it.

One of the proposed solutions is product-service systems (PSS), a mix between products and services offered, hinging on the function of the product rather than on the product itself (Mont, 2001; Tukker & Tischner, 2006). PSS can also serve as a way to extend the responsibility of producers beyond the moment of sale (Stål & Jansson, 2017). Examples of most common PSS are carpooling, furniture rental and laundry services, along with additional washing advice, repair services, take-back systems, and renting or swapping of garments specifically for the fashion industry (Stål & Jansson, 2017). PSS do not only have the potential to result in less environmental harm following dematerialization and less landfill waste, but they may also generate increased profits and improved functionality, thanks to their objective to fulfill consumers' needs (Rexfelt & af Ornäs, 2009).

A particularly interesting type of PSS is use-PSS, which will be the focus of this dissertation. With use-PSS, customers pay to access or use the product, while this remains property of the company (Tukker, 2004). This kind of PSS is aimed at intensifying the use of the product and contributes to e.g. less landfill disposal and extending product life cycles (Armstrong Niinimäki, Kujala, Karell & Lang, 2015). Although some global players are also introducing PSS, new entrants stand out as the most innovative and disruptive in their strategies (Stål & Jansson, 2017). Sustainable startups attempting to shift nowadays' consumption paradigm are on the rise and many build on circular and sharing economy principles. Yet, clothing use-PSS are not common and still encounter consumers' resistance, like PSS in general (Catulli, 2011). As ownership is lifted and fashion is strongly related to identity construction (Roach-Higgins & Eicher, 1992), use-PSS face a serious challenge. As a matter of fact, adoption would require a fundamental habit change from consumers (Beuren, Ferreira & Miguel, 2013) and this demands extensive research from a consumer perspective to shed light on how PSS can become more widespread.

1.1   Problem Formulation

The scarce diffusion of PSS in the fashion industry has several causes, both from a business and a consumer perspective. From a business point of view, the change from a linear to a more circular and more sustainable system requires a massive transformation across the entire supply chain of established fashion companies. Although there are some examples of large fashion firms implementing forms of PSS, this is still not remotely enough to make a significant, long-lasting impact. For instance, H&M developed a take-back system where consumers can recycle the clothes they no longer want. However, in return they receive a 5€ discount on their next purchase of at least 25€, which ultimately still incentivizes them to consume more. To prevent sales from declining, then, the firm still fails to encourage customers to utilize their own clothes for longer. This illustrates that sustainable initiatives, especially from established firms, often lead to rebound effects (Berkhout, Muskens & Velthuijsen, 2000; Stål & Jansson, 2017), i.e. the feeling of pride and the savings arising from a "green" practice ultimately result in more consumption, which minimizes the results. Nonetheless, startups implementing different consumption systems are on the rise, as building a business model from scratch is easier than completely revolutionizing an already established system with the risk of destroying the main source of profit. An example of a fashion company based on a PSS business model is Rent the Runway, which rents out high-end designer clothing for a very short period. However, the main value proposition of this service is making luxury fashion an option for many who could otherwise not afford it, focusing on garments that individuals usually wear only on a few special occasions. This does not address, let alone solve, the problems caused by fast fashion, which follow from the intense and rapid production and consumption of relatively cheap, everyday clothing. A more promising example of a sustainable fashion firm with a business model based on a use-PSS is Vigga. This Danish company rents out clothing for babies and young children, as they grow very rapidly out of their clothes and thus continuously need larger sizes. Through a subscription, customers can rent high quality sustainable clothing for their kids and, once it does no longer fit, it can be sent back to receive a new collection, freeing parents from having to constantly buy new clothes for their newborn. Startups of this kind, disrupting the traditional system of the industry in a sustainable way, are becoming more numerous; yet, they are not often highlighted or discussed in research (Todeschini, Cortimiglia, Callegaro-de-Menezes & Ghezzi, 2017), while they stand out for their innovative and disruptive business models compared to large established players (Stål & Jansson, 2017). The initiatives and system-changing business models of these startups could serve as a great example and inspiration for how the giants of the fashion industry should change their course. Moreover, sooner or later, established fashion firms should at least try out new ways of alternative consumption, and collaborating closely with startups could provide them with new ideas (Amed et al. 2019). Consequently, it is important to follow and study the progress of these and similar future companies, along with new developments in the industry, as they likely stand for the future of fashion.

This study will center on one particular type of PSS in fashion, namely a use-PSS in the form of second-hand clothing rental. This PSS can have substantial potential for tackling the underutilization of garments, but what is most promising is that it could help shift the focus

from the ownership of clothing to their use, thereby re-educating consumers on the way they look at, and consume fashion. Moreover, the fact that the clothes circulated by the service are second-hand will contribute to reducing excessive production even more, saving an astonishing amount of garments from being destroyed or forgotten in wardrobes. Furthermore, this service could support the normalization of preowned fashion, itself a disruption of the fast fashion system. In order to gain a more accurate picture, a Swedish startup providing subscription-based rental of second-hand clothing will be used as a reference case. The potential of this company especially lies in the fact that everyday clothing is rented out, as opposed to garments for special occasions, which therefore amplifies its potential to revolutionize the fashion industry.

It is crucial to realize, however, that innovative business models should be designed with consumers in mind, as their acceptance and willingness to change are necessary for the successful implementation of alternative consumption methods. Accordingly, understanding consumer behavior is of essence in order to take the leap from a linear to a more circular system through use-PSS, as they simultaneously imply a disruption in the way people consume products and in their roles in relation to providers (Antikainen & Valkokari, 2016). Indeed, looking at the lack of implementation of PSS from a consumer perspective, one of the toughest challenges here is that diffusion of use-PSS requires a cultural change in the way people consume and look at consumption (Beuren, Ferreira & Miguel, 2013; Vezzoli, Ceschin, Diehl & Kohtala, 2015). We live in a consumption society (Richins & Dawson, 1992) where ownership is a fundamental part of building and expressing one's identity (Belk, 1988). Products are bought not just because of their function, but often also for the symbolic value they offer, tapping into self-identity and one's presentation to others (Barone, Shimp & Sprott, 1999; Catulli, Cook & Potter, 2017a, 2017b). However, with use-PSS ownership is lifted and the focus shifts from possession to function (Tukker, 2004). The focus on the function alone constitutes a challenge, as ownership is highly valued by Western societies, and it is suggested that PSS diffusion is still limited because they fail to offer a value proposition that transcends this preference (Tukker, 2015). When ownership is removed, so could the benefits associated with it, such as product control and intangible values like esteem (Tukker, 2015; Tukker & Tischner, 2006). The lack of ownership in relation to identity construction is especially problematic in fashion, as the latter is highly symbolic and one of the most explicit ways to show one's identity (Holt, 1998; Noesjirwan & Crawford, 1982; Roach-Higgins & Eicher, 1992) and this could prevent consumers from renting clothing. However, Catulli, Cook and Potter (2017a) proposed that PSS entail a complicated interplay of functional and symbolic value, so that partial identification can still take place. In order for business models based on access-based consumption to succeed, consumers should accept new value propositions, which should include intangible values, and be willing to change their consumption habits (Catulli, Cook & Potter, 2017a). Accordingly, understanding consumers and their characteristics is of major importance when investigating how to make alternative consumption systems such as use-PSS in fashion accepted and successful.

Alternative fashion consumption systems inspired by the circular economy and collaborative consumption have been investigated by several scholars. However, it is important to stress that research on clothing rental rarely encompassed PSS-contexts. Use-PSS, such as the instance of

4

second-hand apparel rental, differ from traditional rental of clothing as they provide added value by offering a service element. This distinction is important as it could influence the way consumers perceive this type of consumption, including the lifted ownership component. On the other hand, even though several barriers and drivers regarding acceptance and adoption of PSS have been uncovered by previous research, these studies all discussed different kinds of PSS for different products and functions (e.g. car sharing, renting nursery equipment, renting luxury clothing, etc.). This makes it difficult to generalize their findings to second-hand clothing rental, because consumers' attitudes and willingness to adopt are likely case-dependent, and thus may vary depending on the offered product and service. Hence, studies on PSS in fashion remain limited, which asks for further research. Moreover, the few examples that addressed fashion use-PSS failed to describe the PSS scenarios in an accurate manner (e.g. Lang & Armstrong, 2018a). Namely, often the service component offered by the PSS was completely neglected, including details such as price. The authors of the present paper believe this is of essence to obtain valid and reliable results, which is why this study will use a real case as a reference and present it as accurately as possible to the participants. Moreover, the existing PSS literature considering a consumers' perspective is mostly qualitative and exploratory in nature, whereas quantitative research is necessary to obtain larger-scale results and uncover significant relationships. While examples of quantitative research concerning sustainable consumption behavior, such as PSS, exist, these are most often centered on the intention or behavioral components of the Theory of Planned Behavior (Ajzen, 1991). Thus, the antecedents of the attitude element remain under-investigated, and the authors of the present paper believe that developing a better understanding in this domain is key. To the knowledge of the researchers, only one study, by Lang and Armstrong (2018b), delved into consumer characteristics in relation to clothing rental and swapping in a collaborative consumption setting. As consumer characteristics and their attitudes can be extremely valuable in order to understand what would drive specific PSS adoption, this research will investigate further relevant consumer characteristics affecting attitude and adoption of fashion use-PSS in the form of second-hand clothing rental, namely fashion leadership, shopping enjoyment, instrumental and terminal materialism, green self-identity, and social influence susceptibility.

Taken together, this study will contribute to the academic field by diving deeper into six consumer characteristics that could potentially act as drivers or barriers to acceptance of a specific use-PSS. Moreover, it will form a base for future research to build on when studying other types of (use-)PSS. This research also has practical relevance, as it will offer insights for marketers and business developers: namely, the results may assist them in determining what kind of consumers may be potential adopters of PSS, as well as the best strategies to target them. Additional knowledge on the consumer characteristics driving adoption may help making PSS more widespread, which could encourage social normalization, i.e. the social process where consumers become more accepting and consider adopting a behavior as normal and part of the everyday (Rettie, Barnham & Burchell, 2011). Thus, insights from this research will hopefully allow businesses to unleash the full potential of PSS to reduce resource use and waste. Indeed, as explained, PSS promise the replacement of the current linear system, thereby contributing to mitigating the environmental impact of, in this case, fast fashion.

1.2   Purpose & Research Questions

Based on the discussion above, it is clear that change in the linear system of the fashion industry is necessary, and new ways of consumption are needed. However, any effort from the fashion industry will not suffice unless consumers change, too. Therefore, this dissertation will take a consumer perspective in relation to a use-PSS in the form of second-hand clothing: specifically, the research aims to investigate six specific consumers' characteristics deemed relevant by the authors for attitude and adoption of a second-hand clothing use-PSS in form of rental, namely that of fashion leadership, shopping enjoyment, instrumental and terminal materialism, green self-identity, and social influence susceptibility. In this regard, the effects of consumer characteristics on attitude are measured and the relationship between attitude and consumers' intention to adopt the specific kind of use-PSS is investigated. This study will shed light on diffusion of PSS from a consumer perspective and consequently will provide insights on consumer acceptance, which is essential. As further discussed in the next heading, besides expanding current research on PSS, these insights will provide important implications for marketers and the overall fast fashion industry. Thus, based on these aims, this study will address the following research questions:

- RQ1: What is the effect of consumers' characteristics on their attitude towards a use-PSS for second-hand clothing rental?
- RQ2: What is the effect of consumers' attitude on intention to adopt the proposed use-PSS?

1.3   Aimed Contributions

This research will offer several contributions to the existing body of literature. First, it will provide a new perspective to studies on use-PSS: namely, it will add another layer to previously uncovered barriers to acceptance and adoption, such as the challenge of ownership, trust in the provider, and perceived financial benefits, by focusing on consumers' characteristics. Zooming in on what kind of consumer characteristics have a positive or negative effect on attitude will result in more in-depth knowledge about the consumers' intrinsic drivers and barriers. Secondly, this research will complement previous studies on PSS employing the Theory of Planned Behavior as a framework, by investigating consumer characteristics as antecedents of attitude. Moreover, by focusing on a specific use-PSS in fashion, it will be possible to measure consumer attitudes more accurately than in other studies that mostly used hypothetical situations or conducted interviews or focus groups. Furthermore, this dissertation will offer new knowledge around second-hand clothing, as it will consider an alternative to purchase, and an online platform instead of physical thrift shops. Moreover, even though research on clothing rental has been conducted, this mostly delved into luxury garments rather than everyday clothing. Lastly, to the researchers' knowledge, this is the first study to include users of a specific PSS in its survey research and to investigate specific consumer characteristics.

On the other hand, this research will also offer practical contributions. First, ideally this paper and its outcomes will provide inspiration for already established companies, which face the

increasing urgency of change in the fashion industry. Globally known stores such as H&M and Zara have a great deal more resources than startups to conduct research on what consumers really value and what is needed to disrupt the fast fashion system. Moreover, they have the reach and power to educate, not only consumers but also people along the whole supply chain. Knowing which consumer characteristics exert an influence also provides insight in where education regarding this innovative system is still needed. Secondly, from a practical and strategic perspective, the nature of these insights will make it possible to develop future customer profiles. This will enable more specific segmentation among potential customers, and marketing communications may be designed accordingly. In turn, effective marketing strategies will encourage wider implementation and adoption of PSS. Realizing what is most relevant for consumers' attitude and adoption intention can also be very helpful for system prototyping and creating strong and relevant value propositions. Finally, with an eye to the future, the more is known about consumer acceptance of PSS, the higher the chances to widely implement such systems in a profitable way, and the more the fashion industry will reduce its footprint on the environment.

1.4   Outline of the Thesis

In order to fulfill its purpose and answer the research questions, this thesis will first deeply review relevant previous literature to build a strong background and foundation for the study. Based on this, hypotheses will be formulated and argued for. Secondly, the Methodology section will outline how the study was designed and what analyses were conducted to test the proposed hypotheses. Next, the results will be presented, highlighting if the hypotheses were confirmed or rejected. This will be followed by a discussion of the identified relationships on the basis of previous studies. Last, a comprehensive conclusion will present managerial implications and theoretical contributions, along with the limitations of this dissertation and directions for future research.

2 Literature Review

2.1 Product-Service Systems (PSS)

A growing number of researches in the field of product-service systems (PSS) has been conducted in the last decades (Beuren, Ferreira & Miguel, 2013). The overall relevance of PSS is widely agreed upon; however, different perspectives exist on how the concept should be characterized (Beuren, Ferreira & Miguel, 2013). Multiple definitions have been developed over the years (Goedkoop, van Halen, te Riele & Rommens, 1999; Mont, 2001; Tukker & Tischner, 2006) and no agreement has been reached on a universal definition (see Table 1). Beuren, Ferreira and Miguel (2013) conducted a literature review on PSS consisting of 149 articles and found that one third of the academic papers cited the early work of Goedkoop et al. (1999), which defined PSS as "a marketable set of products and services, jointly capable of fulfilling a client's need" (p. 18). However, this early definition is very limited and more comprehensive descriptions have been developed over the years.

Table 1: Definitions of product-service systems

Author(s)	Definition PSS
Goedkoop et al. (1999)	"A product service system is a marketable set of products and services, jointly capable of fulfilling a client's need" (p. 18)
Mont (2002)	"A PSS should be defined as a system of products, services, supporting networks and infrastructure that is designed to be: competitive, satisfy customer needs and have a lower environmental impact than traditional business models" (p. 239)
Tukker & Tischner (2006)	"A product-service system (PSS) can be defined as consisting of tangible products and intangible services designed and combined so that they jointly are capable of fulfilling specific customer needs" (p. 1552)
Vezzoli et al. (2012)	"A PSS is a value proposition oriented to provide satisfaction to customers/users through the delivery of an integrated system of products and services" (p. 288)

Along with acknowledging the increase in research on PSS, it is important to note that this concept is interlinked with many others within the literature. PSS have been discussed in different terms and contexts, such as servitization, dematerialization, service design, service economy, and functional economy (Beuren, Ferreira & Miguel, 2013; Mont, 2001). Moreover, in previous literature PSS are seen as equivalent to function-oriented business models as well as a synonym for functional sales (Rexfelt & af Ornäs, 2009; Tukker, 2004). What remains constant is that the core aspect behind PSS is to deliver a function or a service, rather than a

product. A product is something tangible which is made to be sold, whereas services entail activities with an economic value realized for others (Goedkoop et al. 1999). However, as products and services are growing closer together, it is no longer self-evident that products are tangible and services are intangible (Schotman & Ludden, 2014). PSS bridge the most valuable aspects of both products and services: the assumption behind PSS is that consumers' satisfaction is in the utility of a product, and not necessarily in the product itself (Mont, 2002). The main element of PSS is thus that value stems from access rather than from possession (Schotman & Ludden, 2014). PSS are similar to the idea behind a functional economy, since they focus on providing service options while lowering material resources and maintaining a high level of quality and satisfaction (Mont, 2002).

As discussed earlier, PSS are not only about satisfying the customer, but also about using less environmental resources. According to Tukker and Tischner (2006), PSS rely on two basic foundations: 1) the satisfaction or final functionality desired by the user as a starting point while developing a PSS model; 2) providing the PSS in a way that causes less environmental harm. However, the potential of PSS to increase functionality and user satisfaction is what has captured researchers' attention, and not that of having less environmental impact or increasing profits (Rexfelt & af Ornäs, 2009). According to Tukker (2004), the fact that developing a PSS automatically results into 'an environmental-economic win-win situation' is just a myth. It must be noted that PSS do not by definition reduce consumption, they just have the potential to do so (Tukker & Tischner, 2006). In order for PSS to mitigate environmental harm, emphasis should be put on the word 'system'. Namely, without effective system solutions and a systematic way of thinking, it is likely that the offered balance between services and products still results in the same environmental impact as before (Mont, 2002). Thus, the development should include not only products and services, but also the supporting networks or stakeholders and acquired infrastructure. Additionally, system thinking also means companies should focus more on the use of a product, rather than on the product itself (Lee & AbuAli, 2010). PSS should be considered as a shift from customers paying for pre-defined solutions towards paying for functions (Beuren, Ferreira & Miguel, 2013; Rexfelt and af Ornäs, 2009). Considering previous works, PSS are about fulfilling customers' needs by offering functions that replace (aspects of) products. They require a systematic way of thinking, which ultimately leads to dematerialization, and thereby they have the potential to be less harmful for the environment. Hence, to fully grasp the concept, this study will use the proposed definition of PSS by Mont (2002), who defined PSS as "a system of products, services, supporting networks and infrastructure that is designed to be competitive, satisfy customer needs and have a lower environmental impact than traditional business models" (p. 239).

Accordingly, Tukker (2004) uncovered three categories of product-service systems, which have been widely used by other studies on PSS. The categories gradually shift from product-focused to a more abstract way of fulfilling the customer's needs: this means that with each category, the provider has increasing freedom in the way he satisfies the consumer's demands. The three categories are:

- **Product-oriented services**, which offer some extra services although the main focus remains on selling products (Tukker, 2004). The current product system remains intact while the additional services make the sale extra valuable (Armstrong et al. 2015; Tukker & Tischner, 2006). This can for example be in the form of offering maintenance,

by implementing take-back systems for clothing, or by offering washing advice (Armstrong et al. 2015; Stål & Jansson, 2017).

- **Use-oriented services**, which are based on a business model that still offers traditional products, but where the essence shifts from selling the products to intensifying their use (Tukker, 2004; Tukker & Tischner, 2006). Ownership remains within the company and the product is accessible for consumers in a different way, such as through product leasing, renting, or sharing and pooling (Armstrong et al. 2015; Tukker, 2004). For instance, some Swedish clothing firms rent out clothes from their older collections for short periods of time (Stål & Jansson, 2017). Collaborative consumption can also be treated as a form of use-oriented PSS, since it entails acquiring and distributing resources in exchange for compensation, either in the form of a fee or a non-monetary reward (Belk, 2014), and it aims at sharing the functionality of products rather than owning them (Belk, 2014).

- **Result-oriented services** which are similar to use-PSS insofar as the provider retains ownership but differ in the way they satisfy consumers' demands. Result-PSS are the rarest and the most focused on customers' needs within the three categories (Tukker & Tischner, 2006). No product is determined beforehand, but the result depends on agreement between customer and provider. According to Cook (2014), with this type of PSS products are completely replaced by services; fulfilling one's need is based on performance itself and not on product use for a certain amount of time. This means that a capability or result, rather than a product, is sold. An example of this kind of PSS is making use of a laundry service to wash clothes instead of renting or owning a laundry machine (Cook, 2014). However, results-PSS are very rare and due to the abstractness of the concept, no clear examples of result-oriented services in fashion have been identified.

Following Tukker (2004), product-oriented PSS are the easiest to implement, while the results-oriented category has the highest potential to reduce the environmental impact through dematerialization. In short, considering the three different types, PSS can be in different forms such as advice, renting, redesign, pooling, or consulting, which makes these business models less reliant on natural resources and creates a longer life cycle, increasing quality of products, as well as consumer satisfaction (Armstrong et al. 2015). This study will focus on a clothing use-PSS in the form of collaborative consumption through rental: by paying a membership fee, consumers receive selected second-hand clothing items, which they can keep and use for one month before sending them back. The service element entails that the clothes are pre-selected by a personal stylist based on the customer's preferences, they are home delivered, and the provider is responsible for their maintenance (e.g. cleaning, sewing). Additionally, customers have the option to send feedback to the provider. The focus of this specific type of PSS lies on the function or utility of the clothes, while ownership is completely removed and the lifecycle of the garments is prolonged.

2.1.1 Acceptance and Adoption of PSS

According to Vezzoli et al. (2015), a key reason why adoption of sustainable PSS needs to be pushed is that they can immensely reduce the use of natural resources and environmental harm through consumption, while consumer's satisfaction and sense of well-being stay intact. However, adoption and diffusion highly depend on consumers' acceptance of the PSS (Vezzoli et al. 2015). Even though research on PSS has increased in the past decades, studies on consumers' attitudes towards PSS are still limited. Despite the growing amount of PSS initiatives, it is important to note that these business models are far from becoming mainstream, since PSS are radical innovations that require behavioral change (Vezzoli et al. 2015), which often defies providers' efforts and is problematic for PSS diffusion. Briefly, a lack of user acceptance of PSS stands in the way of diffusion and adoption.

A tough challenge for the adoption of (clothing) use- PSS is that loss of ownership requires a new way of consuming (Armstrong et al. 2015). As a matter of fact, shifting from ownership-based to accessibility-based consumption (Vezzoli et al. 2015) demands a cultural change, since consumers are used to buying and acquiring products, as opposed to paying for their utility only (Beuren, Ferreira & Miguel, 2013). This necessary transition can explain why PSS are not widely accepted yet (Rexfelt & af Ornäs, 2009). A curious and puzzling example is that renting cars is common, while car sharing is not, even though in both cases the user does not own the car. Thus, it seems that acceptance does not depend on the type of PSS, but on how much change is needed for adoption (Schotman & Ludden, 2014). Moreover, complex adjustments to daily life and resistance to change and to commitments were also uncovered as problematic for acceptance of PSS (Rexfelt & af Ornäs, 2009).

Another issue concerning ownership is the fact that possessions are used as a means to express one's identity (Belk, 1988). As clothing especially is used as a form of identity construction, lack of ownership of the garments could be a barrier for adopting a use-PSS (Armstrong et al. 2016). Since material ownership is used to express oneself, it has emotional meaning (Catulli, 2011; Mont, 2001). The higher the emotions attached to ownership, the less likely that consumers are willing to replace the product with a service to simply access the function. However, access-based consumption also has its benefits: not only does it lift the commitment and the responsibility usually brought by ownership, such as maintenance, but it can also reduce potential risks (Catulli, 2011; Schaefers, Lawson & Kukar-Kinney, 2016), i.e. financial, performance, and social risks. The higher the perceived risk involved in the purchase, the higher the chance consumers choose access-based consumption instead of ownership (Schaefers, Lawson & Kukar-Kinney, 2016). Furthermore, Armstrong et al. (2016) uncovered that lack of ownership can fulfill the constant desire for change in consumers' wardrobes, which is caused by boredom or seasonal fashion changes. Moreover, it was found that fashion-oriented females do not mind the lack of ownership, as long as it provides an instrument to construct their identities and lifestyles (Armstrong et al. 2015). Hence, lack of ownership within access-based consumption can be perceived as both a barrier and a solution depending on the context.

Another essential aspect when looking into the acceptance of PSS is the relationship between company and customer, as service provision is central to PSS (Mont, 2002). Research by Rexfelt and af Ornäs (2009) uncovered that uncertainty reduction and relative benefits in comparison to alternatives were the main factors determining acceptance of PSS. As

uncertainty is a prominent factor in PSS acceptance, trust in the provider is crucial for success (Armstrong et al. 2015; Catulli, 2011; Rexfelt & af Ornäs, 2009). In the case of clothing use-PSS, lack of trust could be related to insecurity regarding hygiene and quality (Armstrong et al. 2016; Catulli, 2011). Moreover, it was found that consumers are concerned about the practical implications that PSS adoption could have on their lives, and less so about the environmental benefits it could bring (Catulli, 2011; Rexfelt & af Ornäs, 2009). Additionally, perceived financial benefit appeared to be key to PSS adoption in general (Rexfelt and af Ornäs, 2009), customer experience in use-PSS (Schallehn, Seuring, Strähle & Freise, 2019), consumption of second-hand clothing (Cervellon, Carey & Harms, 2012), and fashion use-PSS in form of rental (Armstrong et al. 2016). Thus, consumers must perceive the cost-benefit ratio as worthy to adopt use-PSS.

Although studies on PSS have become more numerous, research on clothing-PSS specifically is still at its infancy. Yet, PSS models offer the fashion industry interesting ways to become more sustainable by extending product life cycle, reducing landfill disposal, and increasing demand for second-hand items (Armstrong et al. 2015). To understand why clothing PSS are still scarce in the market, Armstrong et al. (2015) investigated consumer perceptions of clothing PSS features by conducting focus groups. Results showed that positive attitudes were mostly arising from perceived environmental benefits and emotional factors, which related to the experiential and social aspects of the PSS model, while negative views were explained by the perceived difficulty of use and absence of trust in the provider. This research was conducted qualitatively, and consumer perceptions were based on narratives about different fashion PSS scenarios. Instead, the present study will contribute to previous literature by applying a quantitative approach to draw more generalizable conclusions and measure consumer perceptions more accurately through a real, concrete case, as opposed to hypothetical scenarios.

Furthermore, even though consumer acceptance and adoption intention of PSS were investigated, research considering actual users of PSS is still very scarce and thus needs more contributions. A recent study by Lang, Li and Zhao (2020) used text-mining within customer reviews of three different fashion rental companies to identify benefits and costs from a user perspective. Results showed that, generally, experiential and utilitarian value, ease of use (e.g. website navigation), and financial benefit were perceived as advantages by users. However, it should be noted that two out of the three fashion rental companies considered exclusively rent out designer items, while just one offers casual wear. Experiential value and financial benefit, then, were mainly related to experiencing high-end fashion which would otherwise not be affordable for users; however, experiential value was also extracted from having so many options to choose from. Main concerns related to poor service and lacking product quality (Lang, Li & Zhao, 2020). Moreover, it must be noted that high-end products bring demanding expectations. Hence, if the study had focused only on casual wear rental firms, the outcome would probably have been different. Another study on actual PSS adopters (Piscicelli, Cooper & Fisher, 2015) took Ecomodo, an online platform for collaborative consumption in the UK, as a case, and conducted surveys with its registered users. Yet, the final responses considered were only 63, which is very limited to draw conclusions from.

In short, previous studies have uncovered some challenges and barriers behind consumer acceptance of different kinds of PSS. These mostly relate to behavioral change (Vezzoli et al. 2015), perceived risk (Schaefers, Lawson & Kukar-Kinney, 2016), trust in the provider (Rexfelt

& af Ornäs, 2009), financial benefit (Armstrong et al. 2016) and lack of ownership (Armstrong et al. 2015). However, research on use-PSS in the form of clothing rental is still scarce and several aspects regarding consumer acceptance remain under-investigated. Moreover, studies have paid limited attention to actual users of PSS and therefore information about them and their motives is minimal. Based on this, this dissertation will contribute to previous literature by diving deeper into consumer acceptance of use-PSS in the form of second-hand clothing rental, including adopters of this kind of service.

2.1.2 Consumer Characteristics in relation to PSS

Close collaboration with consumers is of great importance when designing a PSS and uncovering and satisfying their needs is key (Rexfelt & af Ornäs, 2009). Part of this process is comprehending their characteristics and which implications these might have on their willingness to accept and adopt PSS. Since the failure or success of PSS highly depend on market acceptance, it is important to dive deeper into consumers' characteristics and assess whether these influence adoption intention of PSS. However, studies on consumer characteristics, along with quantitative research, in relation to PSS are very limited. The first study combining personality traits and collaborative consumption in fashion was only conducted very recently; this research by Lang and Armstrong (2018b) addressed the effects of personality traits on consumers' intention to rent and swap clothing and fashion leadership, need for uniqueness, and materialism were found to exert influence on both options (Lang & Armstrong, 2018b). Nonetheless, this research was based on two hypothetical scenarios for clothing rental and swapping and it was not clear if these included details such as price (e.g. membership fee) and types and brands of clothing. So, the present study will describe the clothing rental service more accurately and will elaborate on other consumer characteristics that were not addressed within this research context.

2.1.3 Research gaps regarding PSS

Considering previous literature, a few gaps were identified. First of all, the limited amount of quantitative research conducted mostly used hypothetical scenarios in surveys for clothing-PSS (e.g. Armstrong et al. 2016, Lang & Armstrong, 2018b). Given that details on, for instance, membership fees, available clothing brands, and the service itself were not provided, it is argued that the measured consumer perceptions could be less accurate. In fact, the firms of the scenarios included in these surveys could have been perceived as less realistic, as they were not related to existing cases. Therefore, the present study offer an existing example with a detailed description of the service, so that respondents can accurately form their opinion. Second, there is a very limited amount of studies investigating adopters of PSS, and even less quantitative research on adopters of clothing use-PSS. Many studies are conducted qualitatively, since the concept is relatively new and thus these serve as conceptual and exploratory research. The lack of quantitative works and of investigations of users of clothing use-PSS could be explained by the fact that not many successful PSS business models have been developed yet and adoption is far from being widely implemented. Third, studies on consumer characteristics influencing attitude towards PSS are scarce, while being crucial. Consequently, this study will elaborate on consumer characteristics that have not been addressed within this research context.

Furthermore, it was found that no previous work focused on clothing use-PSS was based on second-hand clothing. Instead, research mainly addressed high-end fashion rental or rental of older collections from established shops. The difference is not only the perceived financial cost-benefit ratio, but also that second-hand items do not usually belong to the latest fashion. Then, studying second-hand clothing is expected to show different results, since it creates a different image for, and expectations from consumers. Considering the discussed literature and the current research gaps within PSS, this study will contribute to the academic field by conducting a quantitative study investigating consumer characteristics effecting attitude towards a specific use-PSS in clothing and the effect of the latter on adoption intention.

2.2 Second-hand Clothing

Second-hand apparel consumption has been on the rise during the past two decades, along with a surge in interest for sustainable fashion and the growing popularity of retro taste among consumers (Beard, 2008). Once dictated by financial constraints and relegated to marginal and unappealing forms of retail such as flea markets, second-hand fashion is now acceptable (Guiot & Roux, 2010) and even trendy, thanks to its association with exclusivity in the mind of consumers, who often see it as a way to acquire unique pieces (Beard, 2008).

After inspecting a considerable number of studies and some reviews of the literature, it appears that second-hand fashion consumption is driven by four main, intertwined motives. The first is economic, encompassing the "gratificative role of price" (Guiot & Roux, 2010; Roux & Guiot, 2008), also referred to as "bargain hunting" (Cervellon, Carey & Harms, 2012; Herjanto, Scheller-Sampson, & Erickson, 2016). Ceteris paribus, second-hand clothes are usually more affordable than new items, which makes them especially attractive for lower-income groups and students (Sorensen & Jorgensen, 2019; Yan, Bae & Xu, 2015). Indeed, research found that price sensitivity and frugality are significant predictors of second-hand consumption (Cervellon, Carey & Harms, 2012; Guiot & Roux, 2010).

The second driver is recreational and includes several dimensions, likely due to the frequent overlap of second-hand with vintage clothing. Through this lens, second-hand apparel provides consumers with originality, uniqueness and freedom, and authenticity (Beard, 2008; Ferraro, Sands & Brace-Govan, 2016; Roux & Guiot, 2008; Sorensen & Jorgensen, 2019): in sum, it enables to create a personal style, as opposed to mainstream fashion (Bly, Gwozdz & Reisch, 2015). Further, second-hand shopping can become an exciting experience, a treasure-hunt to find gems hidden under a pile of unsorted clothes, and a social experience (Guiot & Roux, 2008). The recreational motive is also connected to nostalgia, as second-hand clothes that are representative of a certain style enable consumers to feel connected to the time in the past where such style was fashionable (Galvagno & Giaccone, 2015; Herjanto, Scheller-Sampson & Erikson, 2016; Roux & Guiot, 2010).

Third, the literature identifies some critical motives for second-hand clothing consumption (Ferraro, Sands & Brace-Govan, 2016; Galvagno & Giaccone, 2015).Some consumers acquire second-hand apparel to distance themselves from the standard market system (Roux & Guiot, 2008) and to criticize the contemporary fashion paradigm (Bly, Gwozdz & Reisch, 2015). For example, Bly, Gwozdz and Reisch's (2015) study on "sustainable consumption pioneers" finds

that these consumers choose second-hand to resolve the tension between affordable fast-fashion and expensive sustainable apparel, and to resist the barriers to sustainable consumption, especially the high price.

Whereas Guiot and Roux (2010) and Roux and Guiot (2008) include "ethics and ecology" in the critical motive, others treat environmental concern as a separate driver. Being "green" has yielded different results when analyzed as a predictor for second-hand clothing consumption, probably due to the well-known attitude-behavior gap in sustainable consumption (Vermeir & Verbeke, 2006). Indeed, ecological consciousness was not found to affect second-hand apparel purchase directly (Cervellon, Carey & Harms, 2012), and other authors warn that the sustainability value of second-hand clothing does not necessarily turn into heightened opinions or increased purchase (Sorensen & Jorgensen, 2019), nor is it always a motive to shop second-hand (Yan, Bae & Xu, 2015). However, most research recognizes that those consuming second-hand fashion are more likely to be environmentally-conscious, and that concern for the ecosystem has pushed Western societies in particular to seek alternative production and consumption methods, such as second-hand fashion (Armstrong et al. 2015; Cervellon, Carey & Harms, 2012; McNeill & Moore, 2015), a phenomenon especially visible among Millennials (Sorensen & Jorgensen, 2019). Second-hand clothing appears as a viable solution to resolve the eco-conscious consumer's "ethical and sartorial dilemmas" (Beard, 2008, p. 457) by making them feel less guilty about their consumption volumes while acquiring new and interesting pieces.

Nevertheless, second-hand fashion is a broad concept, which makes it complex and in need of a clearer definition. As a matter of fact, second-hand apparel, sustainable fashion, and vintage clothes are often seen as synonyms (Beard, 2008; Bly, Gwozdz & Reisch, 2015; Cervellon, Carey & Harms, 2012; McNeill & Moore, 2015): this, however, leads to nebulous results when analyzing the motives behind second-hand clothing consumption. For clarity, in this study second-hand apparel refers to items of clothing that were previously owned by someone and were disposed for resale. A second issue is that some studies do not separate the clothes (product) from the store where they are found (point of sales) (Guiot & Roux, 2010): for example, comments about the dirtiness or untidiness of second-hand stores are mixed with those about the garments, which again produces spurious insights about consumers' attitudes towards second-hand and excludes online retailers. Third, linked to the previous point, the focus in the literature is often on shopping for second-hand clothes, which may differ if ways of consumption that do not imply ownership, such as rental, were considered. Hence, based on these gaps and inconsistencies, further research is necessary to acquire a clearer picture about consumers' attitudes towards second-hand clothing. Moreover, to the knowledge of the authors, no study has so far investigated a service for renting second-hand clothes online, which asks for new insights on the matter.

2.3   The Theory of Planned Behavior

Many studies within sustainable consumption and PSS are based on the Theory of Planned Behavior (Ajzen, 1991). This theory, from now on referred to as TPB, is intended to predict and explain human behavior in specific situations (Ajzen, 2002): here, behaviors, or actions, are determined by the individual's intention to perform them, where the intention factor is an

aggregate of several motivational elements. Attitudes, social norms, and perceived behavioral control are the most powerful predictors of intention, and each of the three is in turn a function of salient information or beliefs relevant to the behavior (Ajzen, 1991). The model is depicted in Figure 1 below.
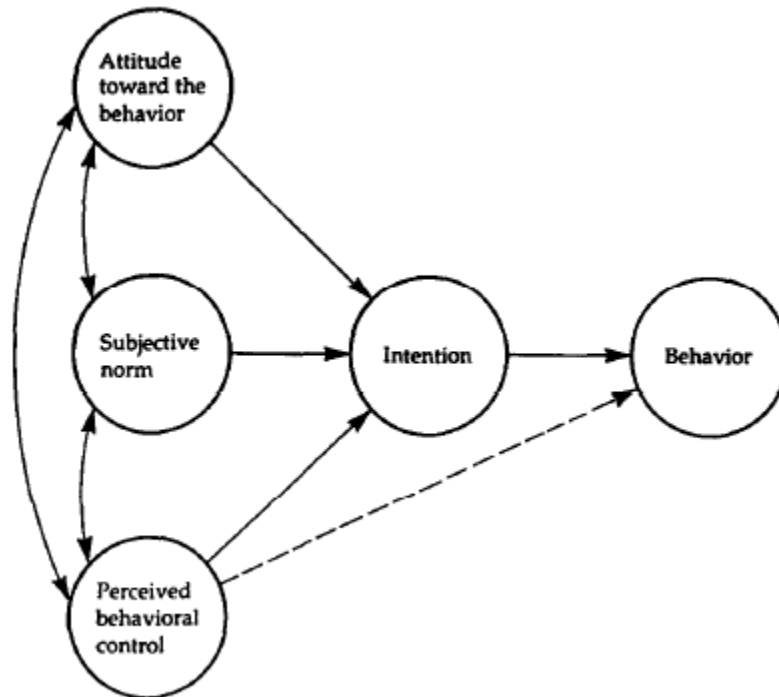
Figure 1: Theory of Planned Behavior (Ajzen, 1991)

According to the model, attitude indicates whether the individual maintains a positive evaluation of the action, so that the more favorable the appraisal, the more likely the performance of the behavior in question (Ajzen, 1991). Attitude can in turn be explained by the behavioral beliefs around the action as held by the individual, i.e. its expected consequences, characteristics, or other attributes (Ajzen, 2002), which are based on past experience or other relevant information. Interestingly, the consequences or attributes considered are already appraised as desirable or not, hence attitude is formed automatically (Ajzen, 1991). For example, when evaluating eating candy, an expected attribute may be "enjoyable", which is valued as positive across all behaviors, so that the actor will simultaneously form a positive attitude towards eating candy.

Other predictors in the TPB are subjective norm, described as "the perceived social pressure to perform or not perform the behavior" (Ajzen, 1991, p.188), and perceived behavioral control. This latter element was added to the Theory of Reasoned Action (Ajzen & Fishbein, 1980), of which the TPB is an extension, and represents the individual's expected ease of carrying out the behavior. Taken together, the more positive the attitude, the stronger and more favorable the subjective norm, and the greater the perceived behavioral control, the more powerful the individual's intention to perform a given behavior. However, the attitude element was often found to have the highest predictive power for intention (White, Smith, Terry, Greenslade &

16

McKimmie, 2009). Indeed, Ajzen (1991) noted that attitude and perceived behavioral control have the strongest impact in the model, although the relative weight of each of the three antecedents of intention is likely to be context-dependent.

While being a widely employed framework in research, the TPB has attracted substantial criticism. For instance, some authors objected to the implication that actors consistently take a rational approach when engaging in a behavior, as the roles of unconscious influences (Sheeran, Gollwitzer & Bargh, 2013) and emotions (Conner, Godin, Sheeran & Germain 2013) are not included in the model. Other crucial determinants were brought to light by research, such as ethics, situational factors, personality traits, and demographics. For example, within the technology adoption domain, Morris and Venkatesh (2000) and Morris, Venkatesh and Ackerman (2005) respectively found that age affects the relative salience of each of the TPB elements on intention, and that age and gender are significant moderators on the relationship between the TPB elements and intention. Indeed, Ajzen and Fishbein (1980) acknowledged how personality, along with demographics, is a significant predictor of behavior at the aggregate level, but much less so when specific actions are considered. However, such factors are assumed to exercise their influence on behavior indirectly, through the elements of the TPB model (Ajzen, 1991).

Most interestingly, it appears that the antecedents of the attitude component remain an under-researched area, and that attitude is often treated as a black box, although it plays a major role in predicting intention and therefore behavior. Uncovering some of its determinants could however prove extremely useful, since they could be targeted through appropriate communications. Within the context of use-PSS for clothing, certain consumer characteristics may prove valuable for the study of drivers and barriers to their adoption. Indeed, a direct relationship between some personality traits and attitude towards certain behaviors was already found in the literature: for example, Lang and Armstrong (2018b) showed that fashion leadership, need for uniqueness, and materialism directly affect attitude towards sustainable consumption. In sum, the TPB offers a useful conceptual framework for researching the complexities of human social behavior (Ajzen, 1991), but an overfocus on its classic elements without a deep understanding of the external factors determining them may hinder its predictive power: thus, this research focuses specifically on the attitude component of the TPB model and seeks to uncover whether six consumer characteristics, as presented later, can help explain it.

Finally, both the subjective norm and perceived behavioral control factors are outside the scope of this study, so that attitude alone is considered as antecedent of intention. This is motivated by the authors' specific interest in attitude and by previous findings that attitude has the strongest explanatory power (White et al. 2009), especially over the subjective norm (Armitage & Conner, 2001). Considering the above, this dissertation will investigate the effect of fashion leadership, shopping enjoyment, instrumental and terminal materialism, green self-identity, and social influence susceptibility on attitude towards a use-PSS for second-hand clothing.

2.4   Hypotheses Formulation

2.4.1   Fashion leadership

Fashion leadership is important to investigate, as fashion leaders are of essence in diffusing new fashion trends and change (Goldsmith, Freiden & Kilsheimer, 1993). Therefore, considering the aforementioned barrier of habit change and the issues around acceptance of clothing use-PSS, it is important to attract fashion leaders and get them engaged. Previous literature has discussed the roles of fashion leadership, fashion opinion leadership, and fashion innovativeness. According to Kang and Park-Poaps (2010), the latter two form the dimensions of fashion leadership: thus, fashion leaders score relatively high on fashion innovativeness and opinion leadership (Hirschman & Adcock, 1978). Specifically, fashion leaders are consumers who have the urge to try and purchase new fashion earlier than most and can influence others to accept or reject new styles (Kang & Park-Poaps, 2010; Workman & Studak, 2006). However, previous studies have treated either fashion opinion leadership or fashion innovativeness as equivalent to fashion leadership (e.g. Beaudoin, Moore & Goldsmith, 2000; Bertandias & Goldsmith, 2006). This study considers fashion leaders as consumers who are fashion-oriented, pioneers in fashion trends, and hence are the first ones to try the newest things (Beaudoin, Moore & Goldsmith, 2000; Bertrandias & Goldsmith, 2006; Goldsmith, Freiden & Kilsheimer, 1993; Kang & Park-Poaps, 2010; Workman & Studak, 2006).

As discussed earlier, access-based consumption is not yet widespread, so that clothing use-PSS are especially far from becoming mainstream, also due to them being a relatively new phenomenon. Acquiring a new style, or new way of fashion consumption, requires a willingness to take risks (Workman & Lee, 2016); indeed fashion leaders are driven by change and are characterized as curious, risk-taking, and as early adopters (Cho & Workman, 2014; Kang & Park-Poaps, 2010). They also have a high sense of innovativeness and are very confident in their standpoints and styling choices (Cholachatpinyo, Padgett, Crocker & Fletcher, 2002). Additionally, these consumers are attracted to newness and as it turns out, not only in fashion items, but also in ways of consuming fashion (Lang & Armstrong, 2018b). For example, the act of swapping or renting enables them to create new and affordable looks by using and combining garments in an innovative way, which they may enjoy even more with second-hand clothing, as one can never know what they will find. Moreover, female fashion leaders are variety-seekers and are not scared of switching brands (Cho & Workman, 2014). They use clothing to differentiate themselves from others, and this drives them to constantly look for new items (Beaudoin, Moore & Goldsmith, 2000; Cholachatpinyo, et al. 2002). Additionally, one of the motivations behind rental is the ability to fulfill a need for fashion change by updating items in one's wardrobe without the burden of ownership (Armstrong et al. 2015), which is expected to strongly resonate with fashion leaders. Therefore, clothing use-PSS through rental offer a chance for fashion leaders to take a pioneer role and to fulfill the need for variety in their wardrobe through constant change.

Furthermore, a positive relationship between fashion leadership and engagement in several sustainable clothing product-service systems, such as clothing rental, was confirmed (Lang & Armstrong, 2018a), and it was found that fashion leadership has a positive effect on attitude towards sustainable fashion consumption, more specifically towards spending more money on

sustainable clothing (Armstrong 2018a, 2018b). Thus, the fact that fashion has a short life cycle and fashion leaders often change wardrobes does not necessarily mean it conflicts with willingness to consume sustainably. In fact, clothing rental can make wardrobe changes possible for every fashion leader, even for those without a high income. However, it should be noted that both studies by Lang and Armstrong (2018a, 2018b) only used hypothetical scenarios for clothing rental with a very limited description, namely a rental service where consumers could rent fashion items for a short period of time. The current study will add to their research by including details on, e.g., available brands, price, and overall service.

In sum, it is important that fashion leaders positively evaluate a clothing use-PSS and ideally adopt it, since this will potentially stimulate the diffusion of this new way of fashion consumption. It is expected that even fashion leaders who do not have a positive attitude towards sustainable consumption will be more keen to adopt clothing use-PSS in the form of rental since they offer an extra and new way to experiment with new styles and add constant change to one's wardrobe without a substantial financial investment. Considering fashion leaders are innovative, risk-taking, and pioneers in fashion, it is expected that consumers with a high level of fashion leadership will have a positive attitude towards clothing use-PSS. Consequently, the following hypothesis is proposed:

H1: *There is a positive relationship between fashion leadership and attitude towards a use-PSS for second-hand clothing rental.*

2.4.2 Shopping Enjoyment

A prominent motivation for consumers to become involved in a certain behavior is the feeling of enjoyment (Lang, 2018). Shopping enjoyment was defined by Odekerken-Schröder, De Wulf and Schumacher (2003) as "a consumer's personality trait representing the tendency to find shopping more enjoyable and to experience greater shopping pleasure than others'' (p. 181). While utilitarian shoppers perceive such activity solely as a necessary task, hedonic consumers have a high level of shopping enjoyment and find shopping entertaining (Babin, Darden & Griffin, 1994), along with considering it to be a pleasant and rewarding experience (Arnold & Reynolds, 2003). Arnold and Reynolds (2003) found six categories of hedonic reasons behind why people go shopping: adventure shopping, gratification shopping, social shopping, role shopping, value shopping and idea shopping. For hedonic consumers, shopping is more than a necessity and is considered a recreational activity in which they can even experience psychological rewards (Guiry, Mägi & Lutz, 2006; Kim & Kim, 2008). In short, shopping enjoyment implies holding positive emotions towards the whole shopping process, especially within certain product or service categories (Seiders, Voss, Godfrey & Grewal, 2007).

In addition, Cox, Cox and Anderson (2005) discuss six sources of shopping enjoyment, namely: mingling with other shoppers, bargain hunting, browsing, sensory stimulation, being pampered, and kinesthetic experience. Bargain hunting appeared to be the most enjoyed shopping experience, with over 70% of respondents finding it as at least a bit enjoying (Cox, Cox & Anderson, 2005). Accordingly, the enjoyment retrieved from getting a rush out of finding a bargain was highly recognized by almost 80% of the respondents; bargain hunting as a major source of shopping enjoyment was followed by browsing, being pampered and sensory

stimulation (Cox, Cox & Anderson, 2005). Browsing, also referred to as window shopping (Kim & Kim, 2008), is defined as "the examination of a store's merchandise for recreational or informational purposes without a current intent to buy" (Bloch & Richins, 1983, p. 289). Findings by Kim and Kim (2008) show that consumers with a high level of shopping enjoyment are more drawn to browsing and bargain hunting than those with low levels.

Regarding second-hand shopping, Guiot and Roux (2010) distinguished three types of motivations: economic, hedonic/recreational and critical. Recreational motivations for second-hand shopping were found to be social contact, nostalgic pleasure, treasure hunting, and originality (Guiot & Roux, 2010). Since originality and nostalgic pleasure relate mostly to the second-hand clothing itself, this can still be attained by subscribing to a second-hand clothing use-PSS. However, the service aspect would replace the experience of actual shopping and thus the pleasure of social contact and the positive feeling derived from treasure hunting would not be apparent.

Considering the discussed motivations behind shopping and sources of shopping enjoyment, a clothing use-PSS could eliminate the experiential pleasure hedonic consumers obtain from the act of shopping. Within a complete service for second-hand apparel rental, the clothes are already bought by the provider, are being preselected by a personal stylist, and all the customers have to do is wait for the package to arrive. This removes the experience and the adventurous aspect of the shopping process, mainly the enjoyment derived from bargain hunting, browsing, and sensory stimulation. Considering this, it is likely that consumers with a high level of shopping enjoyment will find a use-PSS for second-hand clothing rental unappealing, boring, and unsatisfying. Therefore, this study will test the following hypothesis:

H2: *There is a negative relationship between shopping enjoyment and attitude towards a use-PSS for second-hand clothing rental.*

2.4.3 Instrumental and Terminal Materialism

The influence of materialism has often been investigated in relation to sustainable consumption (Akbar, Mai & Hoffmann, 2016; Lawson, Gleim, Perren and Hwang, 2016), also specifically for clothing rental (Armstrong et al. 2018b ; Durgee & Colarelli O'Connor, 1995; Johnson, Mun & Chae, 2016). Indeed, this consumer characteristic appears to be very relevant for systems of consumption that remove the ownership component, as it is the case for use-PSS. However, the great deal of attention attracted by materialism in the literature has led to an abundance of definitions and measurements, with the most widely employed conceptualization being the one proposed by Richins & Dawson (1992). According to these authors, materialists usually evaluate their and other individuals' success based on those possessions that can confer status and "project a desired self-image and identify one as a participant in an imagined perfect life" (p. 304). In their view, materialism is a value which reflects the centrality of possessions to reach certain end states (e.g. happiness) and guides behavior in various contexts, also beyond consumption domains. Consequently, within this conception, materialism is inherently negative, and possessions only satisfy non-utilitarian needs (Richins & Dawson, 1992).

However, some authors have opposed this one-sided conceptualization, suggesting that the purpose of consumption should also be considered along with the importance of possessions (Holt, 1995; Scott, 2009). When looking at consumers' motives, it becomes clear that consumption is not always dictated by non-utilitarian whims, but it may address basic needs (Maslow, 1943). A stream of research thus developed, which also acknowledges that utilitarian consumption may entail some degree of materialism and differentiates between instrumental and terminal materialism (Belk & Pollay, 1985; Csikszentmihalyi & Rochberg-Halton, 1978; Scott, 2009): the main difference between the two lies in how the possession is a source of value for the individual, either for the mere fact of owning it or for the goals it helps achieve. It is the opinion of the authors that separating these two dimensions of materialism can be very relevant to the present study, because consumers engage in, and appreciate clothing for different reasons, such as for the pleasure derived by possessing it (Browne & Kaldenberg, 1997) and for more utilitarian aspects (McNeill & Moore, 2015).

Unfortunately, this distinction did not significantly spread across the literature, probably because the first conceptualization and definitions of the dichotomy, by Csikszentmihalyi and Rochberg-Halton, 1978) were complicated to use and at times contradictory, as criticized by Richins and Dawson (1992). Therefore, Scott (2009) built on such criticism, reconceptualizing materialism as an overarching idea reflecting the importance of possessions for the individual and the motives behind consumption, including two separate constructs. Her definitions will be employed in the present study.

Instrumental Materialism

Instrumental materialism is defined as "the importance of material possessions as resources to accomplish tasks" (Scott, 2009, p.38), where the value of possessions stems from what they enable (Belk & Pollay, 1985), such as owning a car as a means of transport, or a sailboat for the love of sailing (Durgee & Colarelli O'Connor, 1995). From this definition, one can draw that consumers with higher instrumental relative to terminal materialism will value the functionality and the utilitarian aspects of products over ownership itself. In other words, ownership is not required to extract value from the act of consumption, as the use of the product is what these individuals are after.

Many studies on use-PSS address the issue of the removal of ownership, finding that it may provide perceived benefits for consumers, as storage and maintenance costs are lifted (e.g. Catulli, 2011; Schaefers, Lawson & Kukar-Kinney, 2016). Access-based consumption such as renting emphasizes the use and function of the product (Lang, 2018) and indeed Durgee and Colarelli O'Connor's (1995) research shows that instrumental materialism is positively associated with rental activity. Moreover, utilitarianism was found to be the main driver for access-based consumption in the automotive sector (Bardhi & Eckhardt, 2012) and for online fashion rental (Lee & Chow, 2020). Further, Lang, Li and Zhao (2020) uncovered that clothing renters were satisfied with the utilitarian benefits (i.e. strictly linked to usage) provided: specifically, rented apparel reportedly facilitated certain tasks such as job interviews or other formal events without incurring in large costs or ownership burdens. Finally, those consumers more interested in the utilitarian, functional features of clothing items indicated to be more engaged in sustainable fashion (McNeill & Moore, 2015).

From the above discussion, it is clear that consumers with a high degree of instrumental materialism derive more satisfaction from the use of products, as opposed to their ownership. This suggests that for these individuals the use of the garments is crucial, rather than the fact of possessing them and being able to afford the purchase. Thus, they may evaluate the use-PSS investigated by this dissertation more positively due to its focus on the use-value of the clothes, instead of their self-expressive and status-marking properties: specifically, the service in question enables subscribers to exploit all the desired value from the received pieces, including comfort, durability, and keeping one warm, only without the ownership component and the burden this would involve. These consumers may hence perceive the PSS as more convenient than owning garments, as they would not need to spend time shopping and would not require large storage space for them; additionally they may not be concerned for the fact that garments are preowned, since these still provide the functionality they seek. Since the use-PSS investigated in this paper provides subscribers with the full functional aspects of clothing while removing the possession component, it can be expected that consumers scoring high on instrumental materialism will hold a more positive attitude towards it. This discussion leads to the formulation of the following hypothesis:

H3: *There is a positive relationship between instrumental materialism and attitude towards a use-PSS for second-hand clothing rental*

Terminal Materialism

Terminal materialism is the "dark side" of materialism and reflects "the importance of material possessions in gaining status classification among others" (Scott, 2009, p.39): this is consistent with many definitions of materialism in the literature. It is manifest when the goal of acquiring something is owning it (Belk & Pollay, 1985), e.g. purchasing a sailboat to showcase wealth (Durgee & Colarelli O'Connor, 1995), or buying a car as a status symbol. The centrality of ownership to claim and display status is typical of what is termed a "consumer culture" (Richins & Dawson, 1992), and it seemed to be dominant when Belk and Pollay (1985) analyzed decades of advertising material to discern whether non-utilitarian or functional aspects were at the core. Materialism is also connected to overconsumption, as materialists expect a sense of happiness from acquisition and thus attempt to mitigate negative feelings such as guilt, anxiety, and post-purchase dissonance by buying more and more (Richins, McKeage & Najjar, 1992). Richins, McKeage and Najjar (1992) also found that materialists experience higher envy for the possessions of others, an additional negative emotion spurring increased consumption.

Apparel has always been used to convey one's status (Browne & Kaldenberg, 1997; O'Cass & McEwen, 2004) and for impression management (Richins, 1994), therefore one could argue that, as long as individuals can display their status through clothing items, ownership is not required for their satisfaction. However, it is crucial to precise that terminal materialism is distinct from status consumption (Flynn & Eastman, 1996), although they are interrelated (Goldsmith & Clark, 2012). Within the definition of terminal materialism in this paper, owning the items is central. Indeed, a study on clothing rental found that some consumers even felt uneasy with the idea of renting luxury items, due to the lack of satisfaction from being able to afford to buy them (Durgee & Colarelli O'Connor, 1995).

Materialists gain pleasure from possession (Browne & Kaldenberg, 1997); so, when considering a use-PSS, which, by definition, removes ownership of the good from the customer, a clash with terminal materialism can be expected. Research uncovered that materialism was negatively associated with rental activity (Durgee & Colarelli O'Connor, 1995), attitude towards access-based consumption (Akbar, Mai & Hoffmann, 2016) and renting apparel (Lang & Armstrong, 2018b), and experience with collaborative consumption, including rental of clothing (Johnson, Mun & Chae, 2016). Furthermore, McNeill and Moore's qualitative study (2015) uncovered that some consumers were particularly attracted to fast fashion, as opposed to sustainable fashion, as it enabled them to acquire more items due to the lower financial burden. Finally, consumers with higher levels of materialism were found to be more interested in the latest trends (Goldsmith, Flynn & Clark, 2012) and more involved in the purchase (Browne & Kaldenberg, 1997): however, the clothing provided by the service examined in this paper is second-hand, hence not up-to-date with the newest fashion, and it is not possible for customers to pick the items. Taken together, since ownership of the object, in this case of clothing items, is of essence for consumers with high terminal materialism, it is expected they will obtain little or no satisfaction from a use-PSS like the one under investigation, as the ownership component is lifted. The following hypothesis is consequently derived:

H4: *There is a negative relationship between terminal materialism and attitude towards a use-PSS for second-hand clothing rental*

2.4.4 Green Self-Identity

The objects individuals own are part of their extended self and they contribute to defining and reminding them of who they are (Belk, 1988). Thus, what one consumes is important for establishing and shaping their identity. Self-identity is referred to as labels that individuals use as a description for themselves (Cook, Kerr & Moore, 2002) and relates to their self-image and to which role(s) they identify themselves with. Specifically, green self-identity means perceiving oneself as a typical green, or pro-environmental, consumer (Barbarossa, Beckmann, de Pelsmacker, Moons & Gwozdz, 2015; Sparks & Shepherd, 1992; Whitmarsh & O'Neill, 2010). Green or environmental self-identity was found to positively influence attitudes and intention to adopt environment-friendly behaviors: for instance, it was uncovered that green self-identity had a positive influence on attitude towards adoption of electric cars (Barbarossa et al. 2015), and specific ecological brands (Bartels & Hoogendam, 2011), and the stronger one's identification with being an organic consumer, the more they intend to buy organic food products (Sparks & Shepherd, 1992).

Forms of access-based consumption, along with use-PSS, are characterized by dematerialization, and thus use of less natural resources, and they offer a way for consumers to have an environment-friendly impact (Lang, Li & Zhao, 2020). Furthermore, environmental consciousness was found to have a significant effect on second-hand clothing purchase (Cervellon, Carey & Harms, 2012). Indeed, second-hand clothing shoppers are more likely to be conscious about the environment and more accepting towards second-hand shopping than those who do not shop at second-hand clothing stores (Yan, Bae & Xu, 2015). However, by conducting in-depth interviews about two use-PSS (car sharing and renting nursery equipment), Catulli (2011) observed that consumers' environmental concerns and the negative impact of

their consumption habits were of low priority for acceptance of PSS. Rather, they were more involved with the practical implications adoption of one of these PSS would have on their life (Catulli, 2011). When investigating consumers' motivations behind second-hand shopping, Guiot and Roux (2010) did not only find economic and recreational motivations, but also uncovered a critical dimension. Second-hand shoppers with critical motivations shop second-hand because they reject the classic market system and want to fight mass consumption and its incentives (Guiot & Roux, 2010). They are also determined to find the use value in objects that others neglected and to reduce the use of natural resources (Guiot & Roux, 2010), which fits well with being a green, environment-conscious consumer.

Even though environmental concerns are not one of the strongest motivators for accepting and adopting PSS, it is important to note that green self-identity, or pro-environmental identity, goes beyond that. Namely, constructing one's identity is about establishing consistency and continuity in one's attitudes and actions (Whitmarsh & O'Neill, 2010), while concern may be context-dependent. Self-identity is a strong construct and, as previously mentioned, shaped by possessions that fit one's image of oneself: one behaves accordingly with the role they identify with, and thus green self-identity has a positive effect on attitude towards sustainable consumer behaviors. For example, consumers who consider themselves typical recyclers are more likely to recycle than those who do not consider themselves as such (Mannetti, Pierro & Livi, 2004).

For consumers, wearing second-hand clothing can serve to express being "green" (Yan, Bae & Xu, 2015). As fashion is used as a way for individuals to express themselves, consumers who identify themselves as being green could use fashion to signal this identity. Therefore, these individuals will be more likely to have a positive attitude towards a use-PSS for second-hand clothing, since it extends product life and clothing reuse can contribute to reducing the environmental impact of fashion consumption (Farrant, Olsen & Wangel, 2010; Stål & Jansson, 2017) by decreasing the production of new fashion items (Lang, Li & Zhao, 2020). Additionally, renting instead of owning has the potential to leave an even smaller ecological footprint, including less landfill waste. Considering the above, this research will test the following hypothesis:

H5: *There is a positive relationship between green self-identity and attitude towards a use-PSS for second-hand clothing rental*

2.4.5   Social Influence Susceptibility

Much of our daily consumption is a social behavior, and vice versa (Solomon, 1983): this especially applies to apparel. Fashion consumption is highly symbolic (Holt, 1998; Noesjirwan & Crawford, 1982), strongly related to impression management (Leary & Kowalski, 1990), status (Veblen, 1899), and one's self-concept (Solomon & Shopler, 1982). Most importantly, fashion is based on the antagonistic forces of individuality and conformity (Simmel, 1957), as consumers try to satisfy their need for a unique and original style without deviating too much from the norm when selecting their clothing. Indeed, garments, as most products, are "integral threads in the fabric of social life" (Solomon, 1983, p. 319). It is thus undeniable that fashion is inextricably tied to the social context in which one lives.

People adapt to the clothing code of different social situations (e.g. work, religious ceremonies, informal events) or the group they aspire to belong to (Solomon & Shopler, 1982), and, at the same time, they expect others to respect and conform to such code. From an early age, individuals learn about the appropriate clothing by collecting and evaluating social cues and responses to their outfits (Solomon & Shopler, 1982). Be it to gain social validation from an aspirational group while distinguishing themselves from others (Holt, 1998; Simmel, 1957), or to express their identity (Roach-Higgins & Eicher, 1992), individuals usually consider their social milieu for their apparel decisions. However, the degree to which they do is likely to differ, as some consumers may be more sensitive to the opinions of others and therefore more inclined to both seek information about what is acceptable and desirable in their social context and to conform to such social norms. The consumer characteristic determining this difference is referred to as social influence susceptibility. Social influence susceptibility is a trait representing the degree of influenceability of individuals (Bearden, Netemeyer & Teel, 1989), or "the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others" (p. 474).

Studies based on the Theory of Planned Behavior typically position social influence within the subjective norm component of the model (White et al. 2009), which, as mentioned earlier, has a direct effect on both intention and attitude (Ajzen, 1991). The subjective norm element also includes the extent to which an individual is motivated to comply with the perceived opinion of a referent person or group (Ajzen, 1991); however, this appears to be strongly context-dependent. In fact, individuals or groups considered for reference may change depending on the behavior in question, and so may the individual's motivation to abide by them. Further support that social influence susceptibility and motivation to comply are separate, although related constructs, is provided by Bearden, Netemeyer and Teel (1989). This research, instead, aims at uncovering the effect of a consumer's characteristic on attitude: considering social influence susceptibility as a trait (Bearden, Netemeyer & Teel 1989) implies it is much more stable across situations and the variation will be more between than within consumers. Indeed, Walters and Parke (1964) state that individuals present various degrees of behavioral modification due to positive or negative reinforcers by different social agents and after exposure to social models. Social influence susceptibility, then, is understood as an antecedent and a driver of social influence itself: the more susceptible a consumer is, the more likely he or she will be impacted by interpersonal influence.

Unfortunately, there do not seem to be many studies on the effect of social influence susceptibility on consumer behavior, although there are some exceptions. It was uncovered that susceptibility to interpersonal influence negatively affects consumers' attitude and behaviors towards unbranded jeans (Auty & Elliott, 1998); in turn, Rose, Boush and Friestad (1998) found that such trait influences preferences for clothing, e.g. by increasing the salience of both functional and display aspects. In addition, social influence susceptibility was also observed to be associated with consumers' predilection for Western-made apparel (Marcoux, Filialtraux & Cheron, 1997), although the study in question was limited to Poland in the late 90s and was based on a relatively small sample of students. There are also numerous works addressing social influence as an interaction (Zhang, Burke & Leikin, 2014) and the product of several social factors (Deutsch & Gerard, 1955). Within these streams, interpersonal influence was found to

affect consumers' behavioral intentions (Bearden & Rose, 1990; White et al. 2009), product and brand preferences (Khare, Mishra, Parveen, & Srivastava, 2011; Loureiro, Costa & Panchapakesan, 2017), and to be a moderator in impulse buying (Rook & Fisher, 1995). Researchers also investigated the effects of different measures of social influence within green consumption and these were found to positively impact consumers' green product purchase intention (Wang, 2014) and behavior (Khare, Mukerjee & Goyal, 2013; McNeill & Moore, 2015; Salazar, Oerlemans & van Stroe-Biezen, 2013). Interestingly, Barnes and Mattsson (2017) found that interpersonal influence did not play a role in consumers' intention to rent in a collaborative consumption context. Yet, their conceptual model, based on the Theory of Planned Behavior, placed interpersonal influence within the subjective norm component and did not include the relationship between the latter and attitude (Ajzen, 1991), wich may explain their negative findings. This paper will hence test a rather unexplored relationship, namely that between social influence susceptibility and attitude towards a use-PSS for second-hand clothing rental.

The use-PSS considered encompasses fashion, lack of ownership, second-hand clothing, and sustainable consumption, all issues that may be sensitive to social approval and concerns for status, and may thus entail complex linkages with social influence. As a matter of fact, lack of ownership conflicts with consumers' need for social status (Mont, 2002), as possessions are a widely pursued way to enhance one's self-presentation, gain recognition and have access to desired social relationships (Eastman, Goldsmith & Flynn, 1999). Further, second-hand consumption still carries some degree of social stigma (Yan, Bae & Xu, 2015), and some consumers may feel embarrassed about not owning the rented items (Catulli, 2011; Durgee & Colarelli O'Connor, 1995). It could be argued that some individuals may adopt the service in question to abide by social norms to reduce one's environmental footprint (McNeill & Moore, 2015), especially in a country like Sweden, home of *flygskam* (i.e. shame for flying). Yet, the authors of this paper hold that this type of social influence will be outweighed by pressures to stay up to date with new trends, display one's status, and own new clothing. Last, since the PSS under investigation is specifically for second-hand clothing rental and simply delivers items supposed to match the subscriber's style, it does not allow consumers to pick items and brands reflecting the way they want to express themselves (Armstrong et al. 2015) or what they think or expect their social milieu will approve of, as well as what is perceived as "normal". Therefore, it may be seen as a risky practice for someone sensitive to the opinions of others.

Since consumers with high social influence susceptibility will be more likely to gather cues about acceptable attitudes and behaviors and adapt to accommodate the social context in which they operate, a negative relationship between this characteristic and attitude towards a use-PSS for second-hand clothing can be expect, which leads to the sixth hypothesis:

H6: *There is a negative relationship between social influence susceptibility and attitude towards a use-PSS for second-hand clothing rental*

2.4.6   Attitude and Adoption Intention

Attitude has been found to be a direct and accurate determinant of intention, which is in turn the central element of the model, capturing the motivational factors that affect behavior (Ajzen,

1991). The importance of analyzing attitude and intention separately lies in the possibility that there may exist a gap between them (Vermeir & Verbeke, 2006). Indeed, Ajzen (1991) stated that the relative impact of attitude, subjective norm, and perceived behavioral control on intention is likely to vary across situations, and sometimes attitude alone is a sufficient predictor, as demonstrated by his review of 16 studies.

Since the product-service system under investigation requires a subscription and is hence subject to a recurrent fee, a consumer's decision to adopt it or not is expected to be a conscious and rational one, based on an assessment of the relative benefits and costs (Roos & Hahn, 2017). As attitude represents an individual's overall evaluation of performing a behavior (Ajzen, 1991), it is very likely that it will help explain intention, itself an antecedent of behavior.

A positive relationship between attitude towards collaborative consumption and intention to engage in it was found across several studies (e.g. Becker-Leifhold, 2018; Roos & Hahn, 2017, Hamari, Sjöklint, & Ukkonen, 2015 and Johnson, Mun & Chae, 2016 for collaborative consumption through online platforms), while no evidence was found for a significant effect of attitude on intention to rent apparel (Lang & Armstrong, 2018b). The latter result may be explained by the complexity of the model of such study, which included subjective norms, perceived behavioral control, and past sustainable behavior, as predictors. Most importantly, the researchers measured attitude towards a price premium for environment-friendly clothing, but intention addressed clothing rental specifically, which could have created inconsistencies. Further, intention was measured on a hypothetical scenario where a company rents clothing, so that respondents might have struggled with considering it realistic, which may have ultimately affected their ratings. The above discussion then leads to the last hypothesis:

H7: *There is a positive relationship between attitude towards a use-PSS for second-hand clothing rental and intention to engage in it*

Last, the authors reckoned it would be insightful to add two covariates to the analysis, namely age and attitude towards second-hand clothing, to control for their possible influences on attitude and on adoption intention respectively. As shown, age was found to affect the TPB elements (Morris & Venkatesh, 2000) and younger individuals were uncovered to generally hold more positive attitudes towards use-PSS for clothing (Armstrong et al. 2016), but also to constitute a large source of demand for new apparel pieces (Morgan & Birtwistle, 2009). Additionally, research (Han, Seo & Ko, 2017; Hwang & Griffiths, 2017) disclosed that Millennials are usually more involved in the social and environmental implications of their purchases, especially within the fashion sector. Briefly, age is a likely confounder within the relationship between the six consumer characteristics considered and attitude towards the use-PSS in question. Attitude towards second-hand clothing, on the other hand, was deemed relevant, as a more positive attitude may itself explain a significant portion of variance, and because second-hand apparel shoppers were found to have a more heightened perception of such clothing items (Yan, Bae, Xu, 2015). It is thus logical to expect that attitude towards a use-PSS for second-hand apparel may be partly based on attitude towards second-hand clothing. Figure 2 depicts the conceptual model employed by this dissertation.
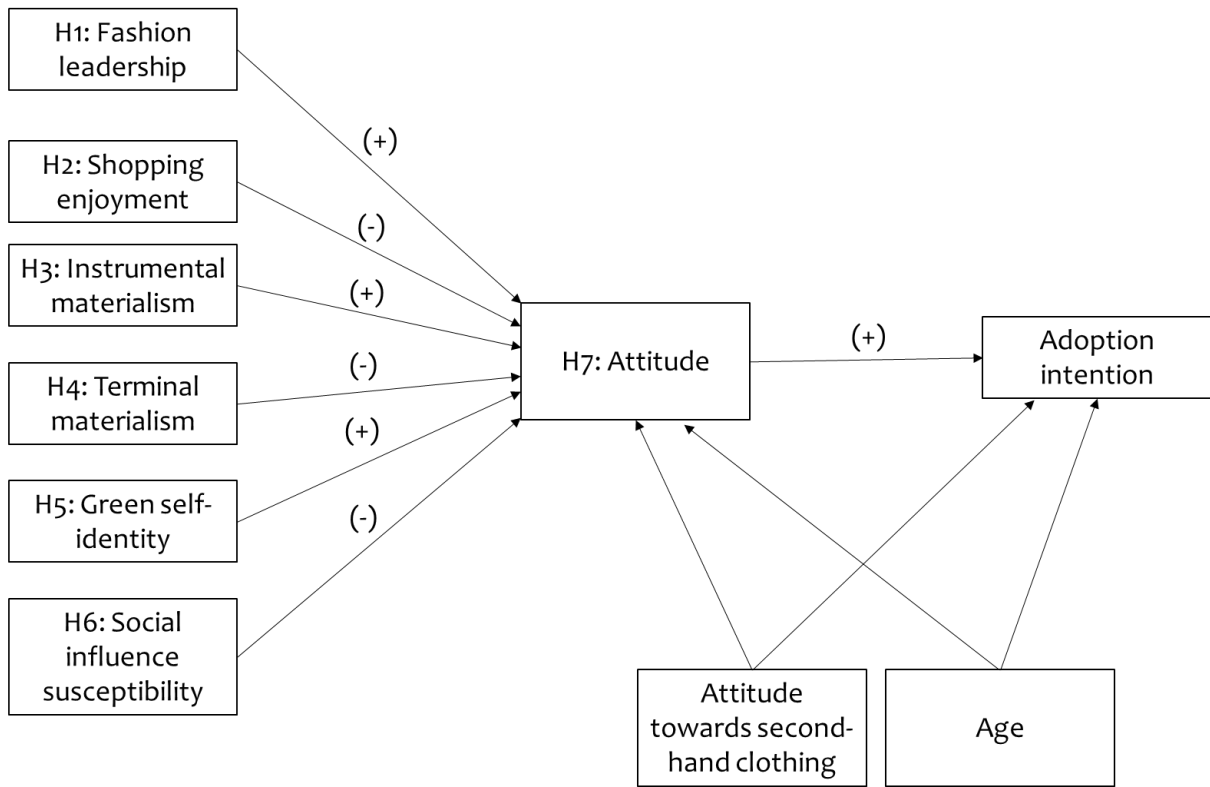
Figure 2: Conceptual Model (own figure)

3 Methodology

3.1 Research Strategy

The present study attempts to answer the research questions of how certain consumer characteristics affect attitude towards a product-service-system for second-hand clothing rental, and of how such attitude influences adoption intention. It employs a deductive approach, where hypotheses are formed on the basis of previous research, as detailed in Chapter 2. Specifically, the aim is to test the applicability of existing theories to the context of an access-based product-service-system for second-hand clothing in Sweden.

The nature of this research, based on the direct relationships among variables, calls for a quantitative approach to data analysis, including a large number of cases, to ensure generalizable and reliable results. Therefore, an online survey was developed through the Qualtrics software in order to collect a sufficient amount of data. Online surveys have become the preferred way to conduct marketing and consumer research (Evans & Mathur, 2018) thanks to their numerous advantages. This method can reach a wide audience with no need for physical proximity, since it suffices to share a link or an automatically-generated QR code. Time savings for the researchers during the distribution phase can thus be substantial. Second, online surveys provide great flexibility for the design of the questionnaire and they ensure there are no missing answers thanks to the forced response option. Third, preparing the survey can be very quick and the link can immediately be shared, allowing participants to answer from any electronic device with Internet access. All considered, online surveys are extremely convenient and a very suitable method for gathering large samples of data in a limited time and at virtually no costs (Evans & Mathur, 2018), which is why this dissertation employs one for its data collection.

To test the proposed model, a multiple linear regression analysis was conducted, as this is a powerful way to detect significant relationships between a dependent variable and multiple independent variables (Malhotra & Birks, 2003). Specifically, this method suits the purposes of this research, namely determining whether and which consumer characteristics (i.e. independent variables) explain a significant variation in attitude, and understanding the strength and the nature of the relationships between the six predictors and the dependent variable (Malhotra, 2010). Moreover, multiple linear regression allows researchers to control for the effect of potentially confounding variables, which are included in this dissertation. It is however crucial to point out that one should not assume causation based on the significance of association between variables, as regression analysis is aimed at identifying the nature and degree of such relationships (Malhotra, 2010). Hence, after a first multiple linear regression to test the association between the six consumer characteristics and attitude, controlling for attitude towards second-hand clothing and age, a second analysis was run to assess the strength and nature of the relationship between attitude and adoption intention, again with the inclusion of the two covariates.

3.2 Sampling and Data Collection

Considering the purpose of this research, the target population is constituted of Swedish females above the age of 18. This was motivated by the fact that females were found to have a relatively higher fashion involvement than males (O'Cass, 2004). Moreover, research uncovered that being female is positively related to frequent clothing consumption and disposal (Lang, 2018). This means that most of the pollution caused by fashion consumption can be traced back to females, who thus represent an important segment to address. Additionally, most product-service systems for apparel are targeted at women only. On the other hand, the wide age range is chosen since the researchers want to include every possible PSS adopter and because, to significantly diminish pollution, it is important that women of all ages change their consumption habits. In order to make inferences about the target population, a sample was drawn through convenience sampling, which is a form of nonprobability sampling. Even though a form of probability sampling would result in a more representative sample, a completely random sample would be unfeasible to achieve, since not every member of the target population is known and thereby not everyone has a non-zero chance of being selected (Burns & Burns, 2008). Since the researchers' networks in Sweden are very limited in scope and in variety, collecting a sufficient amount of relevant respondents would have posed a challenge. This is why respondents were recruited through convenience sampling, recognized to be the most suitable method as it is quick, low in cost, and easy to conduct (Burns & Burns, 2008; Malhotra & Birks, 2003). However, it must be recognized that the chances of selection cannot be calculated and hence it is highly uncertain that the drawn sample will represent the population of interest (Burns & Burns, 2008). Nevertheless, convenience sampling was identified as the best solution for this study since resources were very limited in terms of finances and time.

Subsequently, respondents were recruited through several steps. First, the researchers approached their own network in person and via Facebook, asking if Swedish females could fill in the survey and if others could share the link with their acquaintances. Secondly, it was recognized that the networks of the authors mainly consist of students, which posed a risk to the representativeness of the final sample. Thus, most respondents were recruited by posting a message on a wide variety of Swedish female Facebook groups, spanning a broad range of themes, such as clothing resale, fashion advice, females in different professions/faculties, and advice for domestic matters. Third, in order to include both users and non-users of second-hand clothing use-PSS, the authors decided to employ an existing service as a case. This was also deemed relevant to enhance the validity of the data collected: indeed, this dissertation has criticized previous literature for basing their investigation on hypothetical scenarios of use PSS, so that offering an existing example would increase respondents' perceptions of credibility and trustworthiness of the service. Therefore, customers of Hack Your Closet, a Swedish startup presented below, were approached by the co-founder via email and requested to fill in the survey, and, as an incentive to complete the questionnaire, they received a surprise gift.

The survey was distributed during the month of April 2020 and resulted in 697 respondents, of which 655 remained after data cleaning. Data cleaning entailed looking for inconsistencies and checking for incomplete responses to avoid any misrepresentation (Malhotra & Birks, 2003). Because of the use of Likert scales, no extreme or out-of-range values were detected; however, male respondents and those participants whose data were not recorded properly (i.e. missing responses) were deleted from the dataset. This casewise deletion did not affect the analysis,

since the proportion of missing responses was substantially below the threshold of 10%, and hence the sample remained large enough (Malhotra & Birks, 2003). After data cleaning, 564 non-customers and 91 customers remained. The average age of all respondents was 34, with 63.6% being 35 and under; 60.2% were full-time employed and 27,9% were students, and about 90% of respondents were highly educated, with 47% holding or pursuing a Master's degree.

3.3   Introduction Hack Your Closet

As mentioned, a specific use-PSS of second-hand clothing rental was selected for the study. Hack Your Closet is a start-up based in Stockholm, launched in June 2019 and counting around 500 customers at the time of writing. Its core idea is to fight the enormous clothing consumption typical of Western societies nowadays, and to make second-hand clothing a "no-brainer" by offering a convenient service. Through a monthly membership fee of 279 SEK, Hack Your Closet rents out second-hand clothing to their customers, who receive a box of four pieces every month, hand-picked by a personal stylist based on the customer's preferences. Brands that could appear in the box vary, since all clothes are pre-bought at different second-hand stores, and they range from Zara, Samsoe&Samsoe to Filippa K. After 30 days, customers send the box back and receive a new one. If they really like a piece, they can rent it for longer; yet, the clothes can never be purchased and thus remain property of the provider. Besides offering advice by a personal stylist, the service consists of maintenance and cleaning of the clothes and it is always possible for customers to give feedback. What makes the essence of this type of use-PSS sustainable is that it prolongs the life cycle of clothing items by an additional 2 to 3 years (Hack Your Closet, 2020). Moreover, the whole business model has a limited environmental footprint, insofar as Hack Your Closet collaborates with brands striving to reduce overstocks and 70% of their shipments is compensated for their CO_2 emissions, while 28% of the transportation is fully fossil-free (Hack Your Closet, 2020).

3.4   Questionnaire

The complete questionnaire design can be found in Appendix A. The survey was developed by combining existing scales from several previous studies, adapting the items when necessary to fit the context of the research.

First, establishing trust is essential for improvement of the survey response rates, therefore guaranteeing confidentiality and security of information is of high importance (Easterby-Smith, Thorpe & Jackson, 2018). In fact, increasing concerns over privacy and treatment of personal data may further reduce the number of responses, especially in current times when consumers' privacy is a widely-discussed issue: the anonymity of respondents was hence ensured.

The survey began by explaining its purpose, namely that it was aimed at collecting insights on Swedish consumers' characteristics and interest in a new service for fashion. This rather vague description of the research goal was intended to avoid influencing participants' answers and limit the risk of social desirability bias: as a matter of fact, a more complete introduction of the service under investigation may have led consumers to misrate some of their characteristics. A comprehensive explanation of the product-service-system in question, represented by the one

offered by Swedish firm Hack Your Closet, was provided after the questions on participants' characteristics.

Unless stated otherwise, all items were measured through a seven-point Likert scale, a form of ordinal scaling in which agreeing translates into a more positive attitude towards the topic than disagreeing (Easterby-Smith, Thorpe & Jackson, 2018): 1 stood for "strongly disagree", up to 7, "strongly agree". The decision for a seven-point scale was dictated by the fact that a desirable range of response options is between five and eight, while a midpoint increases reliability and validity slightly (Lietz, 2010) while not forcing respondents to have an opinion while they feel neutral regarding the statement. Moreover, seven points offer respondents enough variety of choice: this is important since without enough options, the respondents have to choose an alternative not exactly matching their actual opinion, which would cause error in measurement (Malhotra & Birks, 2003). All the questions featured a forced response function, so that no missing values would be present in the final data set. To further reduce potential respondents' bias, the language of the survey involved careful consideration. Indeed, all questions were closed-ended and non-leading, and positively or negatively charged lexicon was avoided, as well as sentences with a negation form (i.e "not", "no") to limit confusion and mistakes (Lietz, 2010). In order to make sure respondents could understand the questions, complexity and possible confusion were also minimized by avoidance of jargon and by ensuring that each statement only conveyed one idea (Easterby-Smith, Thorpe & Jackson, 2018; Malhotra & Birks, 2003). Further, questions related to each other, i.e. covering the same construct, were grouped together.

The first sets of questions related to the consumer characteristics of interest, i.e. the predictors in the analysis, which were presented in the following order: fashion leadership, shopping enjoyment, instrumental materialism, green self-identity, terminal materialism, and social influence susceptibility. Further, a question on one of the covariates, namely attitude towards second-hand clothing, was presented. This order was decided upon by the researchers, who considered it a gradual shift towards more sensitive topics (Malhotra & Birks, 2003).

Next, respondents were shown a short sentence explaining that the service of interest for the questionnaire was one for second-hand clothing rental and that an example of such a service was Swedish firm Hack Your Closet. At that point, participants were asked to indicate whether they were already customers or not. Those who answered "no" were then led to a page with a clear and concise description of Hack Your Closet's service. Offering respondents the example of a real business should make them perceive it as realistic and credible, yet not evaluate it uniquely in relation to one provider. Mentioning Hack Your Closet also made possible to provide participants with a real cost estimate for the service. Yet, the description was kept as neutral as possible: no benefits derived from the service were explicitly included and positively or negatively charged lexicon was avoided.

Additionally, the following section addressed respondents' attitude towards a similar PSS through a statement with five items on a seven-point semantic differential scale. Further, two seven-point Likert scale items inquiring about adoption intention were presented, although only to non-customers, for obvious reasons. Finally, some questions to collect the demographics of participants were presented (i.e. gender, age, highest level of education achieved, occupation),

and room for further comments was provided. Such comments were not analyzed but were considered for the managerial implications discussed in the conclusion.

After constructing the survey, this underwent a pilot-testing, as a few selected respondents from the population of interest were asked to complete two versions with different layouts and provide feedback on e.g. question clarity, wording, layout, and duration (Malhotra & Birks, 2003). This procedure allowed the researchers to refine and improve the questionnaire. Modifications included adding clarifications for the questions relating to instrumental materialism and editing the estimated completion time. Moreover, they indicated which layout they found more pleasing and easier to fill in.

3.5   Measures

Since no previous study combines the variables of this research, relevant scales had to be retrieved from several academic papers and, when necessary, adapted to fit the context of the dissertation. The operationalization from the original sources was often shortened: indeed, lengthy questionnaires may cause respondents to drop out without completing them or to provide inaccurate answers, such as selecting the same value across all items (Malhotra, 2010). Table 2 presents each construct with the corresponding survey items, while a table with the complete operationalization, including definitions, can be found in Appendix A.

Fashion leadership: "the characteristic of people who have the tendency to buy a new fashion earlier than others and play a pioneering role in the cycle of a new style's acceptance" (Lang & Armstrong, 2018b, p. 39). This construct was measured through a five-statement scale obtained by discarding three items from Gam's (2011) study. One of the items was turned into the affirmative form to help participants' understanding.

Shopping enjoyment: this research employed the definition by Odekerken-Schröder, De Wulf and Schumacher (2003), i.e. "a consumer's personality trait representing the tendency to find shopping more enjoyable and to experience greater shopping pleasure than others'' (p. 181). The operationalization followed Gutman and Mills' (1982), resulting in a four-item scale after one item was removed.

Instrumental materialism: defined as "the importance of material possessions as resources to accomplish tasks" (Scott, 2009, p.38), this construct followed Scott's (2009) operationalization, albeit with the removal of one item. One statement was slightly changed by replacing the verb "accomplish" with "do", in order to maximize clarity for respondents. The scale included three items. Moreover, after the pilot testing, the statements were clarified by providing examples, such as "a warmer to keep warm" or "a car to drive to work, and the adverb "primarily" was added.

Terminal materialism: this research considers Scott's (2009) definition, i.e. "the importance of material possessions in gaining status classification among others" (p.39) and operationalization. The final scale included four items as one was removed from the original study.

Green self-identity: defined as "an individual's overall perceived identification with the typical green consumer" (Barbarossa et al. 2015, p.191), this dimension was measured by aggregating three items from Whitmarsh and O'Neill (2010)) and two from Sparks and Shepherd (1992)

Social influence susceptibility: the definition adopted is: "the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/ or the tendency to learn about products and services by observing others and/or seeking information from others" (Bearden, Netemeyer & Teel, 1989, p. 474). The operationalization followed Bearden, Netemeyer and Teel's (1989) but with a reduced number of items: a five-statement scale was thus adopted. The original scale includes the two dimensions of informational and normative influences: such division is however beyond the scope of the present study and indeed the confirmatory factor analysis detailed later in this chapter displayed an acceptable solution with only one factor.

Attitude: the dependent variable, is defined as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188). The scale measuring attitude was sourced from Lang and Armstrong (2018b), who developed it to measure attitudes towards paying more for sustainable clothing. The item was therefore changed from "I think paying more money to buy environmental friendly clothing products is…" to "I think using this type of service is…", followed by the same five pairs of bipolar attributes on a seven-point semantic differential.

Adoption intention: the dependent variable for the second part of the study, adoption intention is here defined as a consumer's expressed desire to adopt a service in the near future, adapted from Arts, Frambach and Bijmolt (2011), where it describes "a consumer's expressed desire to purchase a new product in the near future." (p. 135). It was measured as general intention and as a more concrete plan to subscribe to this type of service within six months. The item was adapted by Korcaj, Hahnel and Spada (2015), where it originally measured purchase intention.

Attitude towards second-hand clothing: one of the covariates, it follows the same definition and operationalization of this study's dependent variable, although it specifically refers to second-hand clothing and only includes three items.

Age: the second control variable of the study was measured by asking respondents to select a value from 18 to 65+ on a drop-down menu.

Table 2: Operationalization of the constructs

Variable	Items
Fashion leadership (adapted from Gam, 2011)	- I am aware of fashion trends and want to be one of the first to try them - It is important for me to be a fashion leader - I spend a lot of time on fashion-related activities - I always buy at least one outfit of the latest fashion - I spend a lot of money on clothes and accessories

Shopping enjoyment (Gutman & Mills, 1982)	- I like to go shopping - I go shopping often - I like to go to stores to see what's new in clothing - I like to shop in many different stores
Instrumental materialism (adapted from Scott, 2009)	- Material possessions are important to me primarily because they help me complete tasks (for example a car to drive to work, a phone to make calls). - Material possessions are important to me primarily because of what they allow me to do (for example a sweater to stay warm, shoes to go running). - I acquire material possessions primarily because they help me get the job done (for example a car to drive to work, shoes to go running).
Terminal materialism (adapted from Scott, 2009)	- I enjoy owning luxurious things. - I put more emphasis on material things than most people I know. - I like owning products that show my status. - I like owning things that are better than what others have.
Green self-identity (Whitmarsh & O'Neill, 2010; Sparks & Shepherd, 1992)	- I think of myself as an environmentally-friendly consumer - I think of myself as someone who is very concerned with environmental issues - I would be proud to be seen as having an environmentally-friendly lifestyle - I would want my family or friends to think of me as someone who is concerned about environmental issues
Social influence susceptibility (adapted from Bearden, Netemeyer & Teel, 1989)	- I like to know what products make good impressions on others. - If I want to be like someone, I often try to buy the same products that they buy. - If I have little experience with a product, I often ask my friends about the product. - I often consult other people to help choose the best alternative available from a product class.
Attitude (adapted from Lang & Armstrong, 2018b)	- I think that a service for renting second-hand clothes is: Harmful: Beneficial Unpleasant: Pleasant Bad: Good Worthless: Valuable Un-enjoyable: Enjoyable
Adoption intention (adapted from Korcaj et al. 2015)	- I would like to subscribe to a service for renting second-hand clothes (as the one described earlier) - I am planning on subscribing to a service for renting second-hand clothes (as the one described earlier) within 6 months
Attitude towards second-hand clothing (adapted from Lang & Armstrong, 2018b)	- I think that a service for renting second-hand clothes is: Unpleasant: Pleasant Bad: Good Worthless: Valuable

3.6 Methodological Limitations

The selected research design and methodology involve some limitations that should be acknowledged. First, due to strict time constraints, the sample employed for the analysis is not completely representative of the population of interest, i.e. Swedish females. This was further aggravated by the fact that the authors had a very limited number of Swedish nationals within their social network at the time of writing. The sample selection may thus be prone to random sampling error, which occurs when the population of interest is imperfectly represented and implies a mismatch between the true mean of the population and that of the sample (Malhotra & Birks, 2003). A second source of bias in the chosen method relates to how respondents were reached: most participants, in fact, found and completed the survey on Facebook groups. Whereas the authors strived to share the survey link on groups covering a wide variety of relevant themes (e.g. fashion, second-hand apparel, sustainable fashion, motherhood, and females in several fields and disciplines), it cannot be denied that many categories of respondents were excluded from the sampling, such as Facebook non-users or users not following such pages.

The chosen research design involved a questionnaire in English administered to mostly non-native speakers. This may entail some degree of inability to respond accurately from participants, referred to as "inability error" (Malhotra & Birks, 2003). On this line, some participants may be more inclined to provide higher ratings than others, which ultimately affects the reliability and validity of results.

Last, the issue of social desirability must be considered: the questionnaire employed for the present research involved a few sensitive topics, including some more or less desirable consumer characteristics. Respondents may hence select the answers they perceive as more socially acceptable, although they may not accurately describe them. Although this bias may have been reduced by the administration of the survey (anonymous and with no contact with the researcher), its effects cannot be excluded.

3.7 Validity and Reliability

Before diving into the testing of the hypotheses, researchers must assess the construct validity of their measurement instrument, as well as the goodness of fit of the model. The present study examined the reliability and both the convergent and discriminant validity of the measures. A Confirmatory Factor Analysis was thus performed using the statistical software SmartPLS. The final model, including the covariate attitude towards second-hand clothing, consisted of 33 items corresponding to nine distinct constructs. The results of the CFA showed a sub-optimal model fit, according to Hu and Bentler (1999)'s recommendations, as an NFI=0.775 is below the 0.95 threshold. However, some researchers have argued that the required value for the NFI may be too demanding and very difficult to achieve in practice, and even possibly unreliable (Marsh, Hau & Wen, 2004). Moreover, the value for SRMR=0.06 met the <.08 cut-off point.

Furthermore, convergent validity indicates that the observed variables adequately measure the respective constructs (Jackson, Gillaspy & Purc-Stephenson, 2009), i.e. that the survey items

positively correlate with other measurements for the same latent variables (Malhotra & Birks, 2003). Convergent validity is assessed by observing the relative factor loadings on the respective construct, as well as values for Average Variance Explained (AVE) and Composite Reliability (CR) (Table 3). All factor loadings were above 0.7 besides for four indicators, which scored however all above 0.5, an acceptable value. Based on Hair, Ringle, and Starstedt's (2011) rules of thumb, convergent validity was further corroborated by AVE values, all above .50, and CR indices, all exceeding the cut-off of 0.7, as shown in Table 3. Moving on to the reliability analysis, all Cronbach's alphas exceeded 0.7, which lies above the threshold for acceptable values (Malhotra & Birks, 2003). These results indicate that all latent variables were effectively represented by the survey items, hence no items were removed from the scales.

Table 3: Convergent validity and reliability analysis

Construct	# of items	Cronbach's α	CR	AVE
Fashion leadership	5	0.872	0.904	0.653
Shopping enjoyment	4	0.846	0.881	0.651
Instrumental materialism	3	0.764	0.815	0.604
Terminal materialism	4	0.826	0.860	0.612
Green self-identity	4	0.854	0.901	0.697
Social influence susceptibility	5	0.838	0.872	0.583
Attitude	5	0.919	0.939	0.755
Adoption intention	2	0.855	0.931	0.872
Attitude towards second-hand clothing	3	0.861	0.915	0.782

Finally, discriminant validity complements convergent validity within construct validity analysis by checking that measures that should not be related are indeed not, i.e. proving the absence of correlation among the different constructs (Malhotra & Birks, 2003). To test this, Hair, Ringle, and Sarstedt (2011) recommend checking that no indicator's cross-loadings exceed the loadings for the respective latent variable, while Garson (2016) suggests that Heterotrait-Monotrait Ratio (HTMT) values after bootstrapping should all be lower than 0.85. These two criteria were both met by the data: the highest HTMT value was .676 for shopping enjoyment and fashion leadership. Table 4 provides a summary of each latent variable's lowest loadings and highest cross-loadings, with the respective items. The complete tables with all items' loadings can be found in Appendix A.

Table 4: Discriminant validity

Variable	Lowest loading (among relative items)	Highest cross-loading (from non-related items)
Fashion leadership	0.754 (FL_4)	0.494 (FL_3, Shopping enjoyment)
Shopping enjoyment	0.705 (SE_4)	0.515 (SE_3, Fashion leadership)
Instrumental materialism	0.581 (IM_1)	-0.199 (IM_3, Fashion leadership)
Terminal materialism	0.649 (TM_1)	0.418 (TM_2, Fashion leadership)
Green self-identity	0.709 (GI_1)	0.273 (GI_4, Instrumental materialism)
Social influence susceptibility	0.549 (SIS_1)	0.328 (SIS_5, Terminal materialism)
Attitude	0.832 (ATT_1)	0.529 (ATT_5, Adoption intention)
Adoption intention	0.915 (AD_2)	0.549 (AD_1, Attitude)
Attitude (second-hand clothing)	0.853 (ASH_1)	0.454 (ASH_2, Attitude)

FL=Fashion leadership, SE=shopping enjoyment, IM=instrumental materialism, TM=terminal materialism, GI=Green self-identity, SIS=Social influence susceptibility, ATT= Attitude, AD= Adoption intention, ASH=Attitude towards second-hand clothing, AGE=Age

4   Results

This section will provide an overview of the analyses that were conducted and will report the obtained results, briefly discussed in relation to the hypotheses formulated in Chapter 2. It will first present the testing of validity and reliability of the measurement instrument, followed by two regression analyses to test the seven hypotheses. Furthermore, readers will find the results of extra analyses run to assess whether customers and non-customers would differ on the six consumer characteristics investigated, as well as on attitude.

4.1   Descriptives

Once the validity and the reliability of the measurement instrument had been assessed, the latent variables of interest were computed by aggregating the corresponding survey items (arithmetic average). A score of 1 indicated the lowest degree of identification with the respective consumer characteristic, up to a score of 7. Table 5 provides a summary of the measures of central tendency and dispersion. It can be observed that on average respondents rated themselves the lowest on social influence susceptibility (M=2,49, SD=1.133), followed by fashion leadership (M=2.98 SD=1.319), and terminal materialism (M=3.07, SD=1.310). Scores on shopping enjoyment were also just below the neutral point of 4 (M=3.90, SD=1.444). On the other hand, participants assessed their levels of green self-identity (M=5.25, SD=1.115) and instrumental materialism (M=5.28, SD=1.016) as rather high, and expressed a highly positive attitude towards second-hand clothing (M=5.68, SD=1.347). Interestingly, ratings for adoption intention, based on the ratings of non-customers alone, were rather low (M=2.83, SD=1.485) while those for attitude towards the service were very high (M=5.57, SD=1.335).

Table 5: Measures of central tendency and dispersion

	FL	SE	IM	TM	GI	SIS	ATT	AD	ASH	AGE
Mean	2.98	3.90	5.28	3.07	5.25	2.49	5.57	2.83	5.68	33.98
Standard Deviation	1.319	1.444	1.016	1.310	1.115	1.133	1.335	1.485	1.347	10.591

FL=Fashion leadership, SE=shopping enjoyment, IM=instrumental materialism, TM=terminal materialism, GI=Green self-identity, SIS=Social influence susceptibility, ATT= Attitude, AD= Adoption intention, ASH=Attitude towards second-hand clothing, AGE=Age

4.2 Hypotheses testing

4.2.1 Assumptions check – Regression analysis

As mentioned, regression helps determine the strength and the nature of the relationships between selected predictors and a dependent variable: namely, values of the outcome variable may be predicted by those of the chosen independent variables (Malhotra, 2010). Further, this type of analysis suits models with control variables, so it is adequate for the purposes of this dissertation. First, it was checked whether the dependent variables approximated a normal distribution, one of the assumptions to perform a linear regression (Burns & Burns, 2008). After inspection of the respective histograms, attitude and adoption intention appeared rather skewed and attempts to achieve better levels of normality through transformation did not produce satisfactory results.

Other assumptions that needed to be controlled were: a low correlation and absence of multicollinearity among the predictors, a linear relationship among independent and dependent variables, at least 15 cases per predictor, independence of values of residuals, absence of outliers, and homoscedasticity (Burns & Burns, 2008). Table 6 provides a summary of the correlations across constructs. The correlations among predictors are all below .60, which is below the .70 threshold suggested by Tabachnick and Fidell (1996): hence, all independent variables can be included in the regression analysis. Absence of multicollinearity is confirmed when values are below 10 for the Variance Inflated Index (VIF), above .20 for the Tolerance Level (TOL), and below 30 for the Condition Index (CI) (Burns & Burns, 2008): all three criteria were largely met. Further, the linearity of relationships was assessed through scatterplots, which all substantiated the assumption. The Durbin-Watson test verified the independence of the residuals by yielding a value of 2.005, which is considered acceptable (Field, 2010). The presence of outliers was tested through an analysis of Cook's values, which were all well below 1 (Tabachnick & Fidell, 1996). Finally, homoscedasticity was confirmed by an inspection of the zpred-zresid graph. The outputs of the regression analysis can be found in Appendix B.

Table 6: Correlations among constructs

	FL	SE	IM	TM	GI	SIS	ATT	AD	ASH	AGE
FL										
SE	.536**									
IM	-.220**	-.101**								

TM	.440**	.327**	-.133**					
GI	-.090*	-.115**	0.86*	-.228**				
SIS	.292**	.210**	-.042	-.015	.321**			
ATT	.089*	.064	-.015	.278**	-.094*	.078*		
AD	.211**	.083*	-.076	.222**	.009	.180**	.565**	
ASH	-.064	-.029	-.063	.-.221**	.364**	.090*	.476**	.237**
AGE	-.159**	-.096*	.037	.021	-.165**	-.292**	-.126**	-.133**	-.038

** Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed) N=655. FL=Fashion leadership, SE=shopping enjoyment, IM=instrumental materialism, TM=terminal materialism, GI=Green self-identity, SIS=Social influence susceptibility, ATT= Attitude, AD= Adoption intention, ASH=Attitude towards second-hand clothing, AGE=Age

4.2.2 Consumer characterisics on Attitude

Once it was certain that the data met all the requirements for the analysis, a multiple linear regression was performed on IBM SPSS Statistics 25 to investigate the influence of fashion leadership, shopping enjoyment, instrumental materialism, green self-identity, terminal materialism, and social influence susceptibility on attitude towards a clothing use-PSS. Two models were run, the first only including the six predictors, and the second with the addition of the two control variables, namely age and attitude towards second-hand clothing. A summary of the two regression models is presented in Table 7, and all values reported consider a confidence interval of 95%.

The first model showed a low Adjusted R^2 (.096), $F_{(6,647)}=12.601$, $p<.001$ and only three predictors emerged as significant: fashion leadership (β=.112, t=2.342-, p= .020), green self-identity (β=.266, t=6.915, p<.001), and terminal materialism (β=-.126, t=-2.884, p=.004). The second model, controlling for age and attitude towards second-hand clothing, however, displayed a higher Adjusted R^2 (.262), $F_{(8,645)}=30.048$, p<.001. The addition of the two covariates produced interesting results: while the effects of fashion leadership and green self-identity remained significant but with a lower beta coefficient, terminal materialism ceased to

be significant. On the other hand, social influence susceptibility emerged as a significant, although weak, predictor; its significance level is however borderline (p=.05), so that this result should be interpreted with care. Both covariates showed acceptable significance levels within a 95% confidence interval: age with β=-.082, t=-2.301, p=.022) and attitude towards second-hand clothing (β=.432, t=11.671, p<.001).

Discussing the hypotheses, H1 is accepted: fashion leadership has a significant positive effect on attitude towards the PSS (β=.110, t=2.542, p=.011). H2 and H3 are rejected: the regression analysis showed non-significant effects of shopping enjoyment and instrumental materialism on the dependent variable attitude. Moreover, results do not provide any evidence that terminal materialism significantly affects attitude, which implies H4 is rejected. H5 is instead accepted: green self-identity has a significant positive influence on attitude (β=.118, t=3.193 p=.001), although the relationship was severely weakened by the inclusion of the two control variables. Further, social influence susceptibility came to show a positive effect on attitude after the inclusion of the two covariates (β=.074, t=1.965, p=.05) so that H6 is also rejected, as a negative effect had been expected. To conclude, fashion leadership, green self-identity, and social influence susceptibility are all significant predictors for attitude towards a use-PSS for second-hand apparel rental after controlling for age and attitude towards second-hand clothing.

Table 7: Regression analysis (consumer characteristics on attitude)

	Model 1: Main effects only				Model 2: Addition of covariates			
	β	SE	p	VIF	B	SE	p	VIF
Fashion leadership	.112*	.05	.020	1.659	.110*	.05	.011	1.663
Shopping enjoyment	.059	.04	.187	1.430	.031	.04	.773	1.436
Instrumental materialism	-.021	.05	.580	1.058	.027	.05	.788	1.073
Terminal materialism	.-126*	.05	.004	1.389	-.063	.04	.115	1.424
Green self-identity	.266**	.05	<.001	1.073	.118**	.05	.001	1.217
Social influence susceptibility	.068	.05	.091	1.165	.074*	.04	.05	1.247
Attitude towards second-hand clothing					.432**	.00	<.001	1.216
Age					-.082*	.00	.022	1.113
R^2 (adjusted R^2)	.105(.96)				.272 (.262)			

** Correlation significant at the .001 level; * Correlation significant at the .05 level

Additionally, since the large decrease in beta for green self-identity (from .266 to .118) puzzled the authors, a further analysis to explain the phenomenon was conducted. While a significant correlation between age and green self-identity was not observed, the predictor displays a weak positive correlation with attitude towards second-hand clothing (r =.364, p <0.01). Further, the latter covariate shows a moderate positive correlation with attitude towards the service (r =.476, p < 0.01). Considering this, the authors assessed whether attitude towards second-hand clothing could serve as a moderator in the relationship between green self-identity and attitude towards the clothing use-PSS. In order to test for an interaction effect, a new variable was computed as a product term representing the interaction effect between green self-identity (GI) and attitude towards second-hand clothing (ASH) by multiplying them together. However, before computing the product term and conducting a new regression model, the variables were centered. This is recommended because it improves the interpretability of main effects, and using centered variables ensures that each predictor had a suitable reference value to form the product term (Shieh, 2011). First, mean variables were created for both GI and ASH; second, from these mean variables, centered variables were computed by subtracting GI with the mean variable of GI, and the same for ASH. Third, to measure the interaction effect, a new variable was computed by multiplying the centered variables, which represented the product term. Lastly, a multiple linear regression was performed with attitude towards the clothing rental service as dependent variable, and both centered variables and the interaction as independent variables. As shown in Appendix B, the model was significant (p < 0.01) with an adjusted R^2 of .237. However, looking at the beta coefficients, the interaction effect was found not to be significant (p = .485 > 0.05). Thus, attitude towards second-hand clothingm does not function as a moderator on the relationship between GI and attitude towards use-PSS.

4.2.3 Attitude on Adoption Intention

Next, H7 was tested by running a regression analysis with adoption intention as dependent variable and attitude as predictor. The assumptions of regression were again checked and the data proved adequate for the analysis, except that adoption did not resemble a normal distribution. It was attempted to transform such variable, but no substantial improvement was achieved. Once again, attitude towards second-hand clothing and age functioned as covariates, hence they were added as independent variables in the second model. The outcomes of the regression analysis are provided in Table 8, while Table 9 further below offers a summary of the results.

The first model, without covariates, showed a satisfactory Adjusted R^2(=.319) $F(1,561)=263.753$, p<.001, and attitude emerged as a significant positive predictor: β=.566, t=16.067, p<.001. Interestingly, the addition of the two covariates improved the model only slightly (R^2=.321, F(3,559)=89.701, p<.001). Including the two control variables did not significantly affect the predicting power of attitude (β=.558, t=14.442, p<.001), which implies H7 is accepted. The effect of age resulted significant but rather weak (β=-.072, t=-2.067, p=.039), while attitude towards second-hand clothing did not appear to influence adoption intention, as its significance level was largely above the cut-off level of .05 (p=.985). Taken together, the two covariates did not significantly impact the effect of attitude on adoption intention and attitude remains a strong predictor for adoption intention of a use-PSS renting second-hand apparel.

Table 8: Regression analysis (attitude on adoption intention)

	Model 1: Main effects only				Model 2: Addition of covariates			
	B	*SE*	*P*	VIF	*β*	*SE*	*p*	VIF
Attitude	.566**	.04	<.001	1.000	.558**	.04	<.001	1.236
Age					-.072*	.01	.039	1.013
Attitude towards second-hand clothing					-.001	.04	.985	1.222
R² (adjusted R²)	.320(.319)				.325(.321)			

Table 9: Summary of the results

		β	*P*
H1: Fashion leadership is positively related to attitude	Accepted	.110	.011
H2: Shopping enjoyment is negatively related to attitude	Rejected		
H3: Instrumental materialism is positively related to attitude	Rejected		
H4: Terminal materialism is negatively related to attitude	Rejected		
H5: Green self-identity is positively related to attitude	Accepted	.118	.001
H6: Social influence susceptibility is negatively related to attitude	Rejected	.074	.05
H7: Attitude is positively related to adoption intention	Accepted	.558	<.001

4.3 Additional Analyses

Although no explicit hypothesis had been formulated regarding potential differences between those already using the service (i.e. Hack Your Closet's customers) and non-customers, the authors considered that further analysis may produce interesting insights. Thus, it was tested whether the fact of being a customer could affect the relationship between the six consumer characteristics investigated and attitude towards the service. To do so, customer/non-customer was added as a covariate, together with age and attitude towards second-hand clothing.

4.3.1 Regression Analysis with Customers as a Covariate

First of all, it is crucial to specify that the dataset only contained 91 customers, as opposed to 564 non-customers: this suggests that the results of the regression analysis must be taken with great care. Wary of this, a new regression analysis was conducted, running a first model only including the six consumer characteristics of interest as independent variables and attitude as outcome variable, followed by a second model with the three covariates as predictors.

The second model resulted to be significant, with an Adjusted R^2 of .298, $F(9,644)=31.748$, $p<.001$. The fact of being a customer showed a significant positive effect on attitude towards the service ($\beta=.197$, $t=5.748$, $p<.001$). Interestingly, the addition of this new covariate resulted in both fashion leadership and social influence susceptibility no longer being significant. Green self-identity, on the other hand, remained a significant predictor of attitude ($\beta=.121$, $t=3.348$, $p=.001$). Controlling for the fact of being a customer did not affect the covariates, as both age ($\beta=-.070$, $t=-2.020$, $p=.044$) and attitude towards second-hand clothing ($\beta=.395$, $t=10.747$, $p<.001$) resulted significant.

4.3.2 Comparison of Customers and Non-Customers

As mentioned, these results must be taken with caution; yet, the fact that being a customer emerged as significant was deemed worth investigating further. It was indeed decided to compare customers and non-customers through an independent sample t-test to assess whether the two groups show significant differences on the six consumer characteristics, the two control variables, and attitude. To assure the reliability of the results, however, a random sample of non-customers was selected, so that its size would match that of the customer sample (n=91). The t-test indeed showed that customers and non-customers significantly differ on three measures. Namely, customers score higher than non-customers on fashion leadership, with a mean difference of .409, ($t=2.157$, $p=.032$). Moreover, the mean scores on attitude towards the PSS are 1.062 higher for customers ($t=6.454$, $p<.001$), while customers scored .685 higher than non-customers on attitude towards second-hand clothing ($t=4.002$, $p<.001$). Tables 10 and 11 below summarize the results of the analysis:

Table 10: Results from the indenpendent sample t-test

	t	df	p	Mean difference	SE difference
Fashion leadership	2.157`	180	.032	.409	.19
Shopping enjoyment	.764	180	.446	.165	.19
Instrumental materialism	-.921	180	.358	-.147	.16
Terminal materialism	-.015	180	.988	-.003	.18
Green self-identity	1.412	180	.160	.223	.16
Social influence susceptibility	.836	180	.438	.145	.17
Attitude	6.359	152.721	<.001	1.062	.167
Attitude second-hand clothing	4.002	166.450	<.001	.685	.171
Age	-1.202	166.541	.231	-1.626	1.35

Table 11: Mean difference, customers and non-customers

Variable	Group	Mean	Standard Deviation	Difference
Fashion leadership	Customer	3.51	1.199	.409*
	Non-customers	3.11	1.354	
Shopping enjoyment	Customers	4.23	1.400	.165
	Non-customers	4.06	1.510	

Instrumental materialism	Customers	5.11	1.083	-.147
	Non-customers	5.26	1.064	
Terminal materialism	Customers	3.08	1.233	-.003
	Non-customers	3.09	1.251	
Green self-identity	Customers	5.39	1.024	.223
	Non-customers	5.16	1.101	
Social influence susceptibility		2.70	1.189	.145
	Customers			
	Non-customers	2.53	1.150	
Attitude	Customers	6.56	.856	1.062**
	Non-customers	5.50	1.343	
Attitude towards second-hand	Customers	6.31	.976	.685**
	Non-customers	5.63	1.310	
Age	Customers	31.48	7.79	-1.626

Non-customers   33.11   10.340

5 Discussion

This dissertation aimed at uncovering the relationship between six consumer characteristics - namely fashion leadership, shopping enjoyment, instrumental and terminal materialism, green self-identity, and social influence susceptibility - and attitude towards a use-product-service-system offering rental of second-hand clothing. Additionally, the effect of attitude on the intention to adopt such service was also assessed. The research was guided by the questions of how certain consumer characteristics affect attitude towards a product-service-system for second-hand clothing rental, and of how attitude influences adoption intention. Drawing from the Theory of Planned Behavior, the authors developed a model to predict, to a certain extent, consumers' attitude towards second-hand clothing rental. Hack Your Closet, a Swedish startup renting second-hand apparel in exchange for a monthly subscription fee, was employed as a case example for the study. Data were collected through the administration of a survey to Swedish female consumers, with a final sample of 655 respondents including both users and non-users of Hack Your Closet's service. Subsequently, the data were quantitatively analyzed through two multiple regression analyses, one to assess the relationship between the six consumer characteristics and attitude, and a second to test the effect of attitude on adoption intention.

Interestingly, respondents' ratings for attitude towards the PSS were on average high, but this did not translate into very positive scores on adoption intention: this may be due to the phrasing of the items for adoption intention, implying a concrete plan to subscribe to Hack Your Closet's service. While studies reporting a discrepancy between attitude and behavior abound in the literature (e.g. Peattie, 2001; Claudy, Peterson & O'Driscoll, 2013), much less attention has been devoted to the gap between attitude and intention (Vermeir & Verbeke, 2006; Hamari, Sjöklink, & Ukkonen, 2015). Nevertheless, attitude was the only predictor of intention in this research, while the Theory of Planned Behavior also includes the subjective norm and perceived behavioral control components (Ajzen, 1991). A richer model, perhaps including past sustainable behavior and personal norms of responsibility (Ajzen, 1991; Lang & Armstrong, 2018b) would have likely shed light on other factors affecting adoption intention. Yet, as mentioned, this was beyond the scope of this dissertation

5.1 Fashion Leadership

As predicted, the results show that there is a positive relationship between fashion leadership and attitude towards a use-PSS for clothing rental. This entails that the higher consumers score on fashion leadership, the more positive their attitude is towards clothing rental services, and vice versa, i.e. the lower the level of fashion leadership, the less positive the consumer's attitude to adoption. The findings confirm earlier research by Lang & Armstrong (2018a, 2018b), where fashion leadership had a positive effect on clothing rental as well as clothing swapping. The present study complements their findings insofar as they focused on attitude towards paying higher prices for sustainable fashion and adoption intention of clothing rental and only provided very superficially explained scenarios of clothing rental.

Since second-hand clothing rental is not widely adopted and therefore not the norm, and it remains an innovative way of consumption, which is attractive to those with high levels of innovativeness and those who strive to be pioneers in fashion, characteristics of fashion leaders (Cho & Workman, 2014; Hirschman & Adcock, 1978; Kang & Park-Poaps, 2010). Moreover, adopting this service requires a certain degree of risk, and risk-taking is also a trait of fashion leaders, as they are often early adopters in fashion (Workman & Lee, 2016; Workman & Studak, 2006). Furthermore, the service allows customers to have different clothing monthly and mix and match the items in new ways with their owned clothing, which enables numerous different outfits. While fashion leaders are attracted to the newest items (Cholachatpinyo, Padgett & Crocker, 2014), for the survey participants this desire did not seem to be stronger than their desire for newness in fashion consumption. Namely, the fact that Hack Your Closet also offers mainstream brands such as H&M, and is not focused on high-end fashion brands as in most studies investigating cases of clothing rental (e.g. Lang, Li & Zhao, 2020), did not seem to affect fashion leaders' positive attitudes towards the use-PSS of second-hand clothing rental. Furthermore, fashion leaders care relatively less about others' opinions and are very confident in their personal styles (Cholachatpinyo, Padgett & Crocker, 2002), which also makes them more confident in trying an innovative way of consumption, compared to consumers who score low on fashion leadership.

5.2 Shopping Enjoyment

In contrast to what had been predicted, no significant relationship was found between shopping enjoyment and attitude towards the clothing use-PSS investigated. However, it is important to note that this was the first attempt in research to combine these two factors in this context. As explained earlier, consumers who score high on the trait of shopping enjoyment, often referred to as hedonic shoppers, consider shopping more enjoyable and pleasurable than other people (Babin, Darden & Griffin, 1994; Odekerken-Schröder, De Wulf & Schumacher, 2003). A negative relationship was expected since it had been assumed that making use of this type of service would not line up with hedonic consumers' motivations behind shopping, as the offered service would replace most of the shopping experience and the motivations behind hedonic shopping, such as bargain hunting, sensory stimulation, and browsing (Cox, Cox & Anderson, 2005). However, this appeared not to be the case as the relationship was found to be non-significant. This could be because adopting the service does not necessarily result in consumers shopping less: in other words, one can make use of the service for clothing rental, but this engagement does not replace the activity of shopping. Thus, no negative relationship was found since adopters could still enjoy shopping, as they could continue browsing store windows and purchasing new clothes in addition to receiving the monthly box. On the other hand, a positive relationship was also not uncovered as hedonic consumers with a high level of shopping enjoyment were not found to have a more positive attitude towards the service. This is likely because making use of the service stimulates a different type of joy (which does not come from shopping). It then seems that shopping activity and adopting the rental service stand apart from each other in the mind of respondents. The hypothesis was based on the relationship between the enjoyment consumers get from the physical activity of shopping and their attitude towards rental of clothes online, while participants seem to consider these as two different activities. Hence, whether a consumer is characterized by high shopping enjoyment or not does not matter

for their attitudes towards a second-hand clothing service, as the joy from the latter is derived from different sources than from shopping. This means that when looking into antecedents of attitudes towards use-PSS in second-hand clothing rental, shopping enjoyment as a consumer characteristic may not be considered.

Furthermore, the construct of shopping enjoyment was measured by four items which did not specifically include online shopping. Rather, the items intuitively referred to physical shopping while nowadays many consumers prefer to browse and shop online. Moreover, the data collection occurred during the global pandemic of COVID-19 and, while Sweden was not on lockdown, people were advised to avoid public places, which could have influenced their ratings of the items related to shopping enjoyment. The lack of significance could also be related to how attitude was measured: the operationalization of the outcome variable employed a rather standard scale, hence not accurately reflecting the consumer characteristics considered, or the specific PSS investigated. As a matter of fact, the experiential value perceived by respondents was not assessed: a different measure of attitude, including terms such as "boring-exciting" might have yielded significant results.

5.3 Instrumental Materialism

The third hypothesis, addressing the positive effect of instrumental materialism on attitude towards a use-PSS for second-hand clothing, was rejected: as a matter of fact, such consumer characteristic did not appear to affect attitude significantly. Nonetheless, it is important to note that, due to the relatively low degree of attention to this conceptualization in the literature, there was no sufficient evidence of the effect of this variable in previous studies. As mentioned in the Literature Review section, to the knowledge of the authors attempts to operationalize instrumental materialism have been very scarce, with the only exception of Scott (2009). Consequently, no previous study including the relationship between this consumer characteristic and attitude could be retrieved. The argument at the foundation of H3 was thus building on research findings about the positive association of instrumental materialism to rental activity (Bardhi & Eckhardt, 2012; Durgee & Colarelli O'Connor, 1995; Lee & Chow, 2020) and about a higher engagement in sustainable fashion from those consumers more interested in the utilitarian, functional features of clothing items (McNeill & Moore, 2015). The authors of the present paper therefore reckon that there may have been an issue with the choice of conceptualization of this characteristic to begin with, which then may have impacted the results.

For example, Lee and Chow (2020) investigated consumers' attitude towards online clothing rental combining Theory of Reasoned Action and Value-Expectancy Theory. They included "psychological ownership" as a potential antecedent of attitude towards online fashion rental and found a negative relationship between the two. Consumers with a high level of psychological ownership develop a strong attachment to what they consider "theirs", hence they feel responsible for the protection and care of possessions (Lee & Chow, 2020). On the other hand, individuals scoring lower on psychological ownership may feel more attracted to rental activity, as it usually provides only instrumental utility (Bardhi & Eckhardt, 2012) while removing ownership. This conceptualization seems to encapsulate both terminal and

instrumental materialism as intended within the present study, and the operationalization followed by Lee and Chow (2020) might have been more suitable than that of Scott (2009).

On average, the respondents of the present paper indicated a quite high degree of instrumental materialism, probably because of the phrasing of the survey statements. The three items focused on the value placed by participants on material possession primarily for their ability to complete tasks; such statements, however, seem to have failed to emphasize that the instrumental and utilitarian dimensions had to be the *main, principal, primary* source of value extracted from possessions, as opposed to, for example, ownership itself (terminal materialism). Whereas the confirmatory factor analysis showed satisfactory levels of validity and reliability for this construct, one cannot exclude that conceptual and methodological fallacies are (partly) the cause for this insignificant result.

5.4 Terminal Materialism

Similarly, no evidence was found in support of H4. The effect of terminal materialism on attitude ceased to be significant as soon as the covariates age and attitude towards second-hand clothing were added to the model. This result was quite unexpected, as several studies had uncovered how materialism was negatively associated with attitude towards collaborative consumption (Akbar, Mai & Hoffmann, 2016), also specifically for clothing rental (Armstrong et al. 2018b; Durgee & Colarelli O'Connor, 2995; Johnson, Mun & Chae, 2016). However, Lawson, Gleim, Perren and Hwang (2016) found a rather unclear relationship between materialism and access-based consumption: they thus considered that there may be differences in the way consumers perceive owned objects and those they have access to, so that materialism would not affect participation in collaborative consumption. As a matter of fact, the service provided by Hack Your Closet and, by extension, any service of the kind, would most likely not be the only source of access to clothing. Consequently, following the same reasoning as for shopping enjoyment, the rented items may just complement and be a fun addition to one's owned wardrobe. Hence, a reason for a non-significant effect of terminal materialism on attitude could be that for many users this use-PSS does not exclude possessing clothing items or acquiring new ones, but just receiving some extra pieces to try out. The new items in the monthly rental may even lead to increased consumption, as users acquire new garments to match their style. Indeed, this use-PSS for second-hand clothing rental entails a potential rebound effect. A rebound effect occurs when the savings (in terms of environmental, social, or economic burden) are offset by an increase in consumption, paradoxically driven by said savings (Berkhout, Muskens & Velthuijsen, 2000). What this means is that some consumers may still purchase the same amount of clothing as before adopting the PSS, simply because they feel good with themselves for engaging in a form of collaborative consumption and as they are saving some money. Such effect has been recognized as a potential implication for apparel take-back systems for recycling (Stål & Jansson, 2017). In conclusion, the relationship between terminal materialism and attitude is a complex one, which may be a reason for the lack of support for H4.

Alternatively, it may be possible that the inclusion of many factors, along with the two control variables, absorbed some of the effect of terminal materialism, whereas previous quantitative studies (e.g. Armstrong et al. 2018b; Johnson, Mun & Chae, 2016) did not include as many

consumer characteristics. Indeed, terminal materialism had resulted as a significant negative predictor of attitude before removing the effect of the two covariates. Terminal materialism may thus be a weak predictor of attitude in light of the complex relationship outlined above, which effect is then made non-significant by the addition of other factors with a stronger and more direct association to the dependent variable.

Finally, ratings for terminal materialism were on average very low, potentially due to respondents' social desirability bias. The items for this construct, in fact, may have been perceived as socially undesirable, following many years of moral criticism directed to consumerism, accused of, among others, wastefulness and superficiality (Luedicke, Thompson & Giesler, 2010). Many individuals have thereby been trying to portray themselves as (culturally) distinct from the mass of mainstream, materialist consumers (Holt, 1998), often considered "mesmerized dupes of the corporate system" (Luedicke, Thompson & Giesler, 2010, p. 1017).

5.5   Green Self-Identity

As predicted, a significant positive relationship was found between green self-identity and attitude towards the clothing rental service. In other words, the more individuals identify themselves as green consumers, the more positive their attitude, in line with what explained earlier, i.e. that consumption plays a crucial part in constructing and expressing one's identity (Barbarossa et al. 2015; Belk, 1988). As making use of a clothing rental service is a sustainable way of consuming fashion, it is perceived as positive by green consumers. The results confirm other studies that found that green self-identity had a positive effect on attitudes and intention to engage in environmental behaviors (Barbarossa et al. 2015; Bartels & Hoogendam, 2011; Sparks & Shepherd, 1992). Moreover, the relationship between a high level of green self-identity and a positive attitude towards second-hand clothing rental services can be explained by the fact that renting second-hand clothing may serve as a way to express one's green self (Yan, Bae & Xu 2015). Consequently, holding a positive attitude towards a sustainable way of consumption (i.e. clothing rental) helps build and strengthen one's green identity.

Furthermore, the average score of green self-identity was considerably high, with more than two thirds of the respondents scoring 5 or higher. It cannot be excluded that social desirability came into play when respondents rated their agreement with the statements, which implies they provided a certain score because of what they considered socially acceptable (Malhotra, 2010). This may be related to social pressure around how individuals are expected to be concerned about, and behave around environmental issues. Namely, Sweden is one of the frontrunners in environmental awareness and action, especially around the theme of climate change, also thanks to widely known Swedish opinion leader Greta Thunberg. Therefore, consumers are aware that being green is socially desirable and may have felt the need to give a high rating on green self-identity because of others' expectations.

Interestingly, the positive effect of green self-identity declined substantially after including the control variables of age and attitude towards second-hand clothing, and a weak positive correlation between attitude towards second-hand clothing and green self-identity was observed. Thus, the more positive a consumer's attitude towards second-hand clothing, the

more they identify themselves as green (i.e. green self-identity), and vice versa. This seems logical, since it was found that second-hand clothing shoppers are more likely to be environmentally conscious than non-shoppers (Yan, Bae & Xu, 2015). Moreover, as discussed earlier, some consumers shop second-hand as a way to fight mass consumption (Guiot & Roux, 2010): hence, being positive about second-hand clothing enhances consumers' own pro-environmental self-image, as one's attitudes and actions have to be constant and in sync with each other in order to build a strong (green) identity (Whitmarsh & O'Neill, 2010). Additionally, attitude towards second-hand clothing is moderately positively correlated with attitude towards the service. The fact that this control variable has a stronger correlation with attitude towards using the service than green self-identity has explains why the effect of green self-identity weakens when the covariate is included in the model. Specifically, it can be expected that green self-identity includes several dimensions, i.e. that those consumers who consider themselves "green" pay attention to different aspects of their consumption, such as their diet, their transportation, and their clothing. Indeed, the dimension related to clothing is likely to be the most relevant for the PSS investigated, with attitude towards second-hand fashion constituting a large chunk. This would explain why, once the effect of attitude towards second-hand clothing is removed from the analysis, the influence of green self-identity decreases. What remains is then what was not included within the covariate but is still relevant for attitude towards the service.

5.6   Social Influence Susceptibility

The sixth hypothesis predicted a negative effect of social influence susceptibility on attitude towards a use-PSS for second-hand clothing. As reported in the results section, no evidence was found for such relationship: influence susceptibility appeared to be positively related to attitude. Interestingly, the effect of this consumer characteristic only emerged after the inclusion of the two covariates: indeed, attitude towards second-hand clothing and social influence susceptibility are significantly negatively correlated, although weakly, so that their opposing effects may have both been attributed to the latter in the initial regression model. It could be that a positive attitude towards second-hand clothing outweighs the effect of being susceptible to social influence that reinforces the existing norm of purchasing new apparel, or that such positive attitude is gendered by a social context encouraging second-hand fashion. This second explanation may thus be a reason why the association of social influence susceptibility and attitude towards the use-PSS was positive. Nevertheless, this specific quantitative research design entails the limitation of not knowing the social contexts where respondents form their attitude, including their reference groups.

On the other hand, previous studies within the domain of green consumption found a positive effect of social influence on consumers' eco-friendly purchase intention (Wang, 2014) and behavior (McNeill & Moore, 2015; Salazar, Oerlemans & van Stroe-Biezen, 2013). All these mentioned researches investigated the effect of social influence, and not of social influence susceptibility, hence with a different conceptualization and operationalization from the one of the present paper. Yet, Khare, Mukerjee and Goyal (2013) also employed Bearden, Netemeyer and Teel's (1989) social influence susceptibility scale, finding a positive effect on green shopping behavior. Furthermore, there are at least three possible explanations for the borderline significance level and the weak effect of social influence susceptibility in this research: first,

the mentioned studies relate to environment-friendly consumer purchase, which is a broad context compared to that of this dissertation, addressing a specific example of a use-PSS. Second, social influence susceptibility may not present the same relationship to attitude as to intention and behavior: this study did not explore the effect of such consumer characteristic on adoption intention, while behavior was not covered. Third, the difference in operationalization of social influence, based on a distinct conceptualization, could also limit the generalizability of previous results to the present research. What is more, McNeill and Moore's (2015) study was qualitative in nature, while Salazar, Oerlemans and van Stroe-Biezen's (2013) presented an experimental design. Notwithstanding, ratings for social influence susceptibility were the lowest across all the consumer characteristics investigated.

5.7   Adoption Intention

The last hypothesis, encompassing the positive relationship between attitude and adoption intention, was accepted, in line with the original Theory of Planned Behavior (Ajzen, 1991). Moreover, in the present model, attitude has a strong relationship with adoption intention, with a value for beta similar to the average of those reported by Ajzen's (1991) review of 16 studies employing the TPB to predict various behaviors. The findings of this study also confirm those of previous research on collaborative consumption (e.g. Becker-Leifhold, 2018; Hamari, Sjöklint & Ukkonen, 2015; Johnson, Mun & Chae, 2016). The use-PSS investigated in the present paper is based on a subscription involving a recurrent fee and regular engagement, such as to package and send back the rented clothes every month. Thus, consumers' decision to adopt it would likely be conscious and rational, on the grounds of an evaluation of the relative benefits and costs (Roos & Hahn, 2017). Therefore, as attitude represents an individual's overall assessment of performing a behavior (Ajzen, 1991), it is very likely that it will help explain intention, itself an antecedent of behavior.

The value of beta for the relationship between attitude and adoption intention is higher than in previous research in this domain, likely because no other component of the Theory of Planned Behavior was included in the model. More on this aspect will be elaborated in the Conclusion section. However, while some authors (Hamari, Sjöklint & Ukkonen, 2015; Vermeir & Verbeke, 2006) reported a rather weak effect of attitude on behavioral intention, this was not found for the specific case of second-hand clothing rental in Sweden. Furthermore, the addition of control variables did not substantially affect the influence of attitude on intention: while attitude towards second-hand clothing did not appear a significant predictor, age only predicted little of the variance in intention. It is possible that the effect of the first covariate had already been fully absorbed by attitude. In other words, attitude towards second-hand clothing is already contained in the attitude component.

5.8   Additional Analyses

Additional analyses were conducted to investigate potential differences between current adopters and non-adopters of a use-PSS in the form of second-hand clothing rental, i.e. customers and non-customers of Hack Your Closet. Customers and non-customers appeared to

differ significantly in terms of fashion leadership, attitude towards the service, and attitude towards second-hand clothing, as shown in Table 12.

Table 12: Summary of the differences between customers and non-customers

Variable	Difference
Fashion leadership	+.409 (customers)
Shopping enjoyment	Non-significant
Instrumental materialism	Non-significant
Terminal materialism	Non-significant
Green self-identity	Non-significant
Social influence susceptibility	Non-significant
Attitude	+1.062 (customers)
Attitude towards second-hand clothing	+.685 (customers)
Age	Non-significant

First, customers scored only slightly higher on fashion leadership than non-customers. A possible explanation may be that fashion leaders are characterized as innovators and pioneers in engaging in new trends, as well as in ways of consuming fashion (Hirschman & Adcock, 1978; Kang & Park-Poaps, 2010; Workman & Studak, 2006). It could be that current customers identify themselves as early adopters of a new way of consumption and use the clothing changes to differentiate themselves, whereas non-customer fashion leaders have not yet adopted this new way of acquiring fashion. Since making use of a clothing rental service is not mainstream yet, and adopters (the customers) are only a relatively small group, it could be said that the customers are slightly more innovative and risk-taking. As opposed to non-customers, customers are pioneers in adopting an innovative and sustainable way of clothing consumption, and they use second-hand clothing as a means to regularly create and change new outfits. Furthermore, the consideration that renting second-hand clothing is not widely accepted yet confirms that adopters are confident in their styling choices, which is also a trait of fashion leaders (Cholachatpinyo, Padgett & Crocker, 2002).

Second, the results showed that customers hold a more positive attitude towards the service than non-customers. This can simply be explained by the fact that customers need to positively evaluate the service and be convinced about the value they derive from it to continue their membership. In fact, in contrast to non-customers, they know exactly what the service entails, how they are treated, if the provider is trustworthy, and what the clothing is like. Therefore, customers can more confidently assess how the service meets their expectations and perceive a lower risk. Certain earlier discussed barriers to adoption of PSS such as trust in the provider, risk, and hygiene (Armstrong et al. 2015; Catulli, 2011; Rexfelt & af Ornäs, 2009) no longer come into play once one has been using the service. Instead, these concerns are more present for consumers who are not familiar with this type of PSS and cannot accurately evaluate it. It should be noted that most customers rated their attitudes towards the service with the highest scores (7): this could be explained by the fact that Hack Your Closet "ticks all the boxes" discussed in previous literature. As a matter of fact, the relationship between customer and provider, along with fulfilling customers' needs, is of high importance for PSS success (Mont, 2002). Namely, trust is established by keeping close and personal contact with the clients, having a high degree of transparency regarding operations and their impact on the environment, always being personally available and open for feedback, as well as giving new customers the chance to return the item they really dislike. This also translates into more trust in the provider and the service around issues such as hygiene and maintenance. Providing a personalized experience while being open for feedback and acting on it accordingly strengthens the relationship between user and provider, ensuring that the expressed needs of customers are acknowledged and satisfied, a crucial point for the success of any product-service-system.

Interestingly, the groups did not differ significantly on green self-identity, although this emerged as a significant predictor of attitude. As discussed earlier, this could have been caused by social desirability bias in respondents. As a matter of fact, nowadays individuals often feel they would face social disapproval if they did not show concern for environmental issues, and may perceive a high degree of social expectation to adopt "greener" consumption habits and to make more sustainable choices. This social pressure likely resulted in high scores on green self-identity by most respondents, despite their true green behaviors.

6   Conclusion

This study attempted to construct a model based on Ajzen's (1991) Theory of Planned Behavior to test the effect of six consumer characteristics on attitude towards a product-service system for second-hand clothing rental, as well as the influence of the latter on adoption intention. Hack Your Closet, a Swedish startup offering subscription-based monthly rental of second-hand apparel, served as a reference for the study and was included in the survey employed for the data collection. In order to test the seven formulated hypotheses, regression analyses were performed on data from a sample of 655 Swedish females, containing 91 customers of Hack Your Closet. The results of the statistical investigation revealed that, after controlling for two relevant covariates, fashion leadership and green self-identity both exert a positive influence on attitude towards the service, while the positive effect of social influence susceptibility displayed a borderline significance level. On the other hand, instrumental and terminal materialism and shopping enjoyment were not found to significantly affect attitude. Moreover, attitude showed a strong positive effect on adoption intention, also after controlling for age and attitude towards second-hand clothing.

6.1   Theoretical Contributions

The present paper offers several theoretical contributions. First, it broadens the perspective within the sustainable and collaborative consumption stream of research by investigating the influence of new consumer characteristics on attitude towards a service with the potential of significantly reducing resource use and waste in the fashion industry. To the knowledge of the authors, no previous study had tested a model with the same consumer characteristics as antecedents to attitude. In fact, the works that guided the present research usually addressed fewer characteristics, and the focus was more on the intention component of the Theory of Planned Behavior, or the actual engagement in the action in question, rather than on attitude. However, since attitude is often the strongest predictor of behavioral intention (Ajzen, 1991; White et al. 2009), it is valuable to shed more light on this element.

Furthermore, this investigation provided new insights on fashion consumption. To the knowledge of the authors and at the time of writing, the service under scrutiny, i.e. Hack Your Closet, constitutes a unique example and hence it enabled the development of new knowledge on consumers' attitude towards, and adoption intention of second-hand apparel rental. At the same time, this dissertation also contributed to enriching the literature stream on second-hand clothing not only by considering an online provider, but also a way of consumption different from standard purchase. On the other hand, the use of Hack Your Closet as reference in the survey, along with the clear description of the clothes circulated by the service, allowed the researchers to focus the investigation on a narrow and well-specified definition of "second-

hand". In fact, as discussed in the Literature Review, second-hand fashion is often confused with vintage clothing, or researched without separating the product from the point of sale, while in this dissertation, "second-hand" simply means preowned.

This study also adds knowledge to PSS literature, which is mostly qualitative in nature and rarely addresses a fashion domain and the effect of consumer characteristics. Related to the latter, the authors followed the call for further research on consumers' acceptance of PSS by Catulli, Cook and Potter (2017a) by delving into attitude and adoption intention. Namely, the present paper helps identify groups of consumers which may be more attracted to PSS. Further, besides being scarce, research on clothing rental is usually based on hypothetical scenarios (e.g. Armstrong, 2015; Lang & Armstrong, 2018b) or on services for luxury fashion (Lang, Zhao & Lin, 2020; Shin & McKinney, 2014). Employing the Swedish startup as a reference case increased the validity of the results, as respondents were provided enough details on the service and could perceive it as realistic. Moreover, PSS research does not really address consumers' characteristics, especially within fashion. Finally, this study added new insights on the attitude component within the Theory of Planned Behavior, by showing how it can in fact be influenced by certain consumer characteristics, along with personality traits (Ajzen, 1991; Lang & Armstrong, 2018b). At the same time, it also confirmed that attitude plays a substantial role in predicting adoption intention (Ajzen, 1991; White et al. 2009).

6.2   Managerial Implications

This dissertation can find several practical applications, for firms implementing a business model based on provision of a PSS for second-hand clothing. The results hint to the presence of two main segments, namely the fashion leaders and the sustainable consumers. As far as social influence susceptibility is concerned, this may be rather difficult to target effectively.

First, the fact that fashion leadership displayed a significant positive effect on attitude suggests that managers and marketing activities could leverage on the novelty and the uniqueness of the PSS. This may be by highlighting their firm is "the first" or "one of the first" to implement the service, or, possibly, that a huge wardrobe can be an impediment to a dynamic life, while rental provides more variety without the burdens. A service similar to Hack Your Closet could also stress that the broad selection offered can let users experience brands that are not available in their city, or styles they have been afraid to try, and that receiving new items every month allows fashion leaders to always exhibit a fresh style without it becoming boring or "over-exploited". An effective approach could thus be underlining the novelty of the concept, as opposed to the trendiness of brands. Further, similar businesses may also invest in advertising on "hype" fashion platforms, or seek collaboration with relevant influencers, especially on social media such as Instagram. To effectively target the fashion leader segment, the authors suggest mentioning the sustainability value of the service as a "plus" along with the aspects just presented. Since "green" is often trendy nowadays, especially in a country like Sweden, highlighting how taking an eco-conscious approach to clothing is "cutting-edge" could prove

successful. Shortly, a use-PSS of this type provides fashion leaders with all the perks of experimentation, while removing some of the risks entailed by purchasing a wide array of styles and brands. As this segment is a pioneer with new trends and has the power to influence others, they have the potential to drive this use-PSS out of a niche and make it more widespread: it is hence pivotal to attract them and get them on board.

The second segment emerged is represented by consumers identifying themselves as "green". These individuals seem to appreciate how the service can benefit the environment and likely hold a positive attitude towards second-hand clothing. In order to effectively target this segment, businesses should highlight and be transparent about how their service has a reduced environmental footprint, as opposed to other forms of consumption. Furthermore, for the specific case of Hack Your Closet, it is likely that these consumers are also concerned about the materials and possibly the brands they receive. Next, the additional comments left by the respondents at the end of the survey indicated that some users did not appreciate items in polyester and complained about finding synthetic materials in their boxes more often than they would like. However, this poses a dilemma for providers: saving as many clothes from being underutilized and destroyed versus client satisfaction by only offering more sustainable alternatives. A potential solution may be to ask for users' feedback on the materials they prefer, attempting to satisfy the most demanding customers. Another point of concern for some non-users was also the degree of transportation and packaging entailed by the service: this suggests that companies should strive to be informative and transparent about how they tackle the environmental impact of their activities. Thus, if a PSS provider succeeds in presenting itself as eco-friendly, "green" consumers will likely identify themselves with it and will be proud to express themselves by using its services.

On the other hand, social influence susceptibility may be less straightforward to target, since it is also dependent on the social context surrounding consumers, i.e. on what is considered "normal" within their reference group (Rettie, Burchell & Riley, 2012). Since this characteristic was uncovered to affect attitude positively, businesses could encourage word-of-mouth by sharing comments of satisfied users on their website, social media, and other marketing communication platforms. Moreover, an idea would be to allow social media "takeovers" by happy customers, who could share their experience with the service. Alternatively, firms could offer incentives for client referrals, such as a free month of subscription if users convince a friend to sign up for the service: this way, customers would be incentivized to encourage people close to them to join, so that the most susceptible to social influence may give in and try the PSS.

Since attitude towards second-hand clothes emerged to have such a strong relationship with attitude towards the use-PSS, companies providing a similar service could specifically target those consumers that appreciate second-hand apparel. To do so effectively, the four main motives behind second-hand consumption identified by the literature - namely recreational, economic, critical, and "green" - should be incorporated into the value proposition of the PSS and highlighted in marketing messages. Nevertheless, such drivers are often intertwined with an interest in vintage fashion, as it is the case for nostalgia, while services similar to that of

Hack Your Closet circulate relatively recent pieces. A possible approach to cast a wide net and maximize success could be to include some vintage items, in order to also meet consumers' longing for originality, uniqueness and freedom, and authenticity (Beard, 2008; Ferraro, Sands & Brace-Govan, 2016; Roux & Guiot, 2008; Sorensen & Jorgensen, 2019). Furthermore, some creativity may be required to address the recreational motive, since users play no role in the selection of the clothes and thus miss the "treasure hunt" experience (Guiot & Roux, 2010). Strategies may include emphasizing the surprise component, drawing parallels between the monthly box with the pieces and a big present to unwrap, or the fact that users could experiment with a different style every month and share "their" new clothes on social media. This would also potentially attract fashion leaders.

Furthermore, as attitude towards second-hand clothing seems to have such a strong effect on attitude, businesses could also work on educating consumers about preowned apparel. Since there is still some degree of stigma on it, with individuals being concerned about its unpleasant smell and dirtiness, as it emerged in a few comments, marketing activities should try to change these attitudes. This could be by highlighting the steps taken by the service to sanitize the garments, as well as explaining how often clothes are underutilized and only worn a few times before being discarded, and by educating consumers about the detrimental effects traditional fashion consumption has on the planet. Another interesting finding of the study was that consumers expressed a very positive attitude towards the PSS, despite it being rather unknown. This suggests that, at least within the Swedish market, a similar business model would probably face positive reactions. Yet, high scores on attitude did not translate into strong adoption intention, implying that consumers need a push to make the leap and subscribe. Firms could try to bridge the gap between attitude and intention by boosting marketing communications and by offering benefits to try the service for the first time or even to re-subscribe. Incentives may include a discount on the fee for the first month(s), and the possibility to pick the pieces only for the first box, so that users may feel more in control and confident the stylist's choices would subsequently match their taste.

6.3   Generalizability of the Findings

The specificity of the context of this study does not necessarily preclude its generalizability to other settings and hopefully these findings can be applied to other firms, types of PSS, and, potentially, industries. Whereas the sample considered is not fully representative of the Swedish female population, it is rather large and includes a broader range of ages and occupations, as opposed to only students, which is the case for many studies. Crucially, comparing customers and non-customers revealed that the mean difference in attitude was not substantial, albeit still significant. This suggest that ratings on attitude and adoption intention should have not been contaminated by respondents' perceptions of the provider, which is a key component of service evaluation (Amstrong et al. 2015; Catulli, 2011: Rexfelt & af Ornäs, 2009), although the startup employed as reference for the survey is relatively unknown in Sweden. Therefore, findings could potentially be reliably extended to other startups or less-known companies, which is often

the case for PSS, as they entail a disruptive business model and new entrants were found to be generally more creative and innovative (Stål & Jansson, 2017). As for larger or widely known firms that are implementing or are planning to implement some forms of PSS, the applicability of these results could be limited, as consumers' perceptions of the company are already formed priorly.

6.4   Limitations of this Research

As it is often the case in research, this dissertation has some limitations. First, the sample considered for the study is not perfectly representative of the Swedish population. Due to limited resources, most importantly time, it was a convenience sample and, albeit striving to cover several age groups and geographic areas within Sweden, it mainly contained users of certain Facebook groups, thus excluding most non-users. Other potential sources of bias in the chosen method were already outlined in Chapter 3, and it should be added that the goodness of the adaptation of the existing scales was not assessed with a pilot test. The fact that most scales were shortened by removing items may imply a decrease in their validity. Especially for the case of social influence susceptibility, the original operationalization by Bearden, Netemeyer and Teel (1989) contained twelve items forming a two-factor construct, which may not have been equally represented by a shorter, five-item scale. Furthermore, the final sample showed a severe imbalance between those respondents who indicated to be customers and those who did not: non-customers were over 6 times more numerous than customers. However, assuming that Hack Your Closet's customers represent but a small fraction of the Swedish female population, this asymmetry had been expected. Finally, only females were targeted as respondents, so that findings may not benefit research and strategies for PSS with male users.

Second, the present study was based on the case of a Swedish startup with a unique business model, so that findings may not be fully generalizable to other types of clothing use-PSS. Yet, due to the very limited diffusion of use-PSS for fashion, companies partly rely on creativity and distinctiveness to succeed, so that research would have to be focused on each specific business in order to be completely applicable.

In addition, as mentioned in the Introduction and in Chapter 2, this study has focused on attitude as a sole predictor of adoption intention. However, within the Theory of Planned Behavior, intention can also be predicted by other two conceptually independent determinants, namely subjective norm and behavioral intention. While the findings indicate that attitude explains a large share of variance in adoption intention, results may differ if the other components were included. On the other hand, Ajzen's (1991) review reports that attitude is the strongest predictor in regression analysis in 9 of the 16 studies inspected.

6.5 Directions for Future Research

This dissertation opened up several questions that are worth of further investigation by future research. First, as mentioned, the present study only considered a section of the Theory of Planned Behavior model: it would be insightful to test whether the inclusion of subjective norms and perceived behavioral control would substantially affect the relationship between attitude and adoption intention. Yet, attitude, subjective norm, and perceived behavioral control may still not fully explain adoption intention, as numerous other factors play a role, e.g. affective judgement, personal feelings of responsibility or moral obligation, past behavior (Ajzen, 1991; Lang & Armstrong, 2018b). Future attempts may develop a more complete model. An interesting path may be to combine TPB and Rogers' (1962) framework for adoption of innovation. In fact, PSS are still a relatively new phenomenon, hence they could be regarded as innovations, so that Rogers' model could help gain a more complete understanding of the possible sources of variance in attitude, such as perceived barriers.

A research strategy with high potential to deliver interesting insights would also be to first conduct focus groups or interviews to gather exploratory qualitative data and to subsequently construct a questionnaire to run statistical analyses. Qualitative data may also help better explain the observed gap between attitude and adoption intention: as the former showed highly positive ratings, it would be extremely valuable to develop knowledge on how to translate those into strong adoption intentions. Moreover, interviews with adopters could shed light on some of the attributes they perceive as valuable, to uncover some of their motives for choosing PSS or moving back to traditional consumption methods based on ownership. Additionally, the present study employed a rather general operationalization of attitude, which did not specifically measure how consumers perceive the value proposition of the service (such as sustainable, convenient, exciting). Future research may construct a more bespoke semantic scale, to assess respondents' evaluation of the specific value offered by the PSS, thereby identifying possible gaps with what the business aims at providing.

Next, only three of the six consumer characteristics considered appeared to exert a significant effect on attitude, with social influence susceptibility displaying a borderline significance level. As discussed, instrumental materialism especially presented issues: future research efforts may consequently employ better fitting conceptualization and operationalization, or find a strategy to clarify that a high score on the items implies that the utility value of possession is the primary and central concern. Since the six characteristics are by no means the only ones influencing attitude, new studies may include other relevant ones, such as being prone to status consumption, cosmopolitanism, risk- and change-aversion, or future-orientation (Hofstede, Jonkert & Verwaart, 2008). Further investigation could also compare Swedish consumers to other nationalities, to assess whether attitude is influenced by consumer characteristics in the same way or if the same mismatch between attitude and adoption can be observed.

References

Ajzen, I. (1991). The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211

Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior, *Journal of Applied Social Psychology*, vol. 32, no. 4, pp. 665-683

Ajzen, I., & Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior, Englewood Cliffs, NJ: Prentice-Hall

Akbar, P., Mai, R., & Hoffmann, S. (2016). When Do Materialistic Consumers Join Commercial Sharing Systems, *Journal of Business Research*, vol. 69, no. 10, pp. 4215-4224

Amed, I., Balchandan, A., Beltrami, M., Berg, A., Hedrich, S. and Rölkens, F. (2019). The End of Ownership For Fashion Products?, Available online: https://www.mckinsey.com/industries/retail/our-insights/the-end-of-ownership-for-fashion-products [Accessed 10 May 2020]

Antikainen, M., & Valkokari, K. (2016). A Framework for Sustainable Circular Business Model Innovation, *Technology Innovation Management Review,* vol. 6, no. 5, pp. 5–12

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review, *British Journal of Social Psychology*, vol. 40, no. 4, pp. 471-499

Armstrong, C. M., Niinimäki, K., Kujala, S., Karell, E., & Lang, C. (2015). Sustainable Product-Service Systems for Clothing: Exploring consumer perceptions of consumption alternatives in Finland, *Journal of Cleaner Production,* vol. 97, pp. 30-39

Armstrong, C. M., Niinimäki, K., Lang, C., & Kujala, S. (2016). A Use-Oriented Clothing Economy? Preliminary affirmation for sustainable clothing consumption alternatives, *Sustainable Development*, vol. 24, no. 1, pp. 18-31

Arnold, M. J., & Reynolds, K. E. (2003). Hedonic Shopping Motivations, *Journal of Retailing*, vol. 79, no. 2, pp. 77-95

Arts, J. W., Frambach, R. T., & Bijmolt, T. H. (2011). Generalizations on Consumer Innovation Adoption: A meta-analysis on drivers of intention and behavior, *International Journal of Research in Marketing*, vol. 28, no. 2, pp. 134-144

Auty, S., & Elliott, R. (1998). Fashion Involvement, Self-Monitoring and the Meaning of Brands, *Journal of Product & Brand Management*, vol. 7, no. 2, pp. 109-123

Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or Fun: Measuring hedonic and utilitarian shopping value, *Journal of Consumer Research*, vol. 20, no. 4, pp. 644-656

Barbarossa, C., Beckmann, S. C., De Pelsmacker, P., Moons, I., & Gwozdz, W. (2015). A Self-Identity Based Model of Electric Car Adoption Intention: A cross-cultural comparative study, *Journal of Environmental Psychology*, vol. 42, pp. 149-160

Bardhi, F., & Eckhardt, G. M. (2012). Access-Based Consumption: The case of car sharing, *Journal of Consumer Research*, vol. 39, no. 4, pp. 881-898

Barenblat, A. (2017). Why Is Fast Fashion A Bad Thing?, Available online: https://remake.world/stories/news/why-is-fast-fashion-a-bad-thing/ [Accessed 19 May 2020]

Barnes, S. J., & Mattsson, J. (2017). Understanding Collaborative Consumption: Test of a theoretical model, *Technological Forecasting and Social Change*, vol. 118, pp. 281-292

Barone, M. J., Shimp, T. A., & Sprott, D. E. (1999). Product Ownership as a Moderator of Self-Congruity Effects, *Marketing Letters*, vol. 10, no. 1, pp. 75-86

Bartels, J., & Hoogendam, K. (2011). The Role of Social Identity and Attitudes Toward Sustainability Brands in Buying Behaviors for Organic Products, *Journal of Brand Management*, vol. 18, no. 9, pp. 697-708

Beard, N. D. (2008). The Branding of Ethical Fashion and the Consumer: A luxury niche or mass-market reality?, *Fashion Theory*, vol. 12, no. 4, pp. 447-467

Bearden, W. O., & Rose, R. L. (1990). Attention to Social Comparison Information: An individual difference factor affecting consumer conformity, *Journal of Consumer Research*, vol. 16, no. 4, pp. 461-471

Bearden, W. O., Netemeyer, R. G., & Teel, J. E. (1989). Measurement of Consumer Susceptibility to Interpersonal Influence, *Journal of Consumer Research*, vol. 15, no. 4, pp. 473-481

Beaudoin, P., Moore, M. A., & Goldsmith, R. E. (2000). Fashion Leaders' and Followers' Attitudes toward Buying Domestic and Imported Apparel, *Clothing and Textiles Research Journal*, vol. 18, no. 1, pp. 56-64

Becker-Leifhold, C. V. (2018). The role of values in collaborative fashion consumption - A critical investigation through the lenses of the theory of planned behavior, *Journal of Cleaner Production*, vol. 199, pp. 781-791

Belk, R. W., & Pollay, R. W. (1985). Images of Ourselves: The Good Life in Twentieth Century Advertising, *Journal of Consumer Research,* vol. 11, no. 4, pp. 887-897

Belk, R. W. (1988). Possessions and the Extended Self, *Journal of Consumer Research*, vol. 15, no. 2, pp. 139-168

Belk, R. W. (2014). You Are What You Can Access: Sharing and collaborative consumption online, *Journal of Business Research,* vol. 67, no. 8, pp. 1595-1600

Berkhout, P. H., Muskens, J. C., & Velthuijsen, J. W. (2000). Defining the Rebound Effect, *Energy Policy*, vol. 28, no. 6-7, pp. 25-432

Bertrandias, L., & Goldsmith, R. E. (2006). Some Psychological Motivations for Fashion Opinion Leadership and Fashion Opinion Seeking, *Journal of Fashion Marketing and Management,* vol. 10, no. 1, pp. 25-40

Beuren, F. H., Ferreira, M. G. G., & Miguel, P. A. C. (2013). Product-Service Systems: A literature review on integrated products and services, *Journal of Cleaner Production*, vol. 47, pp. 222-231

Bloch, P. H., & Richins, M. L. (1983). Shopping Without Purchase: An investigation of consumer browsing behavior, *Advances in Consumer Research,* vol. 10, pp. 389-393

Bly, S., Gwozdz, W., & Reisch, L. A. (2015). Exit from the High Street: An exploratory study of sustainable fashion consumption pioneers, *International Journal of Consumer Studies*, vol. 39, no. 2, pp. 125-135

BOF & McKinsey (2019). The State of Fashion 2019, London: Colourage. Available at: https://cdn.businessoffashion.com/reports/The_State_of_Fashion_2019.pdf [Accessed 16 May 2020]

Browne, B. A., & Kaldenberg, D. O. (1997). Conceptualizing Self-Monitoring: Links to materialism and product involvement, *Journal of Consumer Marketing*, vol. 14, no. 1, pp. 31-44

Bureau of International Labor Affairs. (2018). U.S. Department Of Labor's 2018 List Of Goods Produced By Child Labor Or Forced Labor, Available online: https://www.dol.gov/sites/dolgov/files/ILAB/ListofGoods.pdf [Accessed 20 May 2020]

Burns, R. P., & Burns, R. (2008). Business Research Methods and Statistics Using SPSS, UK: Sage

Catulli, M. (2011). What Uncertainty?: Further insight into why consumers might be distrustful of product service systems, *Journal of Manufacturing Technology Management,* vol. 23, no. 6, pp. 780-793

Catulli, M., Cook, M., & Potter, S. (2017a). Consuming Use Orientated Product Service Systems: A consumer culture theory perspective, *Journal of Cleaner Production*, vol. 141, pp. 1186-1193

Catulli, M., Cook, M., & Potter, S. (2017b). Product Service Systems Users and Harley Davidson Riders: The importance of consumer identity in the diffusion of sustainable consumption solutions, *Journal of Industrial Ecology*, vol. 21, no. 5, pp. 1370-1379

Cerullo, M. (2019). Fashion Industry's Carbon Impact Bigger Than Airline Industry's, Available online: https://www.cbsnews.com/news/earth-day-2019-fashion-industrys-carbon-impact-is-bigger-than-airline-industrys/ [Accessed 7 May 2020]

Cervellon, M. C., Carey, L., & Harms, T. (2012). Something Old, Something Used: Determinants of women's purchase of vintage fashion vs second-hand fashion, *International Journal of Retail & Distribution Management,* vol. 40, no. 12, pp. 956-974

Cho, S., & Workman, J. E. (2014). Relationships Among Gender, Fashion Leadership, Need for Affect, and Consumers' Apparel Shopping Preference, *Family and Consumer Sciences Research Journal*, vol. 42, no. 4, pp. 369-385

Cholachatpinyo, A., Padgett, I., Crocker, M., & Fletcher, B. (2002). A Conceptual Model of the Fashion Process-Part 2: An empirical investigation of the micro-subjective level, *Journal of Fashion Marketing and Management*, vol. 6, no. 1, pp. 24-34

Claudy, M. C., Peterson, M., & O'Driscoll, A. (2013). Understanding the Attitude-Behavior Gap for Renewable Energy Systems Using Behavioral Reasoning Theory, *Journal of Macromarketing*, vol. 33, no. 4, pp. 273-287

Conner, M., Godin, G., Sheeran, P., & Germain, M. (2013). Some Feelings Are More Important: Cognitive attitudes, affective attitudes, anticipated affect, and blood donation, *Health Psychology*, vol. 32, no. 3, pp. 264-272

Cook, A. J., Kerr, G. N., & Moore, K. (2002). Attitudes And Intentions Towards Purchasing GM Food, *Journal of Economic Psychology*, vol. 23, no. 5, pp. 557-572

Cook, M. (2014). Fluid Transitions to More Sustainable Product Service Systems, *Environmental Innovation and Societal Transitions*, vol. 12, pp, 1-13

Cox, A. D., Cox, D., & Anderson, R. D. (2005). Reassessing the Pleasures of Store Shopping, *Journal of Business research*, vol. 58, no. 3, pp. 250-259

Csikszentmihalyi, M., & Rochberg-Halton, E. (1978). Reflections on Materialism, *University of Chicago Magazine*, vol. 70, no. 3, pp. 6-15

Deutsch, M., & Gerard, H. B. (1955). A Study of Normative and Informational Social Influences upon Individual Judgment, *The Journal of Abnormal and Social Psychology*, vol. 51, no. 3, pp. 629-636

Durgee, J. F., & Colarelli O'Connor, G. (1995). An Exploration into Renting as Consumption Behavior, *Psychology & Marketing*, vol. 12, no. 2, pp. 89-104

Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2018). Management and Business Research (6th edn), UK: Sage

Eastman, J. K., Goldsmith, R. E., & Flynn, L. R. (1999). Status Consumption in Consumer Behavior: Scale development and validation, *Journal of Marketing Theory and Practice*, vol. 7, no. 3, pp. 41-52

EMF (2017). A New Textiles Economy: Redesigning fashion's future, United Kingdom: Cowes, Available at: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/A-New-TextilesEconomy_Full-Report_Updated_1-12-17.pdf [Accessed 7 May 2020]

Evans, J. R., & Mathur, A. (2018). The Value of Online Surveys: A look back and a look ahead, *Internet Research*, vol. 28, no. 4, pp. 854-887

Farrant, L., Olsen, S. I., & Wangel, A. (2010). Environmental Benefits from Reusing Clothes, *The International Journal of Life Cycle Assessment*, vol. 15, no. 7, pp. 726-736

Ferraro, C., Sands, S., & Brace-Govan, J. (2016). The Role of Fashionability in Second-Hand Shopping Motivations, *Journal of Retailing and Consumer Services*, vol. 32, pp. 262-268

Field, A. (2010). Discovering Statistics Using IBM SPSS Statistics, UK: Sage

Flynn, L. R., & Eastman, J. K. (1996). Status Consumption and Fashion Behavior: An exploratory study, *Proceedings of the Association of Marketing Theory and Practice*, no. 5, pp. 309-316.

Galvagno, M., & Giaccone, S. C. (2015). Second-Hand Shopping. analisi delle motivazioni d'acquisto e implicazioni per la distribuzione, *Mercati e Competitività*, no. 1, pp. 123-147

Gam, H. J. (2011). Are Fashion-Conscious Consumers More Likely to Adopt Eco-Friendly Clothing?, *Journal of Fashion Marketing and Management,* vol. 15, no. 2, pp. 178-193

Garson, G. D. (2016). Partial Least Squares: Regression and structural equation models, Asheboro, NC: Statistical Associates Publishers

Goedkoop, M.J, van Halen, C.J.G, te Riele, H.R.M. & Rommens, P.J.M. Product Service Systems, Ecological and Economic Basis (1999), PricewaterhouseCoopers N.V. / Pi!MC, Storrm C.S., PRé consultants

Goldsmith, R. E., & Clark, R. A. (2012). Materialism, Status Consumption, and Consumer Independence, *The Journal of Social Psychology*, vol. 152, no. 1, pp. 43-60

Goldsmith, R. E., Flynn, L. R., & Clark, R. A. (2012). Materialistic, Brand Engaged and Status Consuming Consumers and Clothing Behaviors, *Journal of Fashion Marketing and Management*, vol. 16, no. 1, pp. 102-119

Goldsmith, R. E., Freiden, J. B., & Kilsheimer, J. C. (1993). Social Values and Female Fashion Leadership: A cross-cultural study, *Psychology & Marketing*, vol. 10, no. 5, pp. 399-412

Guiot, D., & Roux, D. (2010). A Second-Hand Shoppers' Motivation Scale: Antecedents, consequences, and implications for retailers, *Journal of Retailing*, vol. 86, no. 4, pp. 355-371

Guiry, M., Mägi, A. W., & Lutz, R. J. (2006). Defining and Measuring Recreational Shopper Identity, *Journal of the Academy of Marketing Science*, vol. 34, no. 1, pp. 74-83

Gutman, J. and Mills, M.K. (1982), Fashion Lifestyle, Self-Concept, Shopping Orientation and Store Patronage: An integrative analysis, J*ournal of Retailing*, Vol. 58, No. 2, pp. 64-86

Hack Your Closet. (2020). Sustainability Goals, Available online: https://www.hackyourcloset.com/sustainability-goals/ [Accessed 1 April 2020]

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet, *Journal of Marketing Theory and Practice*, vol 19, no. 2, pp. 139-152

Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The Sharing Economy: Why people participate in collaborative consumption, *Journal of the Association for Information Science and Technology*, vol. 67, no. 9, pp. 2047-2059

Han, J., Seo, Y., & Ko, E. (2017). Staging Luxury Experiences for Understanding Sustainable Fashion Consumption: A balance theory application, *Journal of Business Research*, vol. 74, pp. 162-167

Herjanto, H., Scheller-Sampson, J., & Erickson, E. (2016). The Increasing Phenomenon of Second-Hand Clothes Purchase: Insights from the Literature, *Jurnal Manajemen dan Kewirausahaan*, vol. 18, no. 1, pp. 1-15

Hirschman, E. C., & Adcock, W. O. (1978). An Examination of Innovative Communicators, Opinion Leaders and Innovators for Men's Fashion Apparel, *Advances in Consumer Research,* vol. 5, pp. 308-314

Hofstede, G. J., Jonker, C. M., & Verwaart, T. (2008). Long-Term Orientation in Trade, *Complexity and Artificial Markets,* Berlin: Springer, pp. 107-119

Holt, D. B. (1995). How Consumers Consume: A typology of consumption practices, *Journal of Consumer Research*, vol. 22, no. 1, pp. 1-16

Holt, D. B. (1998). Does Cultural Capital Structure American Consumption?, *Journal of Consumer Research*, vol. 25, no. 1, pp. 1-25

Hook, L. (2019). Year in a word: Flygskam, Financial Times, 29 December, Available online: https://www.ft.com/content/5c635430-1dbc-11ea-97df-cc63de1d73f4 [Accessed 20 May 2020]

Hu, L. T., & Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling: A Multidisciplinary Journal*, vol. 6, no. 1, pp. 1-55

Hwang, J., & Griffiths, M. A. (2017). Share More, Drive Less: Millennials value perception and behavioral intent in using collaborative consumption services, *Journal of Consumer Marketing*, vol. 34, no. 2, pp. 132-146

Jackson, D. L., Gillaspy Jr, J. A., & Purc-Stephenson, R. (2009). Reporting Practices in Confirmatory Factor Analysis: An overview and some recommendations, *Psychological Methods*, vol. 14, no. 1, pp. 6-23

Johnson, K. K., Mun, J. M., & Chae, Y. (2016). Antecedents to Internet Use to Collaboratively Consume Apparel, *Journal of Fashion Marketing and Management*, vol. 20, no. 4, pp. 370-382

Kang, J., & Park-Poaps, H. (2010). Hedonic and Utilitarian Shopping Motivations of Fashion Leadership, *Journal of Fashion Marketing and Management,* vol. 14, no. 2, pp. 312-328

Khare, A., Mishra, A., Parveen, C., & Srivastava, R. (2011). Influence of consumers' susceptibility to interpersonal influence, collective self-esteem and age on fashion clothing involvement: A study on Indian consumers, *Journal of Targeting, Measurement and Analysis for Marketing*, vol. 19, no. 3-4, pp. 227-242

Khare, A., Mukerjee, S., & Goyal, T. (2013). Social Influence and Green Marketing: An exploratory study on Indian consumers, *Journal of Customer Behaviour*, vol. 12, no. 4, pp. 361-381

Kim, H. Y., & Kim, Y. K. (2008). Shopping Enjoyment and Store Shopping Modes: The moderating influence of chronic time pressure, *Journal of Retailing and Consumer Services*, vol. 15, no. 5, pp. 410-419

Korcaj, L., Hahnel, U. J., & Spada, H. (2015). Intentions to Adopt Photovoltaic Systems Depend on Homeowners' Expected Personal Gains and Behavior of Peers, *Renewable Energy*, vol. 75, pp. 407-415

Lang, C. (2018). Perceived Risks and Enjoyment of Access-Based Consumption: Identifying barriers and motivations to fashion renting, *Fashion and Textiles*, vol. 5, no. 1, pp. 1-18

Lang, C., & Armstrong, C. M. J. (2018a). Fashion Leadership and Intention Toward Clothing Product-Service Retail Models, *Journal of Fashion Marketing and Management,* vol. 22, no. 4, pp. 571-587

Lang, C., & Armstrong, C. M. J. (2018b). Collaborative Consumption: The influence of fashion leadership, need for uniqueness, and materialism on female consumers' adoption of clothing renting and swapping, *Sustainable Production and Consumption*, vol. 13, pp. 37-47

Lang, C., Li, M., & Zhao, L. (2020). Understanding Consumers' Online Fashion Renting Experiences: A text-mining approach, *Sustainable Production and Consumption*, vol. 21, pp. 132-144

Lawson, S. J., Gleim, M. R., Perren, R., & Hwang, J. (2016). Freedom from Ownership: An exploration of access-based consumption, *Journal of Business Research*, vol. 69, no. 8, pp. 2615-2623

Leary, M. R., & Kowalski, R. M. (1990). Impression Management: A literature review and two-component model, *Psychological Bulletin*, vol. 107, no. 1, pp. 34-47

Lee, J., & AbuAli, M. (2011). Innovative Product Advanced Service Systems (I-PASS): Methodology, tools, and applications for dominant service design, *The International Journal of Advanced Manufacturing Technology*, vol. 52, no. 9-12, pp. 1161-1173

Lee, S. H., & Chow, P. S. (2020). Investigating Consumer Attitudes and Intentions Toward Online Fashion Renting Retailing, *Journal of Retailing and Consumer Services*, vol. 52, pp. 1-9

Lehner, M., Mont, O., & Heiskanen, E. (2016). Nudging: A promising tool for sustainable consumption behaviour?, *Journal of Cleaner Production*, vol. 134, pp. 166-177

Lietz, P. (2010). Research into Questionnaire Design, *International Journal of Market Research*, vol. 52, no. 2, pp. 249-272

Loureiro, S. M. C., Costa, I., & Panchapakesan, P. (2017). A Passion for Fashion, *International Journal of Retail & Distribution Management*, vol. 45, no. 5, pp. 468-484

Luedicke, M. K., Thompson, C. J., & Giesler, M. (2010). Consumer Identity Work as Moral Protagonism: How myth and ideology animate a brand-mediated moral conflict, *Journal of Consumer Research*, vol. 36, no. 6, pp. 1016-1032

Magnin, C. & Hedrich, S. (2019). Refashioning Clothing's Environmental Impact, Available online: https://www.mckinsey.com/industries/retail/our-insights/the-end-of-ownership-for-fashion-products [Accessed 10 May 2020]

Malhotra, N. K. (2010). Marketing Research: An applied orientation (6th edn.), Pearson Education

Malhotra, N.L., & Birks, D.F. (2003). Marketing Research: An applied approach (2nd edn.), New York: Pearson Education

Mannetti, L., Pierro, A., & Livi, S. (2004). Recycling: Planned and self-expressive behaviour, *Journal of Environmental Psychology*, vol. 24, no. 2, pp. 227-236

Marcoux, J. S., Filiatrault, P., & Cheron, E. (1997). The Attitudes Underlying Preferences of Young Urban Educated Polish Consumers Towards Products Made in Western Countries, *Journal of International Consumer Marketing*, vol. 9, no. 4, pp. 5-29

Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In Search of Golden Rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings, *Structural Equation Modeling: A Multidisciplinary Journal*, vol. 11, no. 3, pp. 320-341

Maslow, A. H. (1943). A Theory of Human Motivation, *Psychological Review*, vol. 50, no. 4, pp. 370-396

McFall-Johnsen, M. (2019). The Fashion Industry Emits More Carbon Than International Flights and Maritime Shipping Combined: Here are the biggest ways it impacts the planet, Available online: https://www.businessinsider.com/fast-fashion-environmental-impact-pollution-emissions-waste-water-2019-10?r=US&IR=T [Accessed 11 May 2020]

McNeill, L., & Moore, R. (2015). Sustainable Fashion Consumption and the Fast Fashion Conundrum: Fashionable consumers and attitudes to sustainability in clothing choice, *International Journal of Consumer Studies*, vol. 39, no. 3, pp. 212-222

Mont, O. K. (2002). Clarifying the Concept of Product–Service System, *Journal of Cleaner Production,* vol. 10, no. 3, pp. 237-245

Morgan, L. R., & Birtwistle, G. (2009). An Investigation of Young Fashion Consumers' Disposal Habits, *International Journal of Consumer Studies*, vol. 33, no. 2, pp. 190-198

Morris, M. G., & Venkatesh, V. (2000). Age Differences in Technology Adoption Decisions: Implications for a changing work force, *Personnel Psychology*, vol. 53, no. 2, pp. 375-403

Morris, M. G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and Age Differences in Employee Decisions about New Technology: An extension to the theory of planned behavior, *IEEE transactions on engineering management*, vol. 52, no. 1, pp. 69-84

Noesjirwan, J. A., & Crawford, J. M. (1982). Variations in Perception of Clothing as a Function of Dress Form and Viewers' Social Community, *Perceptual and Motor Skills*, vol. 54, no. 1, pp. 155-163

O'Cass, A. (2004). Fashion Clothing Consumption: Antecedents and consequences of fashion clothing involvement, *European Journal of Marketing*, vol. 38, no. 7, pp. 869-882

O'Cass, A., & McEwen, H. (2004). Exploring Consumer Status and Conspicuous Consumption, *Journal of Consumer Behaviour: An International Research Review,* vol. 4, no. 1, pp. 25-39

Odekerken-Schröder, G., De Wulf, K., & Schumacher, P. (2003). Strengthening Outcomes of Retailer–Consumer Relationships: The dual impact of relationship marketing tactics and consumer personality, *Journal of business research*, vol. 56, no. 3, pp. 177-190

Peattie, K. (2001). Towards Sustainability: The third age of green marketing, *The Marketing Review*, vol. 2, no. 2, pp. 129-146

Piscicelli, L., Cooper, T., & Fisher, T. (2015). The Role of Values in Collaborative Consumption: Insights from a product-service system for lending and borrowing in the UK, *Journal of Cleaner Production*, vol. 97, pp. 21-29

Rettie, R., Barnham, C., & Burchell, K. (2011). Social Normalisation and Consumer Behaviour: Using marketing to make green normal, *Kingston Business School*, vol. 1, no. 9, pp. 1-19

Rettie, R., Burchell, K., & Riley, D. (2012). Normalising Green Behaviours: A new approach to sustainability marketing, *Journal of Marketing Management*, vol. 28, no. 3-4, pp. 420-444

Rexfelt, O., & af Ornäs, V. H. (2009). Consumer Acceptance of Product-Service Systems, *Journal of Manufacturing Technology Management*, vol. 20, no. 5, pp. 674-699

Richins, M. L. (1994). Special Possessions and the Expression of Material Values, *Journal of Consumer Research*, vol. 21, no. 3, pp. 522-533

Richins, M. L., & Dawson, S. (1992). A Consumer Values Orientation for Materialism and its Measurement: Scale development and validation, *Journal of Consumer Research*, vol. 19, no. 3, pp. 303-316

Richins, M. L., McKeage, K. K., & Najjar, D. (1992). An exploration of materialism and consumption-related affect, *Advances in Consumer Research*, vol. 19, pp. 229-236

Roach-Higgins, M. E., & Eicher, J. B. (1992). Dress and Identity, *Clothing and Textiles Research Journal*, vol. 10, no. 4, pp. 1-8

Rogers, E.M. (1962). Diffusion of Innovations, New York: The Free Press

Rook, D. W., & Fisher, R. J. (1995). Normative Influences on Impulsive Buying Behavior, *Journal of Consumer Research*, vol. 22, no. 3, pp. 305-313

Roos, D., & Hahn, R. (2017). Does Shared Consumption Affect Consumers' Values, Attitudes, and Norms? A panel study, *Journal of Business Research*, vol. 77, pp. 113-123

Rose, G. M., Boush, D. M., & Friestad, M. (1998). Self-Esteem, Susceptibility to Interpersonal Influence, and Fashion Attribute Preference in Early Adolescents, *Advances in Consumer Research,* vol. 3, pp. 197-203

Roux, D., & Guiot, D. (2008). Measuring Second-Hand Shopping Motives, Antecedents and Consequences, *Recherche et Applications En Marketing (English Edition)*, vol. 23, no. 4, pp. 63-91

Salazar, H. A., Oerlemans, L., & van Stroe-Biezen, S. (2013). Social Influence on Sustainable Consumption: Evidence from a behavioural experiment, *International Journal of Consumer Studies*, vol. 37, no. 2, pp. 172-180

Schaefers, T., Lawson, S. J., & Kukar-Kinney, M. (2016). How the Burdens of Ownership Promote Consumer Usage of Access-Based Services, *Marketing Letters*, vol. 27, no. 3, pp. 569-577

Schallehn, H., Seuring, S., Strähle, J., & Freise, M. (2019). Customer Experience Creation for After-Use Products: A product–service systems-based review, *Journal of Cleaner Production,* vol. 210*,* pp. 929-944

Schotman, H., & Ludden, G. D. S. (2014). User Acceptance in a Changing Context: Why some product-service systems do not suffer acceptance problems, *Journal of Design Research*, vol. 12, no. 3, pp. 188-203

Scott, K. (2009). Terminal materialism vs. instrumental materialism: Can materialism be beneficial? PhD thesis, Faculty of the Graduate College, Oklahoma State University

Seiders, K., Voss, G. B., Godfrey, A. L., & Grewal, D. (2007). SERVCON: Development and validation of a multidimensional service convenience scale, *Journal of the Academy of Marketing Science*, vol. 35, no. 1, pp. 144-156.

Sheeran, P., Gollwitzer, P. M., & Bargh, J. A. (2013). Nonconscious Processes and Health, *Health Psychology*, vol. 32, no. 5, pp. 460-473

Shieh, G. (2011). Clarifying the Role of Mean Centring in Multicollinearity of Interaction Effects, *British Journal of Mathematical and Statistical Psychology,* vol. 64, no. 3, pp. 462-477

Shin, E., & McKinney, E. (2014). Investigating Online Reviews of Formalwear Rented Online: Information generated by female consumers in Rent the Runway sites, *Apparel, Events and Hospitality Management Conference Proceedings and Presentations*, paper 103

Simmel, G. (1957). Fashion, *American Journal of Sociology*, vol. 62, no. 6, pp. 541-558

Solomon, M. R. (1983). The Role of Products as Social Stimuli: A symbolic interactionism perspective, *Journal of Consumer Research*, vol. 10, no. 3, pp. 319-329

Solomon, M. R., & Schopler, J. (1982). Self-Consciousness and Clothing, *Personality and Social Psychology Bulletin*, vol. 8, no. 3*,* pp. 508-514

Sorensen, K., & Jorgensen, J. (2019). Millennial Perceptions of Fast Fashion and Second-Hand Clothing: An exploration of clothing preferences using Q methodology, *Social Sciences*, vol. 8, no. 9, pp. 1-13

Sparks, P., & Shepherd, R. (1992). Self-Identity and the Theory of Planned Behavior: Assessing the role of identification with "green consumerism", *Social Psychology Quarterly*, vol. 55, no. 4, pp. 388-399

Stål, H. I., & Jansson, J. (2017). Sustainable Consumption and Value Propositions: Exploring product–service system practices among Swedish fashion firms, *Sustainable Development*, vol. 25, no. 6, pp. 546-558

Tabachnick, B. G., & Fidell, L. S. (1996). Using Multivariate Statistics (3rd edn.), NY: Harper Collins

Todeschini, B. V., Cortimiglia, M. N., Callegaro-de-Menezes, D., & Ghezzi, A. (2017). Innovative and Sustainable Business Models in the Fashion Industry: Entrepreneurial drivers, opportunities, and challenges, *Business Horizons*, vol. 60, no. 6, pp. 759-770

Togoh, I. (2019). A Used-Clothing Marketplace Is Europe's Newest And Trendiest Tech Unicorn, Forbes, 28 November, Available online: https://www.forbes.com/sites/isabeltogoh/2019/11/28/a-used-clothing-marketplace-is-europes-newest-and-trendiest-tech-unicorn/#1aae7b564d9e [Accessed 25 May 2020]

Tukker, A. (2004). Eight Types of Product–Service System: Eight ways to sustainability? Experiences from SusProNet, *Business Strategy and the Environment,* vol. 13, no. 4, pp. 246-260

Tukker, A. (2015). Product Services for a Resource-Efficient and Circular Economy: A review, *Journal of Cleaner Production*, vol. 97, pp. 76-91

Tukker, A., & Tischner, U. (2006). Product-Services as a Research Field: Past, present and future. Reflections from a decade of research, *Journal of Cleaner Production,* vol. 14, no. 17, pp. 1552-1556

Veblen, T. (1899). The Theory of the Leisure Class, New York: The New American Library

Vermeir, I., & Verbeke, W. (2006). Sustainable Food Consumption: Exploring the consumer "attitude–behavioral intention" gap, *Journal of Agricultural and Environmental Ethics*, vol. 19, no. 2, pp. 169-194

Vezzoli, C., Ceschin, F., Diehl, J. C., & Kohtala, C. (2015). New Design Challenges to Widely Implement 'Sustainable Product–Service Systems', *Journal of Cleaner Production*, vol. 97, pp. 1-12

Walters, R. H., & Parke, R. D. (1964). Social Motivation, Dependency, and Susceptibility to Social Influence, *Advances in Experimental Social Psychology*, vol. 1, pp. 231-276

Wang, S. T. (2014). Consumer Characteristics and Social Influence Factors on Green Purchasing Intentions, *Marketing Intelligence & Planning*, vol. 32, no. 7, pp. 738-753

White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social Influence in the Theory of Planned Behaviour: The role of descriptive, injunctive, and in-group norms, *British Journal of Social Psychology*, vol. 48, no. 1, pp. 135-158

Whitmarsh, L., & O'Neill, S. (2010). Green Identity, Green Living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviours, *Journal of Environmental Psychology,* vol. 30, no. 3, pp. 305-314

Workman, J. E., & Lee, S. H. (2017). What Do We Know About Fashion Adoption Groups? A proposal and test of a model of fashion adoption, *International Journal of Consumer Studies*, vol. 41, no. 1, pp. 61-69

Workman, J. E., & Studak, C. M. (2006). Fashion Consumers and Fashion Problem Recognition Style, *International Journal of Consumer Studies*, vol. 30, no. 1, pp. 75-84

World Bank. (2019). How Much Do Our Wardrobes Cost To The Environment?, Available online: https://www.worldbank.org/en/news/feature/2019/09/23/costo-moda-medio-ambiente [Accessed 19 May 2020]

Yan, R. N., Bae, S. Y., & Xu, H. (2015). Second-Hand Clothing Shopping Among College Students: The role of psychographic characteristics, *Young Consumers,* vol. 16, no. 1, pp. 85-98

Zhang, X., Li, S., Burke, R. R., & Leykin, A. (2014). An Examination of Social Influence on Shopper Behavior Using Video Tracking Data, *Journal of Marketing*, vol. 78, no. 5, pp. 24-41

Appendix A

A.1 Operationalization of constructs

Variable	Definition	Scale source	Items removed	Final scale
Fashion leadership	"The characteristic of people who have the tendency to buy a new fashion earlier than others and play a pioneering role in the cycle of a new style's acceptance" (Lang & Armstrong, 2018, p. 39)	Adapted from Gam (2011)	- Clothes are one of the most important ways I have of expressing my individuality - I am the first to try new fashion; therefore, many people regard me as being a fashion leader - I am confident in my ability to recognize fashion trends	- I am aware of fashion trends and want to be one of the first to try them - It is important for me to be a fashion leader - I spend a lot of time on fashion-related activities - I always buy at least one outfit of the latest fashion - I spend a lot of money on clothes and accessories
Shopping enjoyment	"A consumer's personality trait representing the tendency to find shopping more enjoyable and to experience greater shopping pleasure than others'' (Odekerken-Schröder, De Wulf & Schumacher, 2003 p. 181).	Gutman & Mills (1982)	- I often go shopping to get ideas even though I have no intention of buying	- I like to go shopping - I go shopping often - I like to go to stores to see what's new in clothing - I like to shop in many different stores
Instrumental materialism	"The importance of material possessions as resources to accomplish tasks" (Scott, 2009, p.38)	Adapted from Scott (2009)	- Material possessions are important to me primarily because they help me get the job done	- Material possessions are important to me primarily because they help me complete tasks (for example a car to drive to work, a phone to make calls). - Material possessions are important to me primarily because of what they allow me to do (for example a

				sweater to stay warm, shoes to go running). - I acquire material possessions primarily because they help me get the job done (for example a car to drive to work, shoes to go running).
Terminal materialism	"The importance of material possessions in gaining status classification among others" (Scott, 2009, p.39)	Adapted from Scott (2009)	- My possessions are important because they classify me among others.	- I enjoy owning luxurious things. - I put more emphasis on material things than most people I know. - I like owning products that show my status. - I like owning things that are better than what others have.
Green self-identity	"An individual's overall perceived identification with the typical green consumer" (Barbarossa et al. 2015, p.191)	Whitmarsh & O'Neill (2010) and Sparks & Shepherd (1992)		- I think of myself as an environmentally-friendly consumer - I think of myself as someone who is very concerned with environmental issues - I would be embarrassed to be seen as having an environmentally-friendly lifestyle (scoring reversed) - I would want my family or friends to think of me as someone who is concerned about environmental issues
Social influence susceptibility	"The need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/ or the tendency to learn about products and services by observing others and/ or	Adapted from Bearden, Netemeyer & Teel (1989)	- I rarely purchase the latest fashions until I am sure my friends approve of them - It is important that others like the products I buy.	- I like to know what products make good impressions on others. - If I want to be like someone, I often try to buy the same products that they buy. - If I have little experience with a product, I often ask

	seeking information from others" (Bearder Netemeyer & Teel, 1989, p. 474)		- When buying products, I generally purchase those products that I think others will approve of. - If I want to be like someone, I often try to buy the same products that they buy. - To make sure I buy the right product, I often observe what others are buying and using.	my friends about the product. - I often consult other people to help choose the best alternative available from a product class.
Attitude	"refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the bheavior in question" (Ajzen, 1991, p. 188)	Adapted from Lang & Armstrong (2018b)		- I think that a service for renting second-hand clothes is …. Harmful: Beneficial Unpleasant: Pleasant Bad: Good Worthless: Valuable Un-enjoyable: Enjoyable
Adoption intention	A consumer's expressed desire to adopt a service in the near future (adapted from Arts et al. 2011)	Adapted from Korcaj et al. (2015)		- I would like to subscribe to a service for renting second-hand clothes (as the one described earlier) - I am planning on subscribing to a service for renting second-hand clothes (as the one described earlier) within 6 months
Attitude towards second-hand clothing	A consumer's evaluation of second-hand clothing (adapted from Lang & Armstrong, 2018b)	Adapted from Lang & Armstrong (2018b)		- I think that a service for renting second-hand clothes is …. Unpleasant: Pleasant Bad: Good Worthless: Valuable

A.2 Questionnaire design

Thank you for your participation in this survey. This survey is part of a research carried out by two students from Lund University. Your answers will be treated completely confidential and your anonymity is ensured: it will never be possible to link your answers back to you. The survey will take 9 minutes. The aim of this study is to get insights on Swedish consumers' characteristics and their interest in a new service for fashion.

Please rate how much you agree with the following statements (1= strongly disagree; 7=strongly agree)

Fashion leadership

1. I am aware of fashion trends and want to be one of the first to try them

2. It is important for me to be a fashion leader

3. I spend a lot of time on fashion-related activities

4. I always buy at least one outfit of the latest fashion

5. I spend a lot of money on clothes and accessories

Shopping enjoyment

6. I like to go shopping (original: I don't like to go shopping)

7. I go shopping often

8. I like to go to stores to see what's new in clothing

9. I like to shop in many different stores

Green self-identity

10. I think of myself as an environmentally-friendly consumer

11. I think of myself as someone who is very concerned with environmental issues

12. I would be embarrassed to be seen as having an environmentally-friendly lifestyle (scoring reversed)

13. I would want my family or friends to think of me as someone who is concerned about environmental issues

Instrumental materialism

Explanation for questionnaire: "material possessions" means any kind of object you can buy, it could be clothes, cars, furniture…

14. Material possessions are important to me primarily because they help me complete tasks (e.g. a car to drive to work, a phone to make calls).

15. Material possessions are important to me primarily because of what they allow me to do (e.g. a sweater to stay warm, a car to drive to work).

16. I acquire material possessions primarily because they help me get the job done (e.g. a laptop to work on).

Terminal materialism

17. I enjoy owning luxurious things.

18. I put more emphasis on material things than most people I know.

19. I like owning products that show my status.

20. I like owning things that are better than what others have.

Social influence susceptibility

21. I rarely purchase the latest fashions until I am sure my friends approve of them

22. It is important that others like the products I buy.

23. When buying products, I generally purchase those products that I think others will approve of.

24. If I want to be like someone, I often try to buy the same products that they buy.

25. To make sure I buy the right product, I often observe what others are buying and using.

Almost done… just a few more questions….

The service in question offers rental of second-hand clothing and is provided, for example, by Hack Your Closet, a Swedish company based in Stockholm.

26. Are you already a customer of Hack Your Closet? (if No is selected, the text above is displayed)

Please read the following information carefully before you start answering the next questions.

By subscribing at a price of SEK279 per month, customers receive a monthly package containing four items of second-hand clothing, handpicked for them by a personal stylist based on their preferences (e.g. color tones, fit, type, material). You can find brands from Zara or Weekday to Samsoe&Samsoe, Filippa K or Massimo Dutti. The hygiene and quality of the clothes are guaranteed by the company and customers always have the possibility to provide feedback and receive advice, through forms included in each box, or by contacting their stylist.

At the end of the month, the clothes are sent back to the provider and a new package is received. If the customer wishes to rent one or more items for longer, this can be easily arranged, but it is never possible to buy the clothes. The service can be cancelled at any time with no extra fees.

Attitude

27. I think that a service for renting second-hand clothes is ….

Harmful: Beneficial

Unpleasant: Pleasant

Bad: Good

Worthless: Valuable

Un-enjoyable: Enjoyable

Non-customers are shown question 28, while customers skip to question 29.

Adoption intention

28. I would like to subscribe to a service for renting second-hand clothes (as the one described earlier)

29. I am planning on subscribing to a service for renting second-hand clothes (as the one described earlier) within 6 months Demographics

30. What is your age?

o 18-25

o 26-35

o 36-45

o 46-55

o 56 and over

31. What is the highest educational level achieved or that you are currently following?

o Less than high school

o High school degree

o Bachelor's degree

o Master's degree

o Doctoral degree (PhD)

32. What is your current occupation? (Selecting multiple answers is possible)

o Student

o Full-time employed

o Part-time employed

o Self-employed

o Not employed

o Not employed

o Currently looking for a job

o Retired

o Other

33. Do you have any further comments? (Open question)

You're done!! Thank you for your time and your answers, you really contributed to our research!

If you would like to know more about the project and the results, or simply would like to add some comments,

Feel free to send us an email: li4387lo-s@student.lu.se or fl5581da-s@student.lu.se

A.3 Descriptives: Participants

Age

Age group	Frequency	Valid Percent	Cumulative Percent
18-25	166	25.4	25.4
26-35	250	38.2	63.6
36-45	110	16.8	80.4
46-55	99	15.1	95.6
56-65+	29	4.4	100
Total	654		

Level of education

Level	Frequency	Valid Percent	Cumulative Percent
Less than high school	3	.5	.5
High school	61	9.4	9.8
Bachelor's degree	217	33.3	43.1
Master's degree	342	52.5	95.6
Doctorate	29	4.4	100
Total	655		

Occupation (multiple answers possible)

Occupation	Frequency
Student	183
Employed full-time	394
Employed part-time	63
Self-employed	38
Not employed	5
Looking for a job	25
Retired	7
Other	13

A.4 Factor loadings

Item	AD	ASH	ATT	FL	GI	IM	SE	SIS	TM
AD1_1	**0.952**	0.217	0.549	0.177	0.2	-0.023	0.078	0.167	-0.021
AD1_2	**0.915**	0.196	0.417	0.197	0.183	-0.052	0.099	0.153	0.018
ATT_1	0.358	0.363	**0.832**	0.094	0.211	0.005	0.087	0.066	-0.091
ATT_2	0.512	0.495	**0.888**	0.059	0.295	-0.026	0.045	0.072	-0.138
ATT_3	0.42	0.436	**0.893**	0.105	0.238	-0.041	0.08	0.083	-0.124
ATT_4	0.434	0.374	**0.867**	0.084	0.22	-0.027	0.071	0.084	-0.112
ATT_5	0.529	0.425	**0.864**	0.101	0.265	-0.017	0.084	0.104	-0.146
FL1_1	0.159	-0.058	0.097	**0.865**	-0.119	-0.188	0.453	0.251	0.304
FL1_2	0.169	-0.081	0.021	**0.778**	-0.11	-0.153	0.36	0.225	0.365
FL1_3	0.206	0.013	0.102	**0.841**	-0.045	-0.221	0.494	0.285	0.332
FL1_4	0.151	-0.099	0.066	**0.754**	-0.117	-0.137	0.464	0.257	0.243
FL1_5	0.112	-0.023	0.068	**0.796**	0.019	-0.146	0.438	0.21	0.283
GI1_1	0.155	0.271	0.177	-0.151	**0.709**	0.121	-0.152	-0.108	-0.199
GI1_2	0.194	0.34	0.21	-0.009	**0.827**	0.08	-0.073	0.02	-0.23
GI1_3	0.173	0.29	0.276	-0.081	**0.887**	0.068	-0.019	0.089	-0.184
GI1_4	0.171	0.3	0.273	-0.063	**0.902**	0.032	-0.063	0.093	-0.157
IM1_1	-0.087	-0.069	-0.001	-0.189	0.049	**0.581**	-0.087	-0.059	-0.105
IM1_2	-0.067	-0.021	-0.012	-0.178	0.09	**0.746**	-0.054	0.014	-0.081
IM1_3	-0.018	-0.058	-0.027	-0.199	0.067	**0.958**	-0.12	-0.067	-0.142
SE1_1	0.047	-0.017	0.068	0.448	-0.096	-0.124	**0.864**	0.216	0.228

SE1_2	0.055	-0.023	0.026	0.479	-0.153	-0.151	**0.744**	0.157	0.254
SE1_3	0.117	0.006	0.094	0.515	-0.027	-0.074	**0.899**	0.201	0.179
SE1_4	0.032	-0.037	0.015	0.375	-0.079	-0.015	**0.705**	0.15	0.195
SECHA_1	0.207	**0.853**	0.377	-0.077	0.331	-0.055	-0.061	-0.106	-0.264
SECHA_2	0.188	**0.901**	0.454	-0.047	0.32	-0.036	0.006	-0.079	-0.245
SECHA_3	0.198	**0.898**	0.453	-0.011	0.297	-0.052	0.02	-0.001	-0.19
SIS1_1	0.098	-0.077	0.001	0.174	-0.021	-0.06	0.124	**0.549**	0.192
SIS1_2	0.12	-0.097	0.051	0.249	0.008	-0.059	0.176	**0.756**	0.34
SIS1_3	0.146	-0.004	0.1	0.291	0.059	-0.056	0.222	**0.846**	0.239
SIS1_4	0.1	-0.048	0.069	0.191	0.053	0.035	0.164	**0.769**	0.186
SIS1_5	0.186	-0.102	0.071	0.255	0.006	-0.073	0.172	**0.857**	0.328
TM1_1	0.013	-0.09	-0.014	0.379	-0.138	-0.095	0.312	0.205	**0.647**
TM1_2	0.002	-0.138	-0.06	0.418	-0.208	-0.104	0.294	0.215	**0.664**
TM1_3	0.03	-0.205	-0.061	0.364	-0.173	-0.13	0.248	0.338	**0.832**
TM1_4	-0.019	-0.27	-0.174	0.253	-0.197	-0.122	0.152	0.286	**0.946**

Appendix B

B.1 Regression output (consumer characteristics on attitude)

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.323[a]	.105	.096	1.26939	
2	.521[b]	.272	.262	1.14678	2.005

a. Predictors: (Constant), Social_Influence, Green_Identity, Ins_materialism, Shop_enjoy, Term_Materialism, fashion_leader

b. Predictors: (Constant), Social_Influence, Green_Identity, Ins_materialism, Shop_enjoy, Term_Materialism, fashion_leader, AGE, Att_secondhand

c. Dependent Variable: Attitudes_rental

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	121.828	6	20.305	12.601	.000 [b]
	Residual	1042.551	647	1.611		
	Total	1164.380	653			
2	Regression	316.131	8	39.516	30.048	.000 [c]
	Residual	848.249	645	1.315		
	Total	1164.380	653			

a. Dependent Variable: Attitudes_rental

b. Predictors: (Constant), Social_Influence, Green_Identity, Ins_materialism, Shop_enjoy, Term_Materialism, fashion_leader

c. Predictors: (Constant), Social_Influence, Green_Identity, Ins_materialism, Shop_enjoy, Term_Materialism, fashion_leader, AGE, Att_secondhand

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.678	.422		8.715	.000		
	fashion_leader	.114	.049	.112	2.342	.020	.603	1.659
	Shop_enjoy	.054	.041	.059	1.320	.187	.699	1.430
	Ins_materialism	-.028	.050	-.021	-.554	.580	.945	1.058
	Green_Identity	.320	.046	.266	6.915	.000	.932	1.073
	Term_Materialism	-.129	.045	-.126	-2.884	.004	.720	1.389
	Social_Influence	.080	.047	.068	1.695	.091	.859	1.165
2	(Constant)	2.078	.466		4.464	.000		
	fashion_leader	.112	.044	.110	2.542	.011	.601	1.663
	Shop_enjoy	.029	.037	.031	.773	.440	.696	1.436
	Ins_materialism	.036	.046	.027	.788	.431	.932	1.073
	Green_Identity	.142	.045	.118	3.193	.001	.822	1.217
	Term_Materialism	-.064	.041	-.063	-1.578	.115	.702	1.424
	Social_Influence	.087	.044	.074	1.965	.050	.802	1.247
	Att_secondhand	.429	.037	.432	11.671	.000	.823	1.216
	AGE	-.010	.004	-.082	-2.301	.022	.899	1.113

a. Dependent Variable: Attitudes_rental

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	fashion_leader	Shop_enjoy	Ins_materialism	Green_Identity	Term_Materialism	Social_Influence	Att_secondhand	AGE
1	1	6.477	1.000	.00	.00	.00	.00	.00	.00	.00		
	2	.188	5.875	.01	.13	.02	.04	.05	.10	.02		
	3	.132	7.003	.00	.07	.08	.00	.00	.00	.84		
	4	.096	8.226	.00	.12	.09	.01	.00	.77	.13		
	5	.063	10.132	.00	.59	.73	.00	.04	.00	.01		
	6	.034	13.839	.00	.07	.04	.47	.56	.05	.00		
	7	.010	24.940	.99	.02	.03	.48	.36	.07	.00		
2	1	8.291	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.257	5.681	.00	.08	.02	.01	.01	.07	.07	.01	.06
	3	.140	7.696	.00	.11	.07	.00	.00	.01	.61	.00	.03
	4	.101	9.078	.00	.12	.10	.00	.01	.63	.01	.02	.06
	5	.071	10.837	.00	.00	.05	.00	.04	.13	.22	.14	.51
	6	.064	11.399	.00	.58	.70	.02	.01	.01	.00	.00	.06
	7	.042	14.093	.00	.09	.02	.48	.00	.04	.04	.26	.11
	8	.027	17.418	.00	.01	.03	.09	.85	.01	.02	.38	.00
	9	.008	32.712	.99	.02	.01	.40	.08	.09	.03	.18	.17

a. Dependent Variable: Attitudes_rental

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.6277	6.8268	5.5673	.69579	654
Std. Predicted Value	-4.225	1.810	.000	1.000	654
Standard Error of Predicted Value	.067	.274	.131	.032	654
Adjusted Predicted Value	2.7010	6.8202	5.5681	.69504	654
Residual	-4.87063	2.73684	.00000	1.13974	654
Std. Residual	-4.247	2.387	.000	.994	654
Stud. Residual	-4.289	2.410	.000	1.002	654
Deleted Residual	-4.96764	2.79038	-.00079	1.15894	654
Stud. Deleted Residual	-4.348	2.419	-.001	1.005	654
Mahal. Distance	1.201	36.276	7.988	4.686	654
Cook's Distance	.000	.055	.002	.005	654
Centered Leverage Value	.002	.056	.012	.007	654

a. Dependent Variable: Attitudes_rental

Scatterplot
Dependent Variable: Attitudes_rental

Scatterplot
Dependent Variable: Attitudes_rental
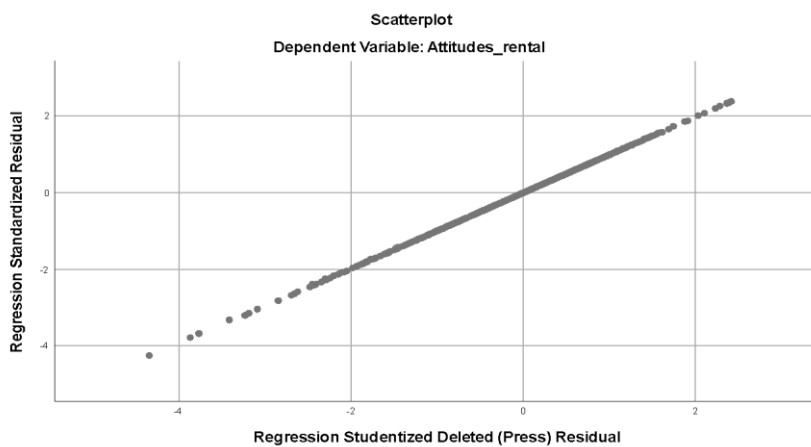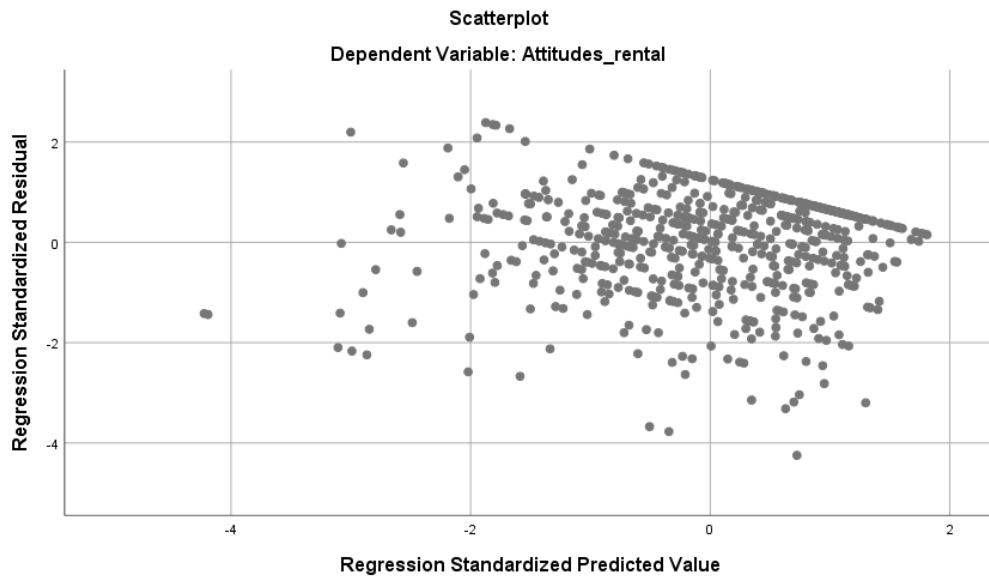
B.2 Regression output (attitude on adoption intention)

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.566[a]	.320	.319	1.22730	
2	.570[b]	.325	.321	1.22481	1.955

a. Predictors: (Constant), Attitudes_rental

b. Predictors: (Constant), Attitudes_rental, AGE, Att_secondhand

c. Dependent Variable: Ado_int

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	397.279	1	397.279	263.753	.000[b]
	Residual	845.008	561	1.506		
	Total	1242.288	562			
2	Regression	403.699	3	134.566	89.701	.000[c]
	Residual	838.589	559	1.500		
	Total	1242.288	562			

a. Dependent Variable: Ado_int

b. Predictors: (Constant), Attitudes_rental

c. Predictors: (Constant), Attitudes_rental, AGE, Att_secondhand

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.591	.217		-2.727	.007		
	Attitudes_rental	.632	.039	.566	16.240	.000	1.000	1.000
2	(Constant)	-.204	.313		-.651	.515		
	Attitudes_rental	.624	.043	.558	14.442	.000	.809	1.236
	Att_secondhand	-.001	.042	-.001	-.019	.985	.818	1.222
	AGE	-.010	.005	-.072	-2.067	.039	.987	1.013

a. Dependent Variable: Ado_int

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Attitudes_rental	Att_secondhand	AGE
1	1	1.971	1.000	.01	.01		
	2	.029	8.261	.99	.99		
2	1	3.853	1.000	.00	.00	.00	.01
	2	.095	6.384	.00	.09	.06	.65
	3	.033	10.878	.01	.59	.82	.00
	4	.020	13.800	.99	.31	.12	.34

a. Dependent Variable: Ado_int

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.2230	3.9825	2.8277	.84754	563
Residual	-2.92330	4.44387	.00000	1.22154	563
Std. Predicted Value	-3.599	1.363	.000	1.000	563
Std. Residual	-2.387	3.628	.000	.997	563

a. Dependent Variable: Ado_int

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Ado_int

Scatterplot

Dependent Variable: Ado_int
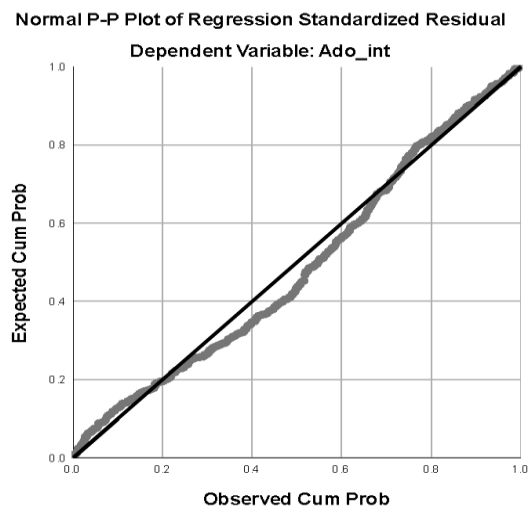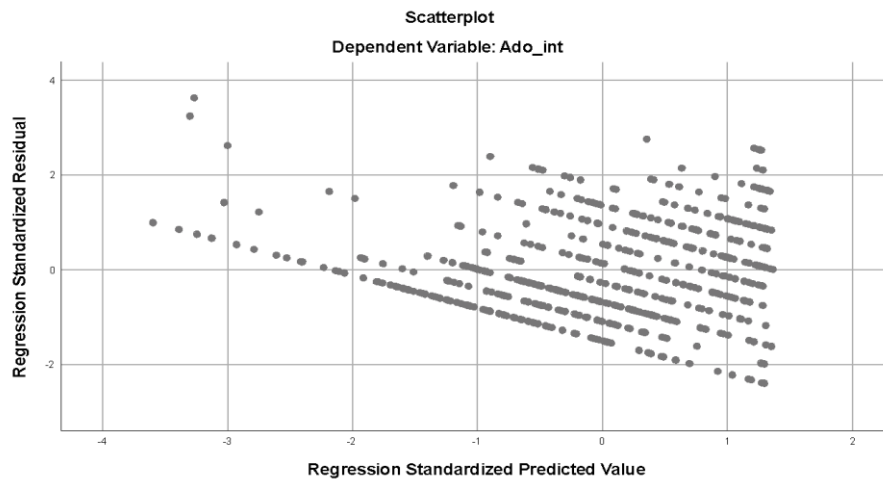
B3: Independent sample t-test

Group Statistics

	CUST Customer	N	Mean	Std. Deviation	Std. Error Mean
fashion_leader	1 Customer	91	3.5143	1.19857	.12564
	0 Non-customer	91	3.1055	1.35395	.14193
Shop_enjoy	1 Customer	91	4.2280	1.39973	.14673
	0 Non-customer	91	4.0632	1.51042	.15834
Ins_materialism	1 Customer	91	5.1099	1.08304	.11353
	0 Non-customer	91	5.2564	1.06351	.11149
Green_Identity	1 Customer	91	5.3874	1.02352	.10729
	0 Non-customer	91	5.1648	1.10127	.11544
Term_Materialism	1 Customer	91	3.0824	1.23325	.12928
	0 Non-customer	91	3.0852	1.25123	.13116
Social_Influence	1 Customer	91	2.6791	1.18879	.12462
	0 Non-customer	91	2.5341	1.15048	.12060
Att_secondhand	1 Customer	91	6.3114	.97601	.10231
	0 Non-customer	91	5.6264	1.30888	.13721
Attitudes_rental	1 Customer	91	6.5648	.85562	.08969
	0 Non-customer	91	5.5033	1.34309	.14079
Ado_int	1 Customer	0ᵃ	.	.	.
	0 Non-customer	91	3.0604	1.51444	.15876

a. t cannot be computed because at least one of the groups is empty.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
fashion_leader	Equal variances assumed	1.925	.167	2.157	180	.032	.40879	.18956	.03475	.78283
	Equal variances not assumed			2.157	177.390	.032	.40879	.18956	.03472	.78287
Shop_enjoy	Equal variances assumed	.722	.397	.764	180	.446	.16484	.21587	-.26113	.59080
	Equal variances not assumed			.764	178.967	.446	.16484	.21587	-.26114	.59081
Ins_materialism	Equal variances assumed	.610	.436	-.921	180	.358	-.14652	.15912	-.46050	.16746
	Equal variances not assumed			-.921	179.940	.358	-.14652	.15912	-.46050	.16746
Green_Identity	Equal variances assumed	1.307	.255	1.412	180	.160	.22253	.15761	-.08846	.53352
	Equal variances not assumed			1.412	179.043	.160	.22253	.15761	-.08848	.53353
Term_Materialism	Equal variances assumed	.100	.752	-.015	180	.988	-.00275	.18417	-.36615	.36066
	Equal variances not assumed			-.015	179.962	.988	-.00275	.18417	-.36615	.36066
Social_Influence	Equal variances assumed	.027	.870	.836	180	.404	.14505	.17342	-.19715	.48726
	Equal variances not assumed			.836	179.807	.404	.14505	.17342	-.19715	.48726
Att_secondhand	Equal variances assumed	9.100	.003	4.002	180	.000	.68498	.17116	.34725	1.02271
	Equal variances not assumed			4.002	166.450	.000	.68498	.17116	.34707	1.02290
Attitudes_rental	Equal variances assumed	23.158	.000	6.359	180	.000	1.06154	.16694	.73213	1.39094
	Equal variances not assumed			6.359	152.721	.000	1.06154	.16694	.73174	1.39134

92