Is second-hand the silver bullet for sustainable fashion consumption?

Understanding second-hand clothing consumption rebound effects

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Abstract

Within the circular economy, alternatives to fast-fashion include second-hand clothing consumption. The narratives surrounding second-hand clothing have shifted from the stigma of old, dirty, smelly clothing to trendy, sustainable, and bargain items. The environmental benefits of second-hand are realised through the increased use-intensity and avoided production of new garments. However, these benefits rely on key assumptions about consumption behaviour which include the 1:1 ratio of replacement of new items with second-hand. This assumption is highly questionable, thus the potential for rebound effects should not be ignored. Using social practice theory, this study aims to investigate the practice of second-hand consumption and uses the insights to investigate rebound effects. The key results show that there are both economic and psychological rebound mechanisms present within second-hand markets. The income effect (economic) shows that consumers purchase more second-hand items due to the low prices. Moral licensing (psychological) shows that consumers become less critical of overconsumption because second-hand purchasing is considered morally good since it is sustainable. Alternatively, they feel good about not purchasing fast-fashion. This study has shown that the environmental benefits of second-hand clothing consumption may be overstated due to consumer behaviour. Overall, it is recommended that further investigation into rebound effects be completed to replicate the findings of this study with a larger sample and strategies that promote lower consumption rates should be prioritised by governments, businesses, and consumers.

Keywords: Second-hand clothing, moral licensing, rebound effects, social practice theory

Executive Summary

The impact of the fashion industry is highly detrimental to society and the environment. Globally this industry has polluted water systems, contributed to high CO_2 emissions, and increased solid waste in landfills. The production of clothing is driven by endless consumer demand and a consumption paradigm that encourages overspending. Some solutions to these issues are generally addressed by SDG 12 which considers responsible consumption and production. However, the strategies to address consumption are less prevalent and focus more on shifting consumption patterns rather than reducing the overall level of consumption.

Despite these issues and lack of holistic strategies, there are pathways to more sustainable consumption. A broader solution to address the current economic system is that of the circular economy. The circular economy aims to design out waste and keep materials in the system for longer periods (Ellen MacArthur Foundation (EMAF), 2013). One of the many strategies suggested to tackle the impacts of the fashion industry is to prolong the use phase of clothing. A key component of this can be achieved through second-hand clothing markets.

The environmental benefits of second-hand consumption arise from the increased lifespan of clothing in the use phase and the avoided production of new clothing. Life Cycle Assessment (LCA) evidence regarding second-hand clothing, suggests that the environmental benefits originate from avoided emissions when consumers replace new clothing with second-hand clothing. However, there are some questionable assumptions, in particular, the use behaviour of consumers. The key assumption that most studies make is that there is a 1:1 ratio of replacement of new clothing with second-hand clothing by consumers (Sandin & Peters, 2018). This can be considered unrealistic behaviour, thus second-hand consumption has the potential for rebound effects.

Rebound effects occur when the predicted or potential environmental benefit (emission savings) is less than the actual benefit. In general, two key mechanisms cause rebound effects, economic and psychological rebound effects (Reimers et al., 2021). Economic mechanisms refer to the income effect (freed-up income allows for more consumption) and the substitution effects (the relative price changes encourage consumption of substitution products). Psychological mechanisms mainly refer to moral licensing where consumers feel good about their consumption decisions, and this influences them to be less critical about future consumption decisions. The evidence of circular economy rebounds has suggested that second-hand consumption is a domain where there is a potential for rebound effects (Iran & Schrader, 2017; Parguel et al., 2017; Zink & Geyer, 2017).

Aim and Research Question

The aim of this thesis is to qualitatively explore the potential rebound effects of second-hand clothing consumption using consumer insights. Additionally, this thesis aims to create awareness amongst academics and practitioners to ensure that the growth of second-hand markets is not seen as unequivocally good and, therefore, should be closely monitored. The research follows an exploratory qualitative design and aims to describe the practice of second-hand clothing consumption and the associated rebound effects. Further, it aims to use the insights to explain why the rebound effects occur. The research questions can be seen below:

RQ1: What is the practice of second-hand clothing consumption?

RQ2: What are the rebound effects of second-hand clothing consumption?

RQ3: Why do these rebound effects occur in second-hand markets?

Research Design, Materials and Methods

The research design is exploratory in its nature and has used a qualitative inquiry approach. The main sources of data include literature and interview insights from participants. In total 12 participants were interviewed. The aim was to understand their general clothing consumption behaviour, their second-hand clothing consumption behaviours, their general perceptions and feelings about second-hand clothing, and their preferences and motivations regarding second-hand clothing. All the participants were female and Lund university students. Eleven participants were of nationalities other than Sweden. A thematic coding analysis was used to analyse and present the data. Further, a conceptual framework including literature from rebound effects and social practice theory was developed and used to analyse the data.

Social practice theory (SPT) aims to describe practices by understanding the elements that make up the practices (Shove et al., 2012). These three elements include materials, meanings, and competence referred to as context. This theory is applied to better understand the practice of second-hand consumption. The actions of consumers require a holistic understanding of what influences them and thus SPT can help explain rebound effects from a qualitative perspective (Niero et al., 2021). The conceptual framework uses SPT to understand the rebound mechanisms using the elements of material, competence, and meaning. Materials are tangible elements that enable the practice of second-hand clothing consumption and competence refers to the knowledge and know-how of consumers who shop second-hand (Shove et al., 2012). The element of meaning in the context of this study considers how consumers relate to second-hand clothing consumption, the associations they make, and their feelings.

Overall Findings

RQ1: What is the practice of second-hand clothing consumption?

The application of SPT allowed for a better understanding of the practice of second-hand clothing consumption using the three elements of material, competence, and meaning. Firstly, the material elements referred to the places where consumers prefer to shop. These included the physical brick and mortar shops and online platforms such as peer-to-peer or regular B2C shops that consumers use. Competence referred to consumers' knowledge about how to shop for second-hand clothing and their understanding of sustainability. The competence elements showed that consumers have a limited understanding of sustainability and little know-how about how to shop online for second-hand clothing. Lastly, the element of meaning mainly considered the associations that consumers have when shopping second-hand. The motivations of sustainability, cheap prices and recreational activity enjoyment were all included here. Other aspects considered, showed how consumers perceive second-hand clothing which included meanings of stylish, unique, or conversely hinting to the previous stigma such as low quality, and dirty. Lastly, the element of guilt associated with consumption and fast-fashion was also associated with meaning. Overall, the interaction of these elements explains why consumers shop second-hand and provides deeper insights into the motivation behind their behaviour.

RQ2: What are the consumption rebound effects of second-hand clothing consumption?

These consumption-related rebound effects can be described as when consumers purchase increased amounts of clothing due to the low prices or their feelings of guilt. The rebound effects can be considered direct rebound effects because consumers end up purchasing more clothing and thus stay within the same consumption domain. In this way, the practice of purchasing clothing second-hand within the realm of enabling the circular economy does not promote sufficiency savings. It also distracts consumers from other ways to consume more sustainably. Moreover, the environmental savings of second-hand are also not fully realised because consumers shop for both second-hand and new clothing.

RQ3: Why do these rebound effects occur in second-hand clothing markets?

These rebound effects are enabled by economic and psychological mechanisms. These can be defined as income effects and moral licensing effects. The lower prices of second-hand clothing allow for consumers to have more income to consume more clothing. The psychological mechanism contributes to the feelings that consumers have when purchasing second-hand. They feel that consuming second-hand clothing is morally good and thus they have the license to be less critical (or less good) with other consumption decisions. This results in purchasing more clothing than needed or consuming both new and second-hand clothing. Although psychological mechanisms play a role, for the latter reason of consuming both second-hand and new, imperfect substitution may also be the cause for this. Many of the participants described pain points of finding certain clothing items second-hand (mostly pants) due to the irregular sizing so chose to buy some items second-hand. This indicates that although second-hand clothing markets are vast, they cannot act as perfect substitutes for new products.

Conclusions and Recommendations

As the fashion industry moves away from the linear economy to a more sustainable circular economy, the promotion of second-hand clothing markets should be cautioned. This shows the potential for rebound effects that could offset the environmental benefits promised by the industry. The crucial consideration is that the benefits of second-hand clothing consumption depend on consumer usage behaviour and thus this should be looked at more closely prior to investing into the expansion of these markets.

Recommendations to non-academic audiences:

- Policymakers, businesses and ecological institutions should ensure that the potential for rebound effects in second-hand markets is understood and communicated.
- Businesses should understand other circular business strategies such as renting and leasing and how their implementation may be a better strategy than second-hand. They also need to understand that there is no silver bullet and promoting slower consumption and having less harmful production are also important.
- In policy, sufficiency strategies and promotion should be placed higher on the consumption agenda.
- For consumers, it is important to understand the potential impacts of clothing consumption decisions and practice behaviour that is more critical towards the amounts that they consume.

Recommendations for future research:

- Study rebound effects of second-hand clothing consumption at a larger scale using macro-economic analyses with large sample sizes.
- Look further into the linkage between environmental benefits and usage behaviour of consumers to produce more holistic LCAs that consider multiple scenarios.
- Moral licensing as an influencing mechanism on consumers should be studied more widely to develop a comprehensive theory on how this may affect future sustainable consumption.

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1 Introduction

Mass production and excessive consumption are key features of the current societal system. It encourages overspending and creates fictitious needs that contribute to the desire to consume. This modern fast-paced consumption paradigm has extracted many resources and is one of the major causes of societal and environmental degradation (Gabriel et al., 2020). The issue of consumption is globally important, and the United Nations address this issue through sustainable development goal twelve (SDG 12). The goal includes sustainable consumption and production and aims to address this issue on a global scale. The targets of SDG 12 consider varying aspects of sustainable production such as waste management, efficient use of resources, reduction in fossil-fuel subsidies, and implementing monitoring mechanisms to measure progress. However, addressing unstainable consumption patterns has been less central to the targets of this SDG. There continues to be much focus on changing consumption (to more sustainable products) rather than reduced consumption (B. Bauer et al., 2018). This issue is especially relevant in wealthier countries with high levels of income enabling the population to consume at unprecedented rates. Despite technological and efficiency improvement being at the centre of tackling issues related to better production practices, solutions to tackle the consumption problem remain less understood. Under this challenge, consumers play a more crucial role when considering consumption practices.

There has been little agreement when considering what strategies are currently employed to address unsustainable consumption levels (Bjelle et al., 2018). The strategies vary and include eco-efficiency, sufficiency, green product availability, or increased awareness (Mont & Plepys, 2008). Overall, the issue of consumption boils down to reducing overall consumption or a change in consumption patterns. Either way, sustainable consumption is centred around consumers and how they practice consumption (Mont & Plepys, 2008). The solutions to achieve SDG 12 should be made in combination considering production and consumption since one-sided strategies will not achieve the overall targets. This issue is exceptionally prevalent since SDG 12 is considered to be coupled with 14 of the SDGs (B. Bauer et al., 2018).

Addressing the challenges associated with sustainable consumption is complex and links to many other issues such as poverty, hunger, inequality, and wealth. Humans have always needed to consume to survive (i.e. to meet basic needs), however in more recent times consumption is less related to sufficiency but more to unnecessary consumption (Akenji et al., 2021; Frick et al., 2021). (Frick et al., 2021). Sufficiency is a key concept that refers to the perception of having enough to meet your needs (emotional and basic) (Sorensen & Johnson Jorgensen, 2019). However, sufficiency has been influenced by the mass consumption paradigm when businesses are continuously making consumers feel that they need more things. In the more industrialised countries, the use of goods and services is second nature which has led to a society of hyper-consumption (Strähle & Erhardt, 2017). Consumers with higher purchasing power have become accustomed to the low prices of mass-produced items which are encouraged by media. Consumption has expanded to include different consumer demands such as compensation for personal deficiencies and self-actualisation[1] (Strähle & Erhardt, 2017).

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[1] Personal deficiencies refer to what people perceive that they lack in themselves, and self-actualisation speaks to the fulfilment of something.

The increase in consumption over time cannot exclude some of the technological developments of modern society. Recently due to the rise of e-commerce, all forms of consumption have become more convenient, efficient, and accessible to consumers globally (Ryynänen & Hyyryläinen, 2018). The way consumers engage in consumption has significantly changed in recent years through the creation of online shopping environments. Online environments have infiltrated almost all everyday activities and can influence consumer preference and consumption motivations (Frick et al., 2021). Psychologically the current mass consumption and production system encourages excessive spending and generates fictitious needs amongst consumers (Gabriel et al., 2020). Moreover, even though consumers may continue to consume in traditional ways (in stores), the mass marketing available online continues to influence consumption. These are key factors that cause excessive consumption and addressing this issue of fictitious vs actual need is crucial to encouraging responsible consumption (Gabriel et al., 2020). Overall, the current consumption system that is perpetuated in today's economy will lead to severe environmental damage and resource scarcity.

Although the increased societal influences are enablers of excessive consumption, pathways exist toward more sustainable consumption. One of the key models proposed to enable transitioning towards a more sustainable consumption paradigm and economic system is that of the circular economy. The circular economy aims to shift society away from the linear system of "take-make-waste" to one that prioritises keeping resources and products in use for longer periods (Ellen MacArthur Foundation (EMAF), 2013). Circular economy practices aim to address resource depletion by reusing, recycling and recovering materials within the production and consumption loop (Prieto-Sandoval et al., 2018). One of the mechanisms to operationalise the circular economy is by encouraging the reuse of items to ensure high use intensity of the materials. Consumers are considered important actors to enable the circular economy and play a role through their consumption and use phase decisions.

There are many types of consumption in the circular economy including product-service systems, redistributive markets and collaborative lifestyles (Liu et al., 2021). The concept of collaborative consumption is one of particular interest since it includes the acquisition or distribution of an item through some form of exchange (Belk, 2014). It has been termed under the "sharing economy" and includes forms of purchasing, renting, swapping, or bidding on items between consumers. The broader application of collaborative consumption is that sharing of items is a more sustainable pathway and Barnes and Mattson (2016) consider it one of the most disruptive to traditional consumption. This concept is highly related to that of the circular economy and stands to promote aspects of sharing as a new pathway toward better consumption.

As previously mentioned, it is clear that many pathways challenge the current economic consumption paradigm. Within the collaborative consumption discourse, many forms of consumption are possible but one that has gained interest is that of second-hand consumption. Second-hand consumption is considered a more environmentally sustainable form of consumption. This is due to the diversion of products from waste streams, lifespan extension, and reduced new resource extraction (Frick & Matthies, 2020; Steffen, 2020; Xu et al., 2021). The main environmental benefits are realised through reuse which is the extension of lifespan and shifting demand away from new production (Iran & Schrader, 2017). Second-hand consumption is also a component of the transition toward the circular economy. The emphasis on keeping products within their use phase is highlighted throughout the circular economy discourse (Ellen MacArthur Foundation (EMAF), 2013).

Second-hand products (part of redistributive markets under collaborative consumption) are defined as products that have been previously owned or used by an owner that is different to the current one (Borusiak et al., 2020). Other terminologies used for second-hand consumption include sufficiency-oriented product purchasing (Frick & Matthies, 2020) and collaborative consumption (Parguel et al., 2017; Styvén & Mariani, 2020). Within this narrative, second-hand consumption is a possible solution to shift consumers away from the current consumption system which requires new production, to a more sustainable one.

Globally there has been a large increase in the presence of second-hand markets. This has been witnessed in emerging economies such as China and India, but also in Global North countries (Frick & Matthies, 2020; Liu et al., 2021; Steffen, 2020; Xu et al., 2021). Some of this increase in popularity can be attributed to the increase in online access to second-hand markets but also to the change in narrative of second-hand products. From the business perspective, large companies such as Amazon, H&M, Zalando, and more have all developed mechanisms to create second-hand markets for their offerings. This shift could be attributed to the fact that these traditional businesses are facing increased competition from second-hand markets or the public environmental scrutiny especially concerning fast-fashion (Padmavathy et al., 2019). Moreover, the popularity of peer-to-peer (P2P) second-hand platforms is growing and becoming more profitable (Xu et al., 2021).

From the consumer perspective, there has also been a shift in the narrative of second-hand products. Second-hand purchasing has been destigmatised and shifted from the idea of lower-income levels to thrifting, unique vintage finds and bargain value shopping (Borusiak et al., 2020; Steffen, 2020). Further, there is a constant shift in how different motivations affect consumer willingness to purchase second-hand. The second-hand market has thus become more accessible and has sufficiently commercialised since the days of charity shops, garage sales, and eBay.

One of the most expansive second-hand markets is that of second-hand fashion. According to one of the biggest second-hand fashion resale platforms, the market has been projected to grow by $77 billion US dollars by 2025 according to ThredUp a US-based resale platform (ThredUP, 2021). Due to this significant witnessed growth potential, it is important to understand the fashion industry and the expansion of second-hand fashion markets. The fashion industry plays a big role in the economy, yet is one of the most polluting industries contributing to 10% of global pollution (Clarke, 2021). In the past 20 years, clothing production has doubled leading to excess consumption and shortening the use phase of fashion products (Ellen MacArthur Foundation, 2017). The perception of clothing consumption is very concerning and is a major obstacle to achieving a more sustainable fashion consumption paradigm. For example, a report published by McKinsey in 2019 reported that one in three women considered a fashion item old after wearing it once or twice (Mckinsey & Business of Fashion, 2019). The fashion consumption need is insatiable.

From an environmental product lifespan perspective, the fashion industry is one of the highest polluting industries globally due to short product lifecycles, volatile demand, and complex supply chains (Colasante & D'Adamo, 2021). For this reason, the industry has come under much public scrutiny to create new sustainable mechanisms for consumers to access clothing and to address the environmental and social impact of the industry. It is for these reasons that the popularity of second-hand fashion markets is increasing amongst consumers who wish to choose more environmentally conscious products and businesses who want to invest in more circular business models.

Within the collaborative consumption discourse second-hand fashion has the ability to operationalise all the benefits as previously mentioned. It has also been fully supported as a mechanism to "curb the worst environmental impacts of the industry" (Valor et al., p.77, 2022). Second-hand fashion consumption incorporates the concept that for one item of clothing there will be multiple users, thereby increasing the use intensity of the garment.

1.1 Problem Definition

Despite that second-hand consumption has a beneficial impact, these environmental benefits are only realised when there is a replacement of new products and thus decreasing the demand overall for new products (Makov & Font Vivanco, 2018). Although there is projected growth in the second-hand fashion market, the fast-fashion industry continues to expand and is expected to reach $40 billion by 2025 (ThredUP, 2021). Due to the fashion industry's impact, the rate of growth and concern about consumer demand is becoming increasingly worrying.

There is a growing body of second-hand consumption literature, but only more recently have studies started to focus on the possible rebound effects and impacts of second-hand markets on consumption. Within the circular economy discourse, it has been increasingly questioned whether the environmental benefits have been overstated and what the potential rebound effects could be (Iran & Schrader, 2017; Makov & Font Vivanco, 2018; Ottelin et al., 2020; Siderius & Poldner, 2021). Rebound effects are generally discussed within the energy domain[2], but within the circular economy domain, they could be witnessed from economic or psychological mechanisms (Reimers et al., 2021). In terms of greenhouse gas (GHG) emissions, it can be defined when the actual emission savings is less than potential emission savings (Reimers et al., 2021). Since second-hand consumption is part of the broader circular economy (reuse), there is a potential that similar rebound effects could be witnessed in this field.

Within rebound effect literature, preliminary evidence of psychological mechanisms of rebound effects has been found by Parguel et al. (2017) due to consumers experiencing self-licensing effects. Moreover, economic rebound mechanisms in a study by Makov and Font Vivanco (2018) when considering smartphone reuse.

Although some of the aspects of unintended consequences of second-hand markets are considered there is still a considerable gap in the literature that includes a comprehensive understanding. The literature that considers rebound effects often investigates it quantitatively or discuss the effect itself rather than the implications for policy and solutions on how to avoid this (Biewendt et al., 2020). Furthermore, the true benefits that arise from the consumption of second-hand clothing is dependent on consumer use or purchasing behaviour. Many studies have addressed the drivers and barriers that consumers face when considering second-hand fashion consumption (Borusiak et al., 2020; Hristova, 2019; Padmavathy et al., 2019; Strähle & Erhardt, 2017; Wilts et al., 2021). However, the understanding of consumer behaviour that may cause rebound effects has not been studied widely.

This second-hand market industry is projected to grow in the future; assessing the potential rebound effects on consumption could provide valuable insights into whether an increase in second-hand consumption will create a new pathway to unsustainable consumption. A deeper understanding of these impacts can create awareness among consumers and alert policymakers

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[2] Increase in energy efficiency increases the overall energy demand is a witnessed rebound effect (Brookes, 1990)

to potentially regulate consumption within these environments. These preliminary findings indicate that there is a need to further investigate consumer behaviour to understand how they approach second-hand clothing consumption and understand the potential for rebound effects. Investigating these issues can explain why consumers are not shifting their consumption away from new products and caution against the over promotion of second-hand markets.

1.2 Aim and Research Questions

This thesis aims to qualitatively explore rebound effects of second-hand clothing consumption using consumer insights. To explore these effects a deeper understanding of consumer actions in second-hand market environments is required. This research contributes to the discourse by adding to the understanding of potential rebound effects of the circular economy and expanding research on second-hand clothing consumption. Additionally, this thesis aims to create awareness amongst academics and practitioners to ensure that the growth of second-hand markets is not seen as unequivocally good and, therefore, should be closely monitored.

The central research questions are designed to investigate under what circumstances is second-hand consumption an effective way to enable the circular economy in the fashion sector. By investigating consumer purchasing behaviour, this research aims to highlight what aspects of the practice of second-hand clothing consumption contribute to potential rebound effects. The research follows an exploratory qualitative design, and the objectives are to describe the potential consumption rebound effects within second-hand clothing consumption and explain why these effects happen. The research questions can be seen below:

RQ1: What is the practice of second-hand clothing consumption?

RQ2: What are the rebound effects of second-hand clothing consumption?

RQ3: Why do these rebound effects occur in second-hand markets?

1.3 Scope and Delimitations

The scope of this thesis will only consider the product category of second-hand clothing. The second-hand fashion market is one of the largest second-hand markets and has a wide consumer reach. In this way, there would be access to a broader range of consumers who are familiar with shopping second-hand, thus easier to collect data from consumer opinions.

The geographical scope will be limited to Sweden due to the wide availability of second-hand fashion markets and the general high level of sustainability awareness. Sweden is an interesting case because despite the high sustainability motives amongst consumers (Sweet et al., 2021), the consumption footprint remains is higher than the European average (Eurostat, 2021). Further, there is an absence of research conducted in the Swedish market specifically about consumers and how they practice second-hand consumption. Amongst some of the available literature investigating second-hand markets are Germany (Frick & Matthies, 2020; Steffen, 2020; Wilts et al., 2021), Poland (Borusiak et al., 2020), India (Padmavathy et al., 2019), China (Liu et al., 2021; Xu et al., 2021), Czech Republic (Rulikova, 2020) and Finland (Turunen & Pöyry, 2019) have been studied with regards to second-hand consumption. Further, despite a high presence of alternative business models for sustainable clothing consumption, Swedes have shown to have a surprisingly low adoption rate of sustainable consumption (Nielsen & Gwozdz, 2018). Thus, Sweden is a good context to study the phenomenon of second-hand clothing consumption.

The population chosen to investigate has been decided to be university students between the ages of generation Z and younger millennials. Consumers in this age group are generally more flexible with their purchasing decisions and are considered more environmentally conscious (Ziesemer et al., 2021). Moreover, Nielsen and Gwozdz (2018) showed that younger female consumers are more likely to use alternative business models in fashion purchasing. However, they are underrepresented when considering consumption literature and consumer behaviour (Ziesemer et al., 2021). Lund university students are further considered an appropriate population to study due to the authors' network and the available knowledge of the population. Lund University is an international university; thus, the scope is not limited to Swedish students and open to all nationalities.

Other limitations of the scope of this study are that the perspectives of other stakeholders within second-hand markets are not considered. This study will mainly focus on the perspective of consumers and their actions. The research objective is to understand the consumption decisions that lead to rebound effects in second-hand clothing markets and thus consumers will be the key focus to achieving this. Although, it may be interesting to more broadly understand the growth of these markets and why businesses are choosing to invest in the expansion of these markets, it has simply been considered out of scope.

1.4 Ethical Considerations

The research design has been reviewed against the criteria for research requiring an ethics board review at Lund University and has been found to not require a statement from the ethics committee. I do not foresee any circumstances where my honesty and personal integrity will be compromised. This research will not be funded or influenced by any organisation. Any respondent demographic data collected will be in strict accordance with GDPR rules. I believe that there is no reason that the results of this study will be harmful to participants, but if any issues arise, they will be taken seriously and adjusted for. The participation in the study is completely voluntary and informed consent will be acquired prior to the interviews. The empirical data collected for analysis will be kept on a password-protected cloud service for at least five years post the conducted study.

1.5 Audience

The intended audience includes any academic or government actors in the field of collaborative consumption. The research is important for any stakeholders to highlight the shortcomings of second-hand markets in the fashion industry. For consumers, it is important for them to understand under which circumstances buying second-hand fashion has a lower environmental impact to enable them to make fully informed decisions when considering their consumption habits. Further, this could raise awareness among consumers about businesses that seek to capitalise on the growth of second-hand markets but are essentially creating a "greener" unsustainable consumption pathway. Lastly, businesses and academics need to understand that although this is a circular economy strategy, it is highly dependent on consumer behaviour, thus there are limitations in achieving its intended environmental effectiveness.

1.6 Disposition

Chapter 1 (Introduction) presents the main problem addressed in this research and the specific context of the research problem. The content considered the research scope, the audience, and provides an outline for the thesis.

Chapter 2 (Literature Review) is a comprehensive literature review. It includes a thorough analysis of clothing consumption, second-hand clothing markets, environmental benefits and

rebound effects. The gaps that this thesis addresses are also identified. Based on the gaps, theories that study sustainable consumption and a conceptual framework is proposed to address the research problem.

Chapter 3 (Research design, materials, and methods) presents the methodological approach used in this thesis. The methods for collecting and processing data are also discussed. Lastly, the limitations of the methodology are addressed.

Chapter 4 (Findings) presents the main finding in the form of themes that arose from data analysis. The key findings in relation to the interviews are discussed with support from participant quotes.

Chapter 5 (Analysis) includes the analysis of the finding using the conceptual framework outlined in chapter 2. Lastly, the evidence found that supports the answering of the research questions is discussed.

Chapter 6 (Discussion) presents an assessment of what the overall findings and analysis suggest about that which is already discussed in literature. Moreover, a general reflection of the strengths and weaknesses of this thesis are discussed.

Chapter 7 (Conclusions) presents the main conclusions to the thesis and a formal answer to the research questions. It further provides recommendations directed to the audience. Lastly, recommendations for where further research is needed are suggested.

2 Literature Review

This section provides an analysis and synthesis of the current scientific discourse related to second-hand clothing consumption. In this section, the background of clothing consumption, in general, is discussed, followed by specifics of second-hand clothing markets and consumer perceptions. The next part considers the environmental benefits of second-hand consumption and the circular economy. Further, evidence of some of the unintended consequences of the expansion of the second-hand market is discussed. Lastly, some other ways to enable the circular economy through consumption are reviewed.

2.1 Clothing consumption

2.1.1 Clothing consumption impact

The fashion industry is one of the biggest polluters globally. The issue with the fashion industry is linked both to production and consumption. The production of clothing has a significant impact throughout its supply chain from sourcing to disposal. From an environmental perspective, the production of clothing requires exorbitant amounts of water, pollutes water systems from treatment and dyeing processes and generates large amounts of textile waste. Furthermore, the introduction of synthetic fibres has increased the amount of microplastics that are released.[3] Another aspect of concern in the production of clothing is poor labour practices that exploit workers with unsafe working conditions and low wages. Among many other examples of dangerous working conditions in the fashion industry, a clear example of this is the tragedy in Dhaka, Bangladesh (the cheapest country to produce clothes) where a garment factory collapsed due to negligence (Thomas, 2018).

From the consumption perspective, the demand for fashion is continuously increasing and according to (Global Fashion Agenda, Boston Consulting & Group, and Sustainable Apparel Coalition, 2019) 102 million tons of apparel products will be produced by 2030 in comparison to 62 million in 2017. This significant increase in the production of clothing is an indication of the commonly known term "fast-fashion", where the speed of consumption of clothing is incredibly fast as it is based on low priced garments and fleeting style trends (Niinimäki et al., 2020). The fast-fashion paradigm not only affects consumers' need to constantly consume, but it also allows for substantial amounts of waste to be produced. Before even reaching the consumer, the production process itself creates textile waste which includes yarn, fibre, and fabric (Niinimäki et al., 2020). Moreover, there are often unsold garments referred to as "deadstock" which is known to be wastefully destroyed (Niinimäki et al., 2020). Due to the fast cycles at which consumers use clothing, another large waste stream comes after the consumer. The rate at which consumers are purchasing new clothes has predictably led to short use phases for clothing with Ellen Macarthur Foundation (2017) reporting that the average amount of time a garment is worn "has decreased by 36% compared to 15 years ago" p.77. It should also be noted that textile recycling is not a large enough industry to support the vast amounts of clothing being consumed. Further, approximately only 25% of garments are globally collected for recycling or reuse (Ellen MacArthur Foundation, 2017).

The growth in the fashion industry is rapid and it comes at a great cost to the environment and society. Although the impact of this industry is highly destructive, it also has one of the most complex supply chains. Often many steps in the production process are occurring in different countries or regions. As a result, the monitoring and intervention aspects are also

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[3] Polyester (a synthetic fibre made from plastic) is one of the most used fibres in clothing production (Niinimäki et al., 2020)

complex and difficult to implement. The fast-fashion industry today is a product of the linear economy.

2.1.2 Circular economy for clothing consumption

In the fashion industry, the demand for clothing has long moved past meeting basic needs and has become a symbol of social status, personality, gender or even embedded in daily routines (Strähle & Erhardt, 2017). Even though the fashion industry is one of the most damaging, it is not an industry that can simply be eradicated. It contributes to society in many different ways and is an integral part of many regions. Since the necessity of industry is recognised, there are proposed alternatives to the damaging fashion system we see today. One of the alternatives proposed is the circular economy which recognises the need for economic activity to exist and function effectively at all scales. The circular economy model focuses on three core concepts which is to design waste and pollution out of the economic system, keep material at their highest value and in use, and regenerate natural systems (Ellen MacArthur Foundation, 2017). It also aims to make sure that the new economic model is resilient, generates opportunities and is socially beneficial to all.

In a report titled "A New Textiles Economy: Redesigning Fashion's Future" by the Ellen MacArthur Foundation, to operationalise the circular economy in fashion four ambitions are proposed. Firstly, the concern is to phase out any materials of concern in the production process which includes the reduction of micro-plastic releases into the environment. Secondly, to radically improve the way clothing is designed, collected, and recycled so that less virgin raw material is required, and waste is mitigated. Thirdly, replace material and energy inputs with renewable sources. Lastly, transform the way clothing is designed, sold, and used to dismantle the current fast-fashion consumption system. Within, this ambition one of the key strategies is to increase clothing utilisation. They suggest that this should happen with brand commitments and policy interventions. (Ellen MacArthur Foundation, 2017).

The ambitions in this report are all important but the main focus of this thesis is the increase in clothing utilisation. One of the mechanisms suggested in literature is that of collaborative fashion consumption which creates an alternative to fast-fashion consumption. Collaborative consumption first termed by Rachel Botsman in 2010, focuses on shifting consumption away from ownership to a more collaborative paradigm where sharing, lending, trading, borrowing, and lending are in focus. As previously discussed, there are types of consumption that fall under three different models such as collaborative lifestyles, product-service systems and redistributive markets. Collaborative lifestyles are spaces where people share and exchange skills, time, or space and product-service systems remove the ownership aspect of consumption by consumers paying for the use of an item. In redistributive markets, consumers are given access to items that they need by taking them from places where they are not in use. In this way items that would be wasted are given a second life. Redistributive markets for clothing exist in the form of selling second-hand clothes or in exchange markets. (Strähle & Erhardt, 2017).

2.2 Second-hand clothing markets

Over time markets adapt and change to meet the needs of ever-changing demands. In the last 20 years, there have been significant changes to how value creation is delivered in commerce. The growth of e-commerce, platforms, technology access, as well as globalisation, has transformed business and the role of actors in the economy. This is present in all forms of commerce and includes second-hand markets (Yrjölä et al., 2021).

2.2.1 The growth of second-hand markets

Historically, the places to participate in second-hand consumption have been limited to brick-and-mortar physical shops, flea markets and garage sales. However, with recent developments in technology and the growth of e-commerce, the nature second-hand transactions and the potential of second-hand markets have shifted. The rise in popularity of these markets is undeniable, where many consumers in the US, Europe, and China have been found to participate in second-hand consumption[4] (Yrjölä et al., 2021). Second-hand markets are also challenging the traditional roles in commerce since often customers can be buyers and sellers, thus businesses market differently. The access to second-hand products has been continuously growing and has expanded to meet the demands of various types of consumers.

These shops had the narrative of donations, charity organisations, treasure hunting and bargain finds (Borusiak et al., 2020). Today, second-hand consumption has become a commercialised e-commerce market (Xu et al., 2021). In this way, it has made access to a variety of second-hand products convenient, efficient, and cheap in physical shops and online. The variety of products available has also expanded. There are also more varieties of products for consumers that have expanded overtime (Kim & Woo, 2021). There also exist many forms of second-hand online markets for consumers to choose from (Xu et al., 2021).

There have been many studies that consider the barriers to the expansion of second-hand markets and many centre around consumer perceptions (Borusiak et al., 2020; Hristova, 2019; Kim & Woo, 2021; Mohammad et al., 2020; Sorensen & Johnson Jorgensen, 2019; Yan et al., 2015). Specifically, the perceived stigma, associated low socioeconomic status with used items, perceived contamination, and poor quality have been discussed (Valor et al., 2022). In a recent study Valor et al. (2022) examined this more closely to understand how the barriers to second-hand market expansion have become less prevalent. They examined second-hand clothing markets in Spain which is an example market in Europe that has previously been affected by green stigma. Using a relational legitimacy and social habitus theory they design a study that examined institutional actors and three different stages in the formation of second-hand clothing markets[5]. Valor et al. found that "emotion and validation work of institutional actors successfully under-mine green stigma, thereby contributing to market expansion" p.85. This study explains how the institutional actors, through endorsement and authorisation targeted stigma related to second-hand clothing consumption and collectively changed the perception. These findings are also corroborated by earlier studies (Kim & Woo, 2021; Zaman et al., 2019).

Overall evidence shows that the expansion of second-hand markets is vast and has happened due to various consumer and market actor influences. As second-hand markets expand, it is important to understand consumer intentions and motivations to gain deeper insights.

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[4] A study in the US found that 65% of consumers bought second-hand items online (Statista, 2018a), according Statista more that 20% of Europeans bought or sole second hand (Statista, 2018c) and China companies trading in second-hand goods has also risen (Statista, 2018b).

[5] The three different stages include were "inception" (2000-2010), "second-hand for sellers" (2011-2016) and "second-hand fashion" (2017-2021). The institutional actors included in the study were Three different stages in the formation of the second-hand clothing market were second-hand stores, general and fashion media, and micro-influences. (Valor et al., 2022)

2.2.2 Consumer attitudes and motivations

This increase in second-hand markets has drawn some research attention in many different global contexts. The publications have touched upon many disciplines such as economics, consumer studies, sustainability domains and even psychology. Most of the interest has focussed on consumer drivers, motivations, and barriers to shopping second-hand. Padmavathy et al. (2019) discussed three key motivations within the realm of online second-hand purchasing which are also considered by other authors. Economic motivation is considered the most crucial motivation and considers that consumers are motivated to shop second-hand due to the lower cost and bargain value (Borusiak et al., 2020; Steffen, 2020; Styvén & Mariani, 2020; Wilts et al., 2021). Secondly, there exists a consumer convenience aspect. The access to fast information, user-friendliness, and efficiency to compare products (time saved) all contribute to the convenience felt with second-hand online shopping (Padmavathy et al., 2019). Frick and Matthies (2020) specifically talk about efficiency gains when considering online purchasing behaviour where consumers perceive a reduction in behavioural costs (compared to shopping in person). Lastly, Padmavathy et al. (2019) discuss an ideological motivation that refers to the purpose that the consumer finds in second-hand purchasing. These motivations (referred to as "hedonic" or "utilitarian") range from uniqueness, nostalgia, recreation, and social interaction and have generally been more associated with in-person shopping (Padmavathy et al., 2019; Parguel et al., 2017).

Another motivation that should be considered is environmental consciousness. This refers to whether consumers choose to purchase second-hand products due to their lower associated environmental impact. This is referred to throughout the literature using different terms such as; critical motivation (Steffen, 2020), environmental concern or consciousness (Borusiak et al., 2020; Frick & Matthies, 2020; Parguel et al., 2017), psychological distance from environmental pollution (Liu et al., 2021), environmental benefits awareness (Wilts et al., 2021), and perceived sustainability (Styvén & Mariani, 2020).

Many of the studies confirmed that these motivations correspond with the purchasing behaviour of consumers. Borusiak et al. (2020) confirmed that attitude toward the positive impact and environmental consciousness (aware of consequences and feelings of responsibility) positively influenced the intention amongst consumers to purchase second-hand items. Lui et al. (2021) also confirmed that how consumers perceive environmental pollution influenced whether consumers were willing to participate in second-hand transactions (online). They also found that environmental awareness is something that can be manipulated by different framing indicating that consumers are perceptible to changing their behaviour through how sustainability aspects have been framed – in this situation gain framing was more effective than loss framing (Liu et al., 2021). Environmental benefits were also seen as key motivators for second-hand consumption in Wilts et al. (2021) when investigating German consumers.

Very few authors consider aspects from the second-hand selling perspective of consumers and why people choose to resell their products. Wilts et al. (2021) investigated the relevancy of transaction costs when thinking about drivers and barriers associated with second-hand buying and selling. From the sellers' perspectives, they found that negotiation with buyers is associated with a high transaction cost due to its time-consuming nature (Wilts et al., 2021). Another study investigated the values associated with the second-hand luxury item selling (Turunen et al., 2020). Turunen et al. (2020) find that sellers consider the potential resale value when purchasing items, thus as the second-hand luxury item market grows, the "conventional luxury consumption is likely to evolve based on planned and unplanned reselling" (p.479).

All these motivations for second-hand consumption are important when considering the link between second-hand markets and consumption. Frick and Matthies (2020) studied whether the perceived efficiency gains contributed to an increase in the number of items purchased online. For a smaller subset of their sample, they found that the efficiency gains contributed to higher quantities of purchasing online. Another key finding from Frick and Matthies (2020) is their implication that increased presence online contributes to higher consumption quantities. This finding could also be extended to second-hand consumption. For shopping in person, the main link found between consumption and second-hand clothing is cost. The lower cost associated with second-hand increases the affordability and access for consumers thus affects the number of items purchased (Padmavathy et al., 2019).

2.3 Sustainability and second-hand clothing

The premise of sustainability aspects of second-hand clothing is that in purchasing second-hand clothing the production of new clothing is avoided. In this way, the resources and waste produced do not cause any damage to the environment and are thus considered environmentally sustainable. Other aspects of sustainability to consider within this section is the ethical concern of fair wages and good working conditions. This falls under the category of social sustainability and the fashion industry is known to be a large culprit in exploiting garment and factory workers. The link between second-hand clothing purchasing and social sustainability is less clear, but the logic remains the same where the avoided production requires no labour to be exploited. The environmental and social sustainability aspects will be discussed further in this section.

2.3.1 Sustainability benefits of second-hand

Reuse is the fundamental concept that supports the environmental benefits of second-hand consumption. When products are reused their life spans are extended and diverted from potential waste streams. The reason that this is important pertains to the impacts associated with production of new products. As discussed, within the clothing sector the accompanying environmental impacts are expansive when considering waste, toxic chemicals, water usage, and GHG emissions. Theoretically, the reuse of clothing should avoid the production of new clothing because the consumer need has been met.

In a systematic literature review done by Sandin and Peters (2018) the environmental impacts of the reuse and recycling rates for textiles were examined. In the 41 studies reviewed life cycle assessment (LCA) was the most commonly applied methodology to quantify the environmental benefits. They found that only 44% of the publications they reviewed from 2003 to 2017 considered the impacts of reuse of textiles compared to recycling. One of the key assumptions that are made within most of the studies is the 1:1 replacement mechanism, assuming that second-hand products substitute new products made from virgin materials that are functionally equivalent (Sandin & Peters, 2018). Although this assumption is considered unrealistic, there have been other studies that modelled more realistic usage behaviour and has become a topic of interest (Castellani et al., 2015; Dahlbo et al., 2017; Fortuna & Diyamandoglu, 2017; Sandin & Peters, 2018; Schmidt et al., 2016). In some of the studies, it was found that even at replacement rates (second-hand to new) of 10% (Schmidt et al., 2016) or 50% (Dahlbo et al., 2017) some environmental benefits were realised. Conversely in a study by Fortuna and Diyamandoglu (2017) it was found that low replacement behaviour had fewer environmental benefits than waste recycling and incineration.

From a social sustainability perspective, there has not been much investigation. A similar logic can apply here, where the avoided production of new clothes translates into avoided

exploitative labour practices. Another aspect that could be considered is the competition that second-hand markets have on local economies, especially in global south countries where much second-hand clothing is exported to (Nørup et al., 2019; Repp et al., 2021). Although important social sustainability is not relevant for this thesis.

2.3.2 Factors affecting sustainability

Although there is evidence supporting the claims toward environmental benefit, there is one key assumption that is made. This relates to the usage behaviour of consumers when they engage in second-hand consumption. There have been more critiques regarding the usage behaviour and what it means for the quantified benefits in the literature. These will be discussed in this section.

Firstly, as considered by Sandin and Peters (2018), most of the studies use LCA or components of it as a methodology. This quantitative methodology is rigorous and has gained popularity in the last decade. Despite LCA's merits, there are limitations with regard to the assumption made in the calculations. To quantify the benefits, the modelling of use behaviour considering the clothing requires many assumptions and thus can be questioned. As mentioned only a few studies consider different use behaviour and the key assumption made is that consumers are replacing new with second-hand purchases. However, as Castellani et al. (2015) suggest, this assumption is unrealistic.

In essence, much of the environmental benefits are only realised due to how consumers use their second-hand clothing. Since the basis is avoided production, improvements to the production of new clothing do not increase the benefits of purchasing second-hand item according to the quantification. In another LCA investigating clothing libraries, it was found that by increasing the use phase substantially the environmental gains will be realised (Zamani et al., 2017). However, in a study by Laitala and Klepp (2021), they found that second-hand items were on average used 30% less than if they were bought new. So although, the lifespan of the garment has been increased through second-hand consumption, the clothing is worn less on average (Laitala & Klepp, 2021). Other interesting findings were that the newer the item (in the respective closet) the more the item is worn compared to one bought earlier.

Lastly, another aspect is that clothing is not generally considered a long-term usage of products. Moreover, the current climate of fast-fashion has influenced most consumers to consider fashion a short-term item to own. For this reason, aspects such as quality and durability are something that can ensure the lifespan extension of clothing. However, what can be seen in that fast-fashion has flooded second-hand markets. For example, Sweden's popular second-hand online retailer Sellpy has approximately 42% of its items listed in May 2022 are fast-fashion brands such as H&M, Zara and Shein. These items are not produced to be durable and thus the lifespan is likely to be short. Despite the general perception that second-hand clothing has large environmental benefits, these can be questioned due to some of the assumptions made in the calculation. Theoretically, the reuse of fashion corresponds to avoided production of new items, however, it is highly dependent on consumer behaviour which can be complex.

However, there are other sustainable consumption options that should be discussed in this context. The vital role of consumers in the circular economy is increasingly becoming recognised especially regarding their consumption decisions (Maitre-Ekern & Dalhammar, 2019). A hierarchy of consumption behaviour has been developed by Maitre-Ekern and Dalhammar (2019) and second-hand is only viewed as the fifth out of seven consumption behaviours that promote circular economy (Figure 2-1). This indicates that second-hand is a less effective mechanism to enable circular economy compared to others.
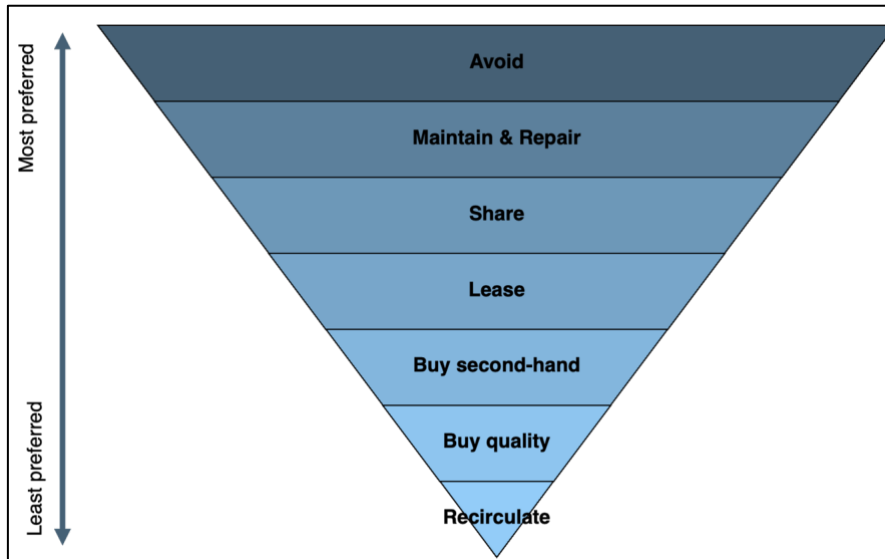
Figure 2-1: Consumption behaviour hierarchy in the circular economy
Source: Author's own illustration, taken from Maitre-Ekern and Dalhammar (2019)

2.4 Rebound effects

This section will discuss rebound effect literature including the origin, types of rebound effects and evidence found of rebound effects. The concept generally stems from energy efficiency, but this will be discussed in relation to consumption.

The rebound effect is generally understood as the secondary consequence of improvements in resource efficiency which result in smaller improvements in energy or material consumption than originally predicted (Freeman, 2018). There are different types of rebound effects that have various influencing mechanisms. Within the economic mechanisms, income and substitution effects are most commonly referred to (Chitnis et al., 2013; Dütschke et al., 2018; Reimers et al., 2021). Income effects happen when there is a change in consumption determined by changes in the amount of available income. Substitution effects occur when there is a change in consumption due to a change in the affordability of an item or the availability of substitute products. In explaining how and why rebound effects occur, Reimers et al. (2021) complete a broad literature review that discusses rebound effects and their mechanisms. There are two broadly accepted rebound mechanisms, economic and psychological mechanisms. There are also two types of effects that can occur depending on which consumption domain the rebound effect materialises within.

On the consumer level, there are direct and indirect rebound effects. Using a lighting example from Chitnis et al. (2013), a direct rebound effect from switching to more efficient lighting might come about when consumers use lighting for longer since it has become cheaper. However, indirect rebound effects may occur when consumers choose to use the money saved (from the more efficient lighting) on flights to a holiday destination (Chitnis et al., 2013). So indirect rebound effects come about from how consumers react to an efficiency improvement or a behavioural change by increasing consumption in a different consumption domain (Reimers et al., 2021). Besides indirect and direct rebounds, a delineation can be made between

sufficiency[6] and efficiency based rebound effects on a consumer level (Chitnis et al., 2013; Reimers et al., 2021). In the lighting example above the efficiency of new lighting created both indirect and direct rebound effects. Sufficiency at the consumer level, on the other hand, refers to when consumers reduce (or abandon) the consumption of elements that cause environmental harm (resources, goods, services etc.). Generally, sufficiency behaviour often leads to financial savings which could cause rebound effects (Reimers et al., 2021).

The psychological mechanisms that influence rebound effects are mostly spoken about in the context of moral licensing. However, it can also be described as when an initial pro-environmental action either increases or decreases the likelihood of a subsequent action to also be pro-environmental (Burger et al., 2022). Although moral licensing is the most common psychological mechanism spoken about (A. Bauer & Menrad, 2020; Burger et al., 2022; Parguel et al., 2017; Reimers et al., 2021), there are others that are less prevalent in literature. Santarius and Soland (2016) proposed a typology for psychological rebound effects in their paper and these included three psychological mechanisms. Firstly, they explain the "diffusion of responsibility effect" which essentially describes how consumers feel about their responsibility towards the environment (Santarius & Soland, 2016). In the context of a rebound mechanism, this occurs when consumers feel a decrease of responsibility to not act unfavourably towards the environment. Secondly, they discuss moral licensing which is discussed in more detail below. Lastly, they term "attenuated consequences" as the third psychological mechanism. This is explained by a consumer choosing or purchasing a more efficient technology which subsequently leads to a re-evaluation of monetary, social, or emotional consequences after using the technology. This further causes an increase in consumption of the item chosen (Santarius & Soland, 2016). Since in most literature all psychological rebound effects are discussed within moral theory, moral licensing will be considered a broad theme that encompasses the above psychological mechanism examples.

The rebound effect is defined according to Chitnis et al. (2013) where the rebound effect (R) is defined as the difference between the potential emissions savings (PES) and the actual emission savings (AES). In this study, they define rebound effects according to GHG emissions. Sufficiency savings are related to consumption reduction to decrease impact on the environment. In this case, consumers choose to change their consumption habits either of goods, services, or resources to more environmentally conscious choices (Reimers et al., 2021). In Figure 2-2 the rebound effect is considered more generally instead of considering only emissions. Although rebound effects are usually considered to only have one influencing mechanism, Santarius and Soland (2016) propose that hybrid forms of economic and psychological mechanisms are possible. The example they give is that if an income effect is present can also trigger moral licensing.

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[6] There are two meanings of sufficiency in this thesis, one referred to consumer perceptions of what they consider enough and here sufficiency is a specific term used to refer to a particular type or rebound effect that Reimers et al. (2021) uses.
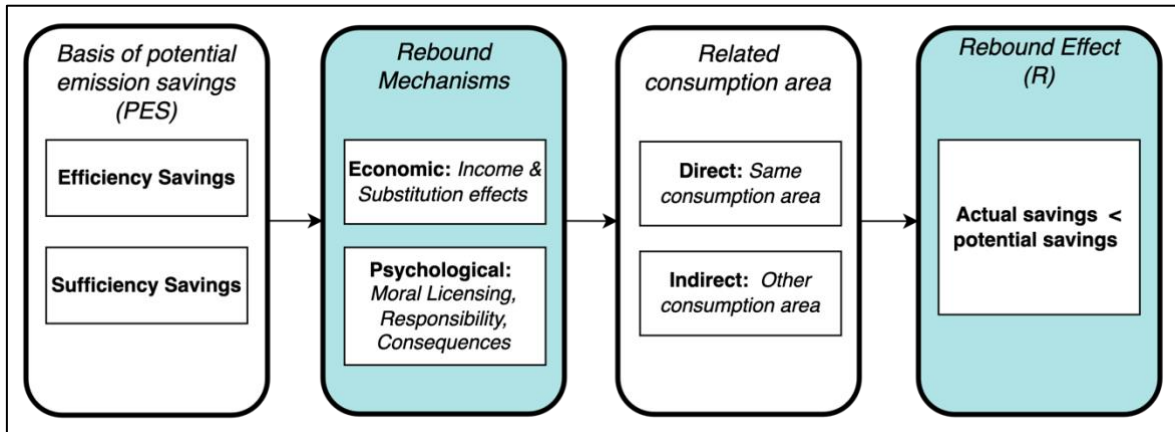
Figure 2-2: Conceptual Model of Consumption Rebound Effect
Source: Author's own illustration adapted from Reimers et al. (2021)

2.4.1 Moral licensing

The effect of moral licensing is highly relevant when examining the psychological mechanisms of rebound effects. The theory of moral licensing essentially argues that individuals are likely to feel liberated to engage in immoral behaviour as a subsequent action to a good deed (moral action) done in the past (A. Bauer & Menrad, 2020; Burger et al., 2022; Merritt et al., 2010). Although most empirical evidence exists within lab experimental settings, it has also been observed in natural settings. Moral licensing has been studied in many situations such as racism, pro-environmental behaviour, dishonesty, leadership, and other social responsibility.

Recently, within the discourse of moral behaviour, there have been two key phenomena witnessed. These include the contrasting behaviours of moral consistency and moral balancing (Cornelissen et al., 2013). According to A. Bauer and Menard (2020), there are two types of mindsets in moral philosophy that influence moral behaviour in general. These are categorised as rule-based or outcome-based mindsets (A. Bauer & Menrad, 2020). Following the explanation in Cornelissen et al. (2013) these two mindsets stem from consequentialism (outcome-based) and deontology (rule-based) where "In a consequentialist framework, whether an act is morally right depends on the consequences of that act" and "From a deontological perspective, what makes an act right is its conformity to a moral norm" (p.483). In studying the evidence of these Cornelissen et al. (2013) found that an outcome-based mindset showed the presence of moral balancing, and a rule-based mindset showed more evidence of moral consistency. Moral balancing can be simplified to explain that individuals will consider trade-offs when acting unethically or ethically and this will affect their subsequence decision. Moral consistency contrasts this in that individuals are not as lenient with themselves and are more driven by consistency and rules that guide their integrity (Cornelissen et al., 2013). In this study moral balancing is considered moral licensing.

In the study by A. Bauer and Menard (2020) moral theory in the domain of environmental consumption choices by priming individuals with an organic food option and looking at whether that affects the subsequent action of carbon offsetting. They found that only if individuals have a rule-based mindset with environmental values will the likelihood of further actions of environmentalism be increased (A. Bauer & Menrad, 2020). This has implied that individuals with outcome-based mindsets are more like to experience moral licensing. Moral licensing has been studied related to various contexts such as electricity consumption (Jacobsen et al., 2012; Murray, 2013; Tiefenbeck et al., 2013), carbon offsets and eco-products (Warburg

et al., 2021), electric vehicles and insulation (Seebauer, 2018), and meat consumption (Carrico et al., 2018).

2.4.2 Evidence of rebound effects

The evidence of rebound effects in energy efficiency literature and macro-scale economic rebounds have been investigated widely in literature. There has generally been less focus on psychological mechanisms and qualitative exploration. However, there is evidence to suggest that there are rebound effects (psychological and economic) within the consumption domain. The following section will discuss this evidence.

Overall, rebound effect evidence is present in many different consumption domains including housing, food, clothing, transport, electricity, heating, and smartphones (Blanken et al., 2015; Reimers et al., 2021). Rebound effect evidence is present in many circumstances. Mostly, income effects have been studied at a macro level, frequently investigating the impact measures of GHGs and less prevalent using total material input. These rebound effects are generally studied using macro-level economic analysis which is a common quantitative methodology applied (Reimers et al., 2021).

In the circular economy specifically, some studies suggest that the benefits proposed may be offset by potential rebound effects (Iran & Schrader, 2017; Makov & Font Vivanco, 2018; Siderius & Poldner, 2021; Zink & Geyer, 2017). Circular economy rebound effects have only been recently developed with only little application of this concept in the literature (Figge & Thorpe, 2019; Makov & Font Vivanco, 2018; Zink & Geyer, 2017). They found more studies that consider economic mechanisms than psychological ones but concluded that the discourse, in general, is expanding. The evidence of income effects is found widely in literature, especially within the electricity and energy domain (Bjelle et al., 2018; Reimers et al., 2021; Vita et al., 2019; Wood et al., 2018). Rebound effects can be examined qualitatively and quantitatively. Within economic mechanisms, it is common to be studied quantitatively, but psychological rebound mechanisms are generally more associated with qualitative studies (van Schaik, 2020). In their study, Chen (2021), emphasize that there need to be more qualitative investigations into rebound effects to understand values amongst people that cannot be captured by quantitative approaches.

In relation to specific evidence, Makov and Font Vivanco (2018) investigate rebound effects witnessed in smartphone reuse namely whether the saved money from cheap second-hand products increases consumption in other domains and the presence of imperfect substitution for new smartphones. On average they found a rebound effect of 29% for smartphone reuse indicating that there is evidence to question the environmental benefits of second-hand consumption (Makov & Font Vivanco, 2018). These recent findings are confirmed by a conceptual paper by Iran and Schrader (2017) in which rebound effects are discussed concerning collaborative fashion consumption. Further household circular consumption choices are also considered to potentially lead to higher material footprints because consumers have little understanding of rebound effects despite being environmentally inclined (Ottelin et al., 2020). In a study considering sustainability labelling of clothing, a rebound effect was also found to be present (Adıgüzel et al., 2020). They found that consumers showed higher purchased quantities of clothing that signalled sustainability aspects. However, they did not find moral licensing due to moral consistent behaviour amongst a subset of their respondent which confirms the study by A. Bauer and Menrad (2020) about rule-based moral behaviour (Adıgüzel et al., 2020).

Specific to second-hand clothing which has not been studied widely, Parguel et al. (2017) analysed whether the second-hand markets allow a suitable context for moral-licensing behaviour. This implied that a less critical approach to consumption behaviour occurs amongst consumers on a French P2P second-hand platform. They found that these markets do allow consumers to distance themselves from excessive consumption due to the environmentally positive narrative surrounding second-hand consumption. They confirmed this behaviour among materialistic and even environmentally conscious consumers. They, thus, provided evidence that moral licensing is present within second-hand markets.

Overall, this literature review has discussed many topics related to clothing consumption. In general, the impact of the fashion industry is highly damaging and affects social and environmental sustainability. In recognising the impact, circular economy concepts have been introduced into the clothing economy, namely that of second-hand markets. Within these markets, previously used clothing is sold which increases the overall use intensity of clothing, a key concept within the circular economy. The consumer perceptions of second-hand clothing have also shifted beyond the previous stigma and now there are many drivers for consumers to choose second-hand clothing as an option. Three main drivers exist; economic motivation due to the low cost, recreational motivation because consumers enjoy the activity of looking for second-hand garments, and environmental motivations because second-hand is considered more sustainable.

However, it should be noted that the sustainability benefits centre primarily around avoided production of new garments. More importantly, there are questionable assumptions made about consumer use behaviour that underpin the main environmental benefits suggested. As more consumers rush to participate in the new second-hand market growth, the potential rebound effects could become more prevalent. Rebound effects in the circular economy have been extensively discussed within the energy domain, and mostly consider economic mechanisms as influences. Evidence of rebound effects within the circular economy has also been shown with regard to smartphones and clothing. The psychological rebound mechanisms such as moral licensing have also been studied in other domains, and only one study considers this for second-hand clothing specifically. So far, the evidence suggests that second-hand clothing consumption could have the potential to result in rebound effects.

Research has not been sufficiently established for the domain of second-hand markets. Thus, this research project aims to fill this gap and add to the discourse by investigating the practice of second-hand clothing consumption and behaviour that may cause rebound effects.

2.5 Theoretical underpinnings

The following section will consider theories that are relevant to studying sustainable consumption that are present within the discourse. Two main theories are discussed and reviewed for their suitability to investigate the current research questions. Lastly, a conceptual framework for analysis of second-hand clothing consumption will be proposed before introducing the methodology.

2.5.1 Theories used to study sustainable consumption

Historically, to address behavioural aspects of consumer behaviour, information was seen as the best tool. The aim was to correct the market failures by helping to inform consumer decisions with information by letting them understand the environmental impact of certain items or actions (for example eco-labelling) (Heiskanen & Laakso, 2019). In promoting the aspect of information and awareness, a critical assumption had been made. The assumption

here was that consumers lack awareness, thus providing information would lead to better (more sustainable) consumption behavioural changes. This has been a common approach in different policy objectives and ecolabelling schemes do have successes in certain markets. In the EU policy agenda (Mazur-Wierzbicka, 2021), the aim is to empower consumers with information to steer the market to more sustainable options that are still prevalent, especially in the energy domain. However, Heiskanen and Laakso (2019) reviewed this notion and showed only some evidence that supports information focused strategies and also that most successes are evident in energy markets. Stronger sustainable consumption evidence however is lacking and "given the scale of the strong sustainable consumption challenge, this is a good start, but insufficient" (Heiskanen & Laakso, 2019, p. 158). In this case, stronger sustainable consumption relates more to sufficiency evidence.

Over time, theories to promote and study sustainable consumption have evolved and considered different aspects that other theories lack. Many theories have been used in understanding consumer behaviour. There are two main theories usually applied to consumption and these include the Theory of Planned Behaviour (TPB) and Social Practice Theory (SPT) (Spangenberg & Lorek, 2019). The origins and nuances are considered in the next sections as well as the shortcomings of each theory.

Theory of Planned Behaviour (TPB)

Besides information, another tool to motivate sustainable consumption that originates from behavioural economics TPB. The Theory of Planned Behaviour (TPB) generally considers the intention of an individual to perform a pre-planned behaviour. This intention is then influenced by the individuals' attitude, subjective norms, perceived behavioural control, access to resources, and the opportunity to act on the intention (Spangenberg & Lorek, 2019). In this way, TPB focuses more on the individual actors and their attitudes, motivations, beliefs, sociodemographic behaviour, and (sustainability) awareness. There is wide use of TPB in consumption studies that are generally used for the application of sustainable consumption policies. The policy interventions have had a focus on individual choices and their actions with the objective of seeking effective social change (Spangenberg & Lorek, 2019).

One key assumption is made when considering the TPB, which is that there is a linear relationship between the attitudes, intentions, knowledge, beliefs etc. and consumer behaviour. This is described as a behavioural change that occurs due to the perceived behavioural control (Spangenberg & Lorek, 2019). Applying TPB in general economic theory means that rational actors can be influenced to choose better action by information empowerment (communicating rationally or through emotional persuasion) (Spangenberg & Lorek, 2019). There are also other models related to TPB such as value-belief-norm (VBN) and attitude-behaviour-choice (ABC) which follow a similar logic to TPB. A newer derivative of TPB such as "nudging" or "choice architecture is also discussed by Spangenberg and Lorek (2019). In "nudging" instead of being led by rational choice theory, the individuals are considered to have bounded rationality which leads to them choosing a shortcut (i.e., they do not process information quickly and efficiently at the time of action) (Ajzen, 1991). Examples of nudging tools are: better simpler framing of information, change to the physical environment, changes to default setting and use of descriptive social norms (Lehner et al., 2016). Despite evidence of nudging being successful and effective, there are still challenges that remain when considering nudging as a tool to enable sustainable consumption. One key challenge is the fact that delivering effective nudges is difficult to apply at a larger scale and requires many stakeholders to collaborate with a huge administrative burden (Heiskanen & Laakso, 2019). In choice architecture, mostly studied experimentally, better decisions can be observed through pre-set default options for consumers (Keller et al., 2016).

TPB has its strengths but has its limitations namely the assumption that information leads to better consumption choices "the agents doing so may be misguided about the rationality of their reflected behaviour as the information they use may be much less than they perceive" (Spangenberg & Lorek, 2019, p. 1073). A recently developed theory addressed some of the shortcomings of called social practice theory (SPT). SPT challenges the idea that if consumers have the information they will act accordingly and that consumer decisions are made solely based on information provided (Heiskanen & Laakso, 2019)

Social Practice Theory (SPT)

Social practice theory (SPT) follows a different logic where instead of focusing on helping consumers make better decisions, it rather focuses on understanding what social practices (historical habits, conventions, diets etc.) lead to better consumption decisions (Shove & Spurling, 2013). SPT essentially acknowledges that consumer decisions are dependent on the context in which behaviour unfolds (Arman & Mark-Herbert, 2022). The context can be described by meaning (norms values wants), competence (knowledge and skills), and material (infrastructure) (Arman & Mark-Herbert, 2022). Essentially social practices underpin consumption habits (Shove & Spurling, 2013).

According to Shove et al. (2012) practices are made up of elements that are integrated when practices are performed. These three elements include materials, meanings, and competence referred to as context. Practices are continuously in flux by emerging, persisting, and disappearing when the connections between their elements are created or broken. Thus, when new elements are introduced or combined in new ways, practices change. There is a complexity to generalising terminology when considering the elements because there is much room for interpretation.

Following Shove et al. (2012) the elements are defined as followed. Material is generally referred to as physical, tangible infrastructure (stoves, skateboards, bicycles, etc) and access to the infrastructure forms a key part of the element. Moreover, the movement of material is important to understand how the element is transported, accessed, or where they are located. Competence is considered to be "multiple forms of understanding and practical knowledgeability" (Shove et al., (2012), p.23). This element becomes a unit of enquiry and can only travel by certain means. Shove refers to this as "abstraction and reversal" where know-how can only travel to sites that are ready to receive it. Knowledge can exist only in certain periods or moments and can be adapted when passed from one person to another. Thus, the transferral of competencies can only happen effectively in particular circumstances.

The last element, meaning, is slightly more complex in its definition. This is because when it comes to meaning, there are many nuances in which interpretations and symbolism are taken from meaning for each individual subject group. However, simplification can be useful here to focus on how elements of meaning diffuse and what it means for practices. Meaning changes over time through "de and re-classification" where old connotations are lost or new connotations are formed. The example from Shove et al. (2012) uses the concept of "freshness" used to refer to air but now has evolved to have a connotation to laundry. As the concept of "freshness" is now associated with laundry, the practice of cleanliness has changed (Shove et al., 2012). A conceptual diagram can be seen below in Figure 2-3.
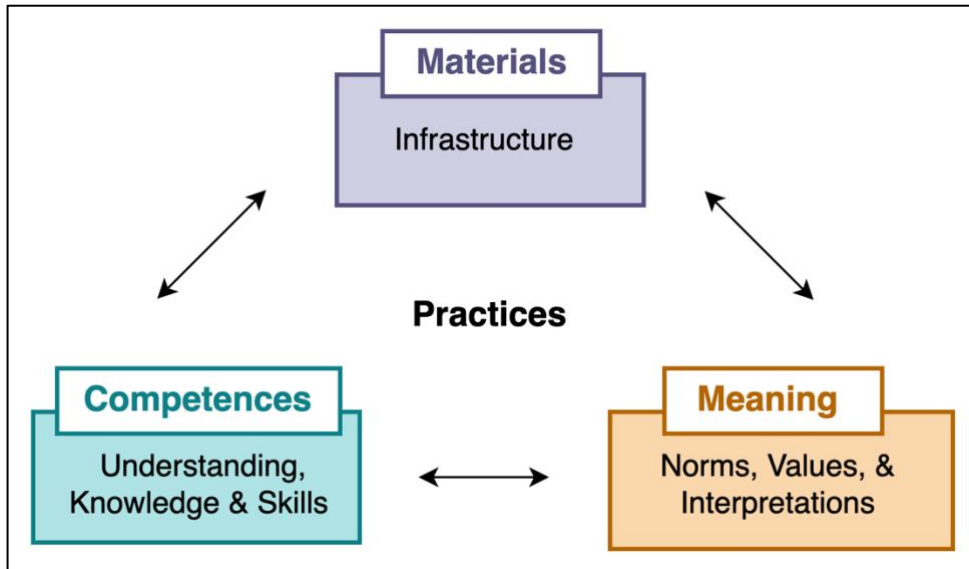
Figure 2-3: Social Practice Theory Elements
Source: Author's own illustration adapted from Arman and Mark-Herbert (2022)

Although there are many strengths of using social practice theory, mainly the aspects that look beyond TPB, there are aspects that SPT does not address. A major aspect that is lacking within SPT is how socioeconomic and demographic factors influence elements of meaning and knowledge (Galvin & Sunikka-Blank, 2018; Spangenberg & Lorek, 2019). This limitation might be of relevance when considering that within this sample there will be international students from lower-income countries, which cannot be evaluated by SPT.

The need to shift from just thinking about consumption choices informed by information to practices is evident. SPT challenges mainstream paradigms of sustainable consumption and consumer behaviour. SPT looks deeply at the root cause of consumption practices which is why it is a crucial conceptual framework that will inform the methodology of this thesis.

2.5.2 Conceptual framework for analysing second-hand clothing consumption

The conceptual framework to guide the analysis of rebound effects using SPT will be discussed in this section. As mentioned, rebound effects can be studied qualitatively, especially to investigate psychological rebound mechanisms. Using social practice theory has the advantage of deeply understanding consumer behaviour within the practice of second-hand consumption thus providing insights into potential rebound mechanisms.

Examples of studies that apply SPT in second-hand consumption are considered here. In a recent study by Arman and Mark-Herbert (2022) SPT was applied to understand Pro-Environmental Self Identity Practice (PESI) behaviour in consumers who shop second-hand. They investigated what kind of PESI practices consumers express they use, how they are motivated and under what conditions these practices occur. Moreover, another study concerning green consumption was analysed using SPT and thematic qualitative analysis to better understand consumer reasoning and behaviour (Beatson et al., 2020).

For this study, SPT is deemed appropriate because the practice of second-hand consumption can be defined through material, competence, and meaning. The material in this case can mean the places that consumers shop and the competence could mean consumer understanding of

the sustainability benefits of second-hand clothing or the know-how of how to shop for second-hand clothing. Lastly, the meaning could associate with the good feeling of purchasing clothing that is better for the environment or the social aspect of community associated with charity shops.

To study rebound effects valuable insights can be drawn from Niero et al. (2021). Their study investigated the shortcomings of LCA to understand rebound effects as it does not consider interactions of product systems and dynamics across LCA stages (Niero et al., 2021). SPT is suggested to provide support in decision making and understanding practices that generate certain consumption patterns. The argument made is that understanding the practice holistically can inform the analysis of different LCA scenarios. In the examples of showering and recycling the use of SPT can help understand the rebound effects that may be a result within the LCA.

In this study, SPT will be used similarly to the study of Niero et al (2021) that is to better understand the mechanisms that cause rebound effects. A conceptual framework can be seen in Figure 2-4 below. In this figure using the framework of rebound effects from Reimers et al. and Arman and Mark-Herbert (2022) a conceptual design for the data analysis is shown.
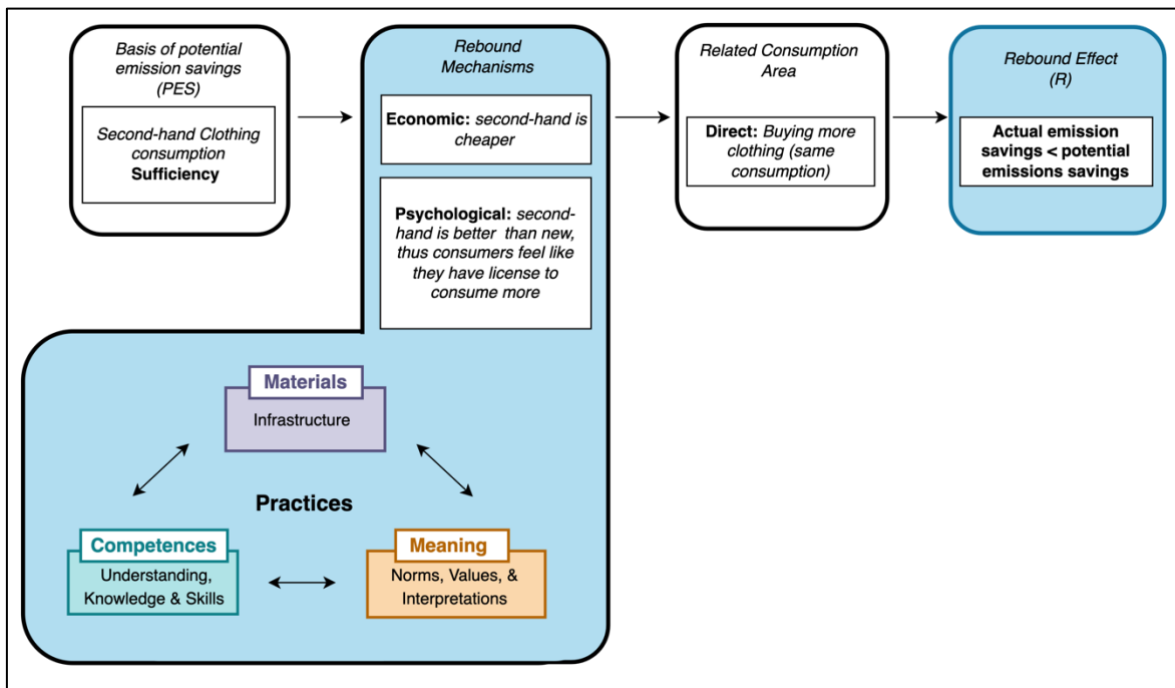
Figure 2-4: Framework for the analysis
Source: Author's own illustration

3 Research Design, Material, and Methods

In this section, the general research design is discussed. This included the methods of data collection and analysis, as well as the research approach. The justification for each methodological choice is also discussed.

3.1 Research design

To achieve the overall aim to explore the potential rebound effects of second-hand consumption a qualitative research approach was chosen. A summary of the research design can be seen in Figure 3-1. Qualitative methodologies are used in social sciences to explore topics that aim to understand individuals within a particular context (Creswell & Creswell, 2018). The research questions required a more exploratory research approach, thus a research design with semi-structured interviews was considered appropriate to explore the topic [7].
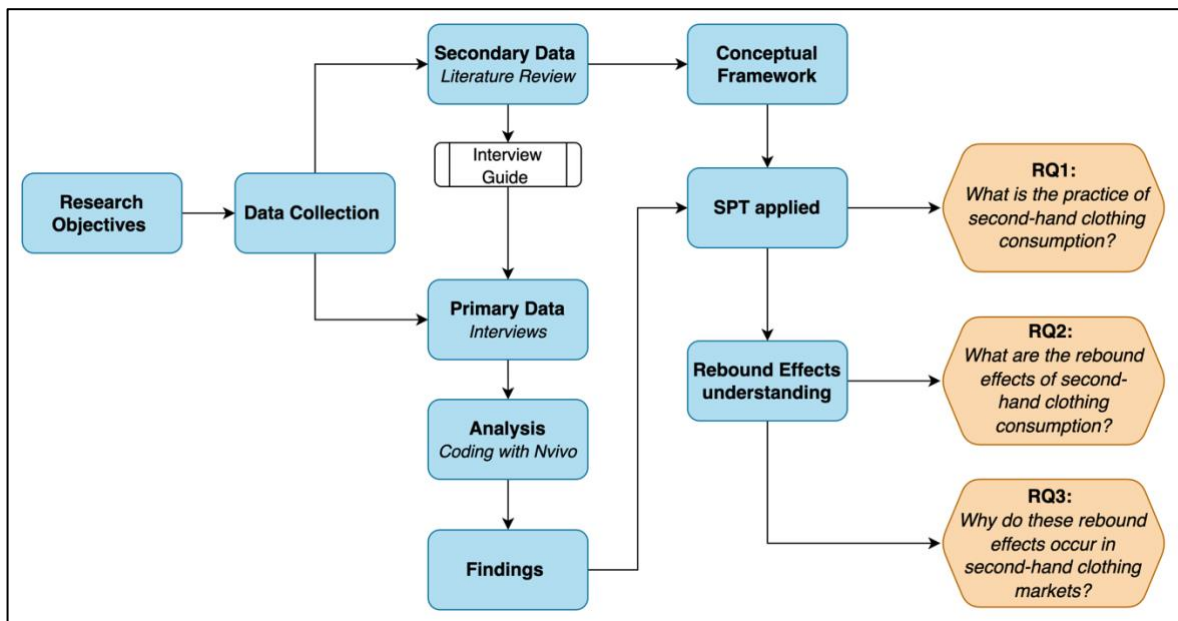
Figure 3-1: Research Design Summary
Source: Author's own illustration

This research design uses a pragmatic worldview to understand the consequences of consumer actions in second-hand clothing markets. The design follows a phenomenological strategy with a pragmatic approach to answer the research questions. Using a consumer perspective, the design included semi-structured interviews with consumers as the primary source for data collection. The concept of rebound effects in second-hand markets is not well-defined or extensively studied and thus a phenomenological approach was chosen since it best fits the overall pragmatic strategy of inquiry.

An abductive research approach was chosen in order to fully understand the underlying implications of consumer behaviour in second-hand fashion markets. This method of enquiry is grounded in pragmatist philosophy (Tavory & Timmermans, 2014). Abductive research in qualitative research uses existing theories and current knowledge to analyse qualitative data and

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[7] Although a survey might provide quantitative insights into consumer behaviour when shopping second-hand, the survey would have to be exceptionally well designed and the concepts needed are not well defined enough for a survey to be a successful method of inquiry.

aims to either create an understanding of causal mechanisms or extend a theory (Tavory & Timmermans, 2014). In this way, an abductive strategy allows for existing theories and conceptual frameworks to shape the analysis of the data. An abductive research approach was thus deemed the most suitable to investigate the relationship between consumption rebound effects and consumer behaviour, with SPT as a framework guiding the analysis (See Figure 2-4).

The research approach is consistent with the way the research questions are designed. The first and second research questions (RQ1 and RQ2) are considered to be descriptive questions (Blaikie & Priest, 2019) in the form of "what" questions. The descriptive research questions aim to describe the practice of second-hand clothing consumption and rebound effects that occur within these markets. The third research question (RQ3) is a "why" question and requires a more in-depth approach to fully answer. Blaikie and Priest (2019) suggest that abductive strategies are preferable to answer these types of questions because a causal mechanism can be found. Since RQ3 considers why rebound effects occur, a causal relationship is present between the influencing mechanism and the rebound effect itself (see Figure 2-2). In this case, the causal mechanism is already inferred by the literature that discusses economic and psychological mechanisms. Abductive strategies use developed theories (rebound mechanisms) and data insights (evidence of rebounds) to explain the causal relationship (Blaikie & Priest, 2019). In using this strategy, the motives, intentions, and interpretation of consumer behaviour that cause rebound effects can be explored.

3.2 Methods used to collect data

Literature review

A literature review was conducted to provide a foundational understanding of consumer behaviour when shopping for second-hand items and how literature about second-hand consumption is related to environmental sustainability. The literature was conducted in two key phases. The first phase entailed a broad search using terms such as "circular economy", "circular economy and reuse strategies", "second-hand consumption", "collaborative consumption", "second-hand consumer motivations", "second-hand markets", "rebound effects", "rebound effect and second-hand", "moral licensing", "social practice theory", and "clothing and social practice theory". Some of these terms were then further refined to include "fashion" or "clothing" within the search operator. This generated a long list of literature which was tabulated in excel where the titles of the articles were screened for relevancy.

In the second phase, the abstracts of the articles were read in detail and then categorised according to general themes decided by the author. These themes included collaborative consumption, second-hand clothing, consumer motivations related to second-hand, and rebound effects. These were categorised in this manner to create tentative themes for the literature review but also to further understand concepts that influence the narrow scope of second-hand clothing purchasing behaviour and environmental rebound effects.

Finally, the articles that were categorised as a high and medium priority were read in detail and low priority was skimmed for any key concepts. A synthesis matrix was then used to clearly demarcate themes found in literature related to the research questions. The results from the literature review aimed to provide the foundational theory for consumption rebound effects.

Interviews

Semi-structured interviews were planned with students in Lund who have shopped for second-hand clothing. The rationale behind using semi-structured interviews is to ensure that the conversation with participants is open and enables them to express their views freely. An interview guide was developed and can be seen in Appendix A. The participants were recruited through a purposive sampling technique, which follows a qualitative design. The aim is for the researcher to purposefully select participants that will help the researcher to gain insight into the research problem (Creswell & Creswell, 2018). For this study, students in Lund were selected as the sample. A sign-up sheet specifically aimed at students in Lund who have purchased second-hand clothing was shared in relevant Facebook and Whatsapp groups. The sign-up sheet collected some demographic data and allowed the students to indicate when they would be available for an interview. The respondents who completed the sign-up form were then contacted personally to schedule an interview time.

The participants were asked in advance to consent to their insights being recorded and analysed for the purpose of this study. Additionally, prior to each interview, this was discussed in-depth, and it was made clear that they could withdraw their participation at any time. These consent forms are stored and saved in a password protected online location.

Interview Guide

The interview guide has been informed by concepts found in literature and social practice theory. The study conducted by Arman & Mark-Herbert (2022) studied a similar topic and applied SPT to analyse their results. Their results provided key insights into the types of questions that should be included in the interviews to understand the experience of second-hand shopping. Other concepts that have also informed the interview guide, include moral licensing and indulgent consumption from Parguel et al. (2017).

Figure 3-2 below shows the interview guide design and how it links to the theories discussed. The full interview guide can be seen in Appendix A but a few examples of questions relating to the theories and themes are shown in Figure 3-2. The interview guide was used during each interview to ensure that all relevant questions were answered, while still allowing the participants to express their views at any time.
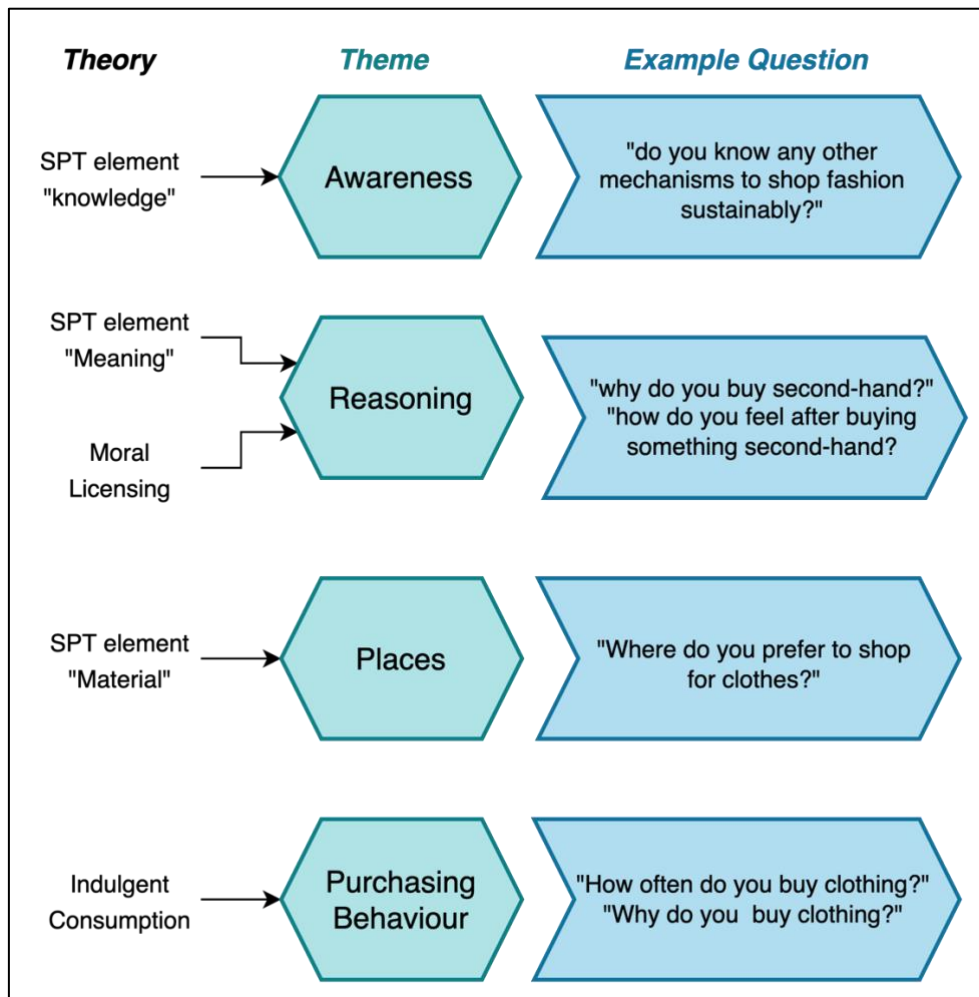
Figure 3-2: Interview Guide Design
Source: Author's own illustration

Another aspect which will be included in the interview guide is a scenario-based question where the same scenario would be described to each participant, and they were asked how they would act accordingly. There will be three scenarios and they are as follows:

1. You have a formal function and are in need of a new formal (dressier) outfit.
2. You have stained some of your basic white t-shirts in the laundry.
3. You are in need of seasonal clothing and need a larger amount (more than 2 items).

In each of the scenarios, there is a clothing need to fulfil, and the participants will be asked what they would do in each of these cases. The idea here is to get insights into consumer considerations and their buying behaviour. It will also give insight into how consumers categorise clothing items in terms of necessity (i.e. will consider that these items are essential). Lastly, it can indicate which items consumers prefer to buy new or second-hand.

3.3 Materials collected

Once scheduled, the interviews were conducted in person or on Zoom, depending on the preference of the participants. In total 12 interviews were conducted with two interviews conducted in person. All participants interviewed were females and between the ages of 23-30, except one who was between 30-40. The interviews occurred within the first two weeks of

April and each interview lasted approximately for 45-50 mins. The interviews were recorded via Zoom recording or phone audio recording, and this was then converted into transcripts using a software that converted the audio to text. The use of the software ensures that all insights were recorded and allowed the researcher to focus on the questions to be asked. Twelve interviews were deemed sufficient since saturation (no new insights were discovered) had been reached (Creswell & Creswell, 2018) The students that were interviewed were all current Lund University students except for one participant who was an exchange student in 2021. All participants were international students except one and their nationalities can be seen in Table 4-3 below in section 4.8.

Interviews were chosen as the primary source of data since it was not possible within the scope of this project to observe participants directly. Moreover, the researcher is able to have some control over the discussion and thus preventing the deviation from the original scope. The limitation of interviews as a data source[8] was considered but was overall deemed to have little effect.

3.4 Methods used to process information

The main method for analysis will be qualitative thematic analysis. The steps involved in the analysis can be seen below (Braun & Clarke, 2006):

1. **Familiarisation with data:** This involved reading the transcripts, making notes, and getting a general sense of the data.
2. **Generating codes:** Systematically go through the transcripts coding the interesting data related to the topic and research questions.
3. **Searching for themes:** Synthesising/Collating codes into potential themes
4. **Reviewing theme:** Ensuring that the data corresponds to theme and if the themes are deemed suitable for the whole data set.
5. **Defining and Naming Themes:** Refining the specific elements of each theme and generating a definition for each theme.
6. **Final Analysis:** Broad approach to select compelling extract examples and relate the research to the overall aim of the study.

A modification of these steps was made for this thesis in order to apply the SPT framework and to further separate themes. Moreover, since this thesis follows an abductive coding logic a set of codes informed from literature was designed (see Table 3-1). The rest of the codes will emerge inductively when analysing the data.

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[8] The limitation of interviews included that information is filtered down to what the participant says and thus there might be bias due to the researcher presence. Another aspect is the variation in the participants, because people are not equally articulate in their answers and perceptive to the questions.

Table 3-1: List of Codes from Literature

Code Name	Description
Economic Motivation	The economic motivation to buy second-hand clothing is generally associated with cheaper prices that are affordable for consumers (Borusiak et al., 2020; Padmavathy et al., 2019; Steffen, 2020; Styvén & Mariani, 2020; Wilts et al., 2021).
Decluttering	Consumers use the availability and convenience of second-hand markets to discard of clothing they have no use for (Arman & Mark-Herbert, 2022).
Environmental Motivations	Consumers are motivated by the fact that second-hand clothing is better for the environment (Borusiak et al., 2020; Frick & Matthies, 2020; Parguel et al., 2017; Steffen, 2020; Wilts et al., 2021).
Sustainability Awareness	Consumers understand the concept of circular economy and the environmental benefits that second-hand clothing offers (Arman & Mark-Herbert, 2022).
Recreational enjoyment	Consumers enjoy the activity of second-hand shopping, the socialising element, and finding the items they like (Padmavathy et al., 2019; Parguel et al., 2017).
Moral licensing	Consumers psychologically feel that shopping second-hand is better (virtuous) and thus become less critical of their purchasing decisions (Adıgüzel et al., 2020; Ottelin et al., 2020; Parguel et al., 2017).
Shopping place preference	Consumers enjoy the convenience buying second-hand clothing online or consumers like to shop in person (Padmavathy et al., 2019; Zaman et al., 2019).

Source: Author's own elaboration

Nvivo Plus was used to electronically code the data due to efficiency and convenience. To analyse the data the framework using the theories of SPT and rebound effects was applied (See Figure 2-1). As discussed, the actions of consumers require a holistic understanding of what influences them and thus SPT can help explain psychological rebound effects. As for economic rebound effects, the common association that second-hand is cheaper can usually explain the increase in consumption causing a rebound effect. SPT can help to understand this rebound from a qualitative perspective to understand how cost plays a role in consumers buying decisions. Overall using SPT can help understand rebound effects from a qualitative perspective and help to understand why these rebound effects occur rather than quantifying them from a qualitative perspective.

3.5 Limitations

Although SPT might offer deeper insights for framing sustainable consumption problems and solutions, there are several limitations to the method. Firstly, the boundaries of practices are

complex and thus difficult to fully delineate since most social life is inherently embedded within multiple practices (Keller et al., 2016) . The risks here are that practices that co-exist might have completely different logic but drawing the boundaries in a very clear-cut manner might ignore the interactions between practices (Keller et al., 2016). This may be present when considering other practice that influence second-hand clothing consumption. Secondly, the theory of SPT is a recent development and thus social interaction and communication are not fully mature. Lastly, other aspects of socio-demographic influences, as well as sociology themes such as power and justice are overlooked (Keller et al., 2016).

4 Findings

This chapter will discuss the initial results emerging from the thematic analysis of the data. Firstly, this section will start by discussing the initial coding list and how the codes previously emerged from literature have merged with the codes that have been created inductively while processing the data. The initial codes have been synthesised into broader themes to be analysed to present the key findings from the interviews. In chapter 5, the analysis of the findings will be completed by applying the SPT framework and rebound effect theory to provide insight for answering the research questions.

The systematic coding was done abductively which is a combination of deductive and inductive techniques. Some codes emerged from literature and were considered as an initial starting point to support coding the data. The codes emerging from literature can be seen in. The rest of the codes were arrived at inductively as the data was processed. The full set of merged codes can be seen in Appendix B. After the codes were finalised, they were synthesised into broader themes relating to the questions that were asked. All the codes that were in literature were applicable while coding the data, however, decluttering was less explicitly prevalent. The themes represent either one code or multiple codes and their subcodes. Although some aspects coded can fall under more than one theme, the division between themes was considered as high-level categories which could include aspects from different codes. This was an indication of the complexity of consumers' mental processes when shopping for clothing.

The broad themes aim to explain the data collected from the interviews through thematic coding analysis. The findings of what participants said, how they reasoned, and how they justify their choices are presented here. The presentation of these findings is to describe what the participants said, and the following section will discuss the analysis of the findings using the theories discussed in the framework.

4.1 Purchasing behaviour

The first broad theme considers purchasing behaviour in general for shopping for second-hand or new clothing. This theme gave insight into consumer behaviour and how they go about acquiring clothing (*"I would just like to update my like wardrobe in a sense. And like, buy like a new T-shirt or a new blouse or a new pair of pants or something like that. Just to, keep things like exciting"* – P2[9]). In this way, this theme also considers consumers' relationship to clothing and unearths some of the reasons for buying clothing. Another insight considered within this theme is how consumers go about shopping *"I can browse around, but it's not that I'm actively looking for something to buy. And I often don't buy anything just by browsing"* – P12". This also describes how consumers look for items and their relationship with shopping behaviour in general. One participant also commented on how shopping and clothing have become an integral part of their daily life and that they had to actively refrain from shopping. This was an indication of how clothing consumption can actively play a role in consumer lives and can be something that consumers have to consciously work against. The quote supporting this was *"So I actually find myself that I have to monthly with like, refrain from looking at online store, going into shops unnecessarily, because I will see something I just want to grab it, but it's not actually a conscious buying (action)"* – P4. This quote from participant 4 also speaks to the general intention to purchase something when consumers go about shopping or browsing.

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[9] Participants will be referred to by arbitrary numbers allocated to them and when quoting the letter P and the number will denote this. Eg. "P1" referring to participant 1.

More specifically, this theme also considers how often consumers state that they buy clothing items in a year. The answers for this can be seen in Table 4-1 below and it differs for most of the participants. Some buy second-hand more often, and others buy less often than new. For these questions, it was assumed that second-hand was not a subset of buying clothes in general. These findings aimed to just get a general sense of the participants' purchasing behaviour but what is interesting is those that shop more often second-hand than new. The reasons for these findings will be further understood within other themes and in the analysis.

Table 4-1: Findings showing the frequency of clothing purchases

Participant	How often do you buy clothes?	How often do you buy second-hand clothes?
1	Once every 2 months	Every 3-4 months
2	Once every 3-4 months	3 times a year
3	4-5 times a year	4-5 times a year
4	Once a month	Once every 2 months
5	1-2 times a year	Once a year
6	3 times a year	All the time (except specific athlete items)
7	Once every 2 months	Once every 4-5 months
8	Once every 2 months	Twice a year
9	Once every 2 months	All the time (in the past year)
10	Once every 2-3 months	Third of purchases would be 2nd hand
11	Once a month	Once in 2 months
12	Once every 3 months	Once a month

Source: Author's own elaboration

Lastly, this theme includes the answers scenario-based questions where participants responded to how they go about making buying decisions when facing a clothing need. Within each scenario (1-3) further subcategories were coded inductively based on initial consumer answers. In all the scenarios buying something new, buying something second-hand and not buying anything were given as answers. Another aspect that was considered was if participants would look for both new and second-hand options depending on their desires. Once again, this question was to understand how consumers rationalise their needs for specific items and how they would go about fulfilling this. A surprising find was that no participants mentioned renting a formal outfit for a particular event and only two participants would borrow from friends. This was expected to be more common amongst participants because formal attire is generally worn less frequently, however, some consumers did state that they have already collected these types of items in their closets over time (*I think I generally have like, things to wear for formal events, okay. I think over time, like, I've just, I acclimated that in my closet* – P9). The scenarios also pointed out pain points associated with second-hand shopping especially considering basic items such as white t-shirts. These items were considered staples but exceptionally difficult to find second-hand due to specific preferences or concerns about the quality (in terms of faded colour) ("*So if it's T-shirts, I would try to go and look for first-hand products*" - P8). Another finding was that the participants considered that shopping second-hand required time and thus if they needed to replace the item quickly, second-hand would not be their first option.

4.2 Usage behaviour

This theme considers how consumers go about using their clothing items. Usage behaviour aims to understand how frequent consumers use the clothing in their wardrobe to understand. To gain their perceptions about the clothing usage behaviour participants were asked to classify

the percentage of their clothing items that they wear regularly (*I would say I wear 80% of my clothes, I wear everything I have because I don't think I have a lot of clothes.*" – P10). Beyond gaining insight into their usage behaviour, the question also allowed consumers to think more deeply about what they own ("*But if I really have to be critical, which I know would be more realistic, maybe 30%.*" – P12). Another indication of usage behaviour was considered to be consumer perceptions of variety. The way that consumers perceive the variety of items that they own will also affect how they wear the items or how they perceive what their wardrobe is lacking. So, if consumers feel that they have a variety they may wear their items rotationally, or they may feel as though they lack variety, thus feel the need to find new items ("*It's definitely enough variety for me, even with the clothes that I have...I'm still wearing the same old like the same three things over and over. Because that's how convenient they are.*" – P8). It is also interesting to consider that variety is subjective for each consumer so sometimes consumers may not want an array of various styles and colours.

4.3 Economic aspects

The economic aspect of second-hand shopping is one that is important, especially as a motivating factor. Within this theme, price is a key factor within this classification and all considerations concerning price points are considered. Moreover, it also includes second-hand items and new items because often participants displayed some mental processes of comparisons. This particular process is captured within this quote *"If I'm buying something new...I first try the clothes and then I'm like sometimes afraid to look at the price...then I'm like 'Ah, maybe not'. But if it's in a second-hand store. Sometimes it even convinces me more if I'm like, it's kind of pretty, but I'm not sure if I should buy it. And then I see the price if it's like super low and like 'Okay, you got me, I'm just not leaving this piece here'"*– P11. Moreover, economic aspects also include any actions that are taken based on price. For example, one participant explained that price is not something that will always convince them to shop for anything that they do not need ("*I'm not the type of person who goes second-hand shopping and just will buy anything, just because it's second-hand cheaper.*" – P2). Another example is that consumers were price specific when it came to shopping in general. Often participants were not looking to invest in buying clothes that were expensive "*First-hand clothing it's really expensive if you apply my rule to stuff, it's like nothing is 100 kronor...and in a second-hand clothing store. Everything mostly is less than 100SEK.*" – P5. This is an indication in general about consumers and their relationship to clothes.

4.4 Sufficiency aspects

Sufficiency is a concept that has been broadly defined but mainly considers addressing consumption levels rather than patterns of consumption. Other terms used are "enoughness" or "strong sustainable consumption" (Spangenberg & Lorek, 2019). Similarly, the codes relating to sufficiency as a theme can also be considered in this sense. This theme considers how consumers perceive the amounts of clothing that they own and shopping for clothing based on need. The concept of need is also one that can be further elaborated on since the perception of need is subjective to each participant. However, sufficiency in this case was coded based on what consumers stated they considered as functional or necessity. This means that consumers either felt that some items they buy for functionality i.e., whether they would wear them often or consumers reflected on what they actually lack in their closet. It should also be noted that sometimes the sufficiency aspects were dependent on economic motivation and thus sufficiency related actions might differ between new and second-hand clothes as seen above due to the price differential. For example, this participant thought about price when shopping *"Hey, would I be willing to buy this regardless if it was 100 SEK shirt or a 600SEK"* – P1 and this aspect from a participant who felt that if they do not have use for it, it would be wasted money *"If I'm not sure that I will be wearing it I'm not going to buy it just for the sake of like having it in the closet. Then it's useless and like wasted money"*– P11.

Another aspect that was considered appropriate to be grouped under this theme was investing in clothing that participants perceived would last them for longer periods. Sufficiency in this sense was considered by the fact that if consumers invest in pieces that last longer, the need for more items (perhaps of similar nature) is reduced (*"I prefer to pick up things that are durable, and not, you know, single use or, you know, limited use outfits."* – P8).

Sufficiency was also captured by the scenario-based questions. When each participant was presented with a scenario, they had to consider whether the items considered were a necessity to them. This gave some insight into what consumers might consider a true need and options they would consider that satisfy the "need". These two participants expressed that they already had these items and would rather try to wear what they own *"I feel like I already have them."*- P9 and *"Yeah, I would definitely like tried to source my closet first and if I absolutely felt like it didn't have something then maybe I would go out and look."* – P2.

Participants were also asked to consider the amounts of specific items that they own as well as whether they consider themselves to have a large wardrobe. Although not explicitly related to sufficiency, comparatively it was interesting to tabulate the differences amongst the consumer answers (see Table 4-2). It gave some interesting insight into what certain consumers' perceptions are of their closet sizes and the corresponding number of items they stated that they own. Although admittedly, it is suspected that consumers are not certain of what they actually own.

Table 4-2: Summary of the number of items and perception of wardrobe size amongst consumers

P #	Pants	Tops/shirts	Jackets/ sweaters	Dresses	Do you have a large closet?
1	10	15-20	16	7	Yes
2	7-8	20-30		4-5	No
3	5	10ish	Lots	2-4	Yes
4	7-8	>15	-	10-12	Yes
5	2-3	12-13	6		No
6	10	20	Up to 30	27-40	Yes
7	4	5-6	9	4-7	No
8	3-5	18-20	5-7	A few	No
9	10	~10	>10	10	Yes
10	7	12-15	8	6-8	No
11	2	5-6	many	2-3	No
12	10	12	23	30	yes

Source: Author's own elaboration

4.5 Sustainability aspects

Under this theme, mostly environmental considerations were taken into account. However, a few participants mentioned aspects of social sustainability such as ethical labour practices and fair wages (*"I like to support businesses that have like sustainable practices...a small business, they make small quantities of clothing and like, I know that the clothes are like made sustainably and in a good way"* – P10). The broad scope that encompasses sustainability was evident from the way participants understood sustainability in the clothing sector. Some participants thought about sufficiency (*"Yeah, first I think the most sustainable thing is actually just wear what you have"* – P6) and others compared second-hand to new fashion when they thought about sustainability (*"Yeah, conscious about the fashion market. I'm very against fast-fashion. Yeah. Climate change. And yeah, I hate wasting*

stuff." – P5; "*I mean, honestly, I can make the connection (between sustainability and second-hand). That it's, it's obviously a little more sustainable than buying something first-hand.*" – P7). Many different issues were considered by participants allowing for a wide range of answers. Some participants mentioned sustainability as a motivating factor for shopping second-hand and others considered it an afterthought as opposed to economic factors. The sustainability question in this theme aimed to capture how consumers make the association between sustainability and second-hand clothing.

Awareness of other mechanisms to shop or own fashion more sustainably was also considered to test consumers' understanding of sustainability within the fashion sector. Surprisingly, not many participants thought about other mechanisms that they could associate with sustainable clothing consumption. This quote from a participant shows how consumers generally think about access to sustainability information and how they think about fashion ("*Honestly, I don't (know of other mechanisms). Mostly because I don't do much research on it. Like it's not something that has a major role. It's not something that is a major part of my everyday life or something like okay, yes clothes are but if I was shopping more, yes, I would look into it*" – P9). Other mechanisms that were mentioned were shop local, make your own clothing, not buy, repair and repurpose, buying from sustainable brands, renting clothing or that they were not aware at all.

4.6 Feelings associated with shopping second-hand

This theme encompassed how consumers felt when shopping second-hand or deciding to (or not to) shop second-hand. During the interviews, this question was asked in relation to how participants felt when buying something second-hand in comparison to purchasing something new. The answers to this question came in different forms some participants felt no different because they enjoyed the feeling of having something new for their wardrobe ("*Actually (I) think the feeling is kind of similar to when I buy something new. Like, I tend to be excited about it. I tend to wear more off like I wear it more often.*" – P2). Other feelings related to the comparison between buying fast-fashion or something new ("*It's also the feeling you get from buying second-hand clothing. You just feel cleaner. I don't know. You just feel like you're not wasting and feel better.*" - P4). Some participants also felt accomplished for finding something second-hand they like amongst the endless items or getting a good bargain ("*It's more exciting when you buy second-hand because then you can find really like pearls. Yeah, it's more exciting*" – P6). Even some participants displayed awareness of waste but also felt like second-hand clothing might not be desired by everyone ("*I guess it's like, it could be a bit extreme, but it's more of like a taking care of a rescue dog or rescue cat. Like, nobody wants it. All right. I'll take it.*" – P5).

Another aspect that was captured within this theme was the feeling of guilt consumers felt when shopping first-hand in comparison with shopping second-hand. Looking more deeply into the notion of guilt, most of these feelings stemmed from the perceptions consumers had about fast-fashion and influenced this ("*I'd say it feels good (to purchase second-hand) …I feel like less guilty about the purchase*" – P9). In this way, the feelings, of guilt helped consumers feel better about their desire to purchase clothing ("*I enjoy buying clothes actually. But obviously it comes at a cost. Like to me and the environment. So second-hand for me feels like a way to alleviate a little bit of that guilt around shopping*" – P10; "*I also became more aware of the impact clothing has and my shopping habits and yeah, which now like, are like the biggest part of my choice to prefer second-hand over fast-fashion*" – P3).

Lastly, this theme encompasses how participants expressed they felt about their impact when shopping second-hand. Consumers generally didn't feel like they had much of an impact even though they thought second-hand shopping was a sustainable option ("*I think it's going to be really minimal compared to what like big institutions are doing for like. Unless governments change their policies or Amazon big factories in China unless they change.*" – P5). Shopping second-hand was considered

to be more of a personal thing, and some felt that producers and companies should have the responsibility to make a larger impact (*"On the other hand, I don't think that me buying second-hand stores is going to do anything about it because we need to change the business and the corporations"* – P11).

4.7 Perception of second-hand items

There is a wide range of how people perceive second-hand items and many of these perceptions are influenced by different factors either historical or current. The categories that were grouped into this theme comprised perceptions relating to style, uniqueness, and quality. It should also be noted here that these perceptions are subjective to each individual and there are conflicting opinions especially when it comes to the aspect of quality. Two examples include a participant who doesn't perceive good quality *"No (second-hand is not the best quality that you'll find), not as high (quality). Just based purely on the fact that has been used before, which means it's been watched many more times before."* – P10 or conversely this participant who felt the opposite *"In second-hand, you can find cashmere, sweaters, woollen stuff, silk stuff, for really good prices than just like, oh my!"* – P6.

Another category that was also considered to encompass second-hand was the opinions on online second-hand shopping. Very few participants expressed that they preferred to shop online and most that did, only did this in their home countries and not Sweden (*"But for me, it's too risky to buy second-hand online, because you have got no idea that condition and the quality of it. You can't see stuff up close. So second-hand always in person, for sure."* – P10). Some of the barriers identified here were related to quality perceptions because consumers wanted to tangibly make their own conclusions about the quality rather than trusting the online carrier (*"Online in the second-hand app first to check if I could get it there before looking in the stores than to buy it from new. And that has been harder for me since I moved to Sweden."* – P12).

With regards to uniqueness and styles, participants felt as though the new fashion trends change at a speed that they cannot keep up with (*"fast-fashion brands like they're everywhere, right? Like, it's nothing unique"* – P2). In that way, second-hand offers them an opportunity to shop for more unique pieces as well as different styles (*"if I want like a statement piece something that's like a bit more colourful because I tend to wear a lot of neutrals and a lot of...then I'll try to buy second-hand"* – P9).

Some consumers also consider the action of shopping second-hand as a leisure or recreational activity that they enjoy. Their perception of second-hand shopping is valued as a fun activity when one can hunt for a hidden treasure. It was also noted that second-hand shopping could be done in a global setting on an international trip or just as a purely social gathering event (*"We went...on vacation that we were like, "We need to check out the second-hand stores here"* – P3).

Lastly, another surprising finding was that some consumers still have some stigma associated with second-hand. For example, one consumer felt that second-hand clothing could not be compared to new clothing and that poor quality was something synonymous with second-hand (*"Because I feel like buying something durable and that's not been used before. That's the only perspective I have."* – P8).

4.8 International students

All the participants interviewed except for one were from other countries apart from Sweden. Although initially thought that this may not affect the responses to the questions, it played a larger role than expected. Many of the participants had changed their habits since moving to Sweden. This was due to a multitude of reasons, one being cost, so participants from lower-

income countries experienced higher costs of living since moving to Sweden, thus cannot afford to consume at the same rate as before (*"I can't afford to go out and buy, you know, the kind of clothes when I was back home."* – P7. Secondly, the perception of sustainability being at the forefront of conversation was thought to be more present in Sweden (*"Sustainability is a part of the conversation a lot in Scandinavia more so than in South Africa. I also think there's so much less stigma about wearing second-hand stuff"* – P10. Some felt that their Swedish classmates and friends were less consumeristic compared to their home countries and that shopping frivolously was less common here *"And it's also easier (back home) because of the social norms, you know, you go out with friends, you're going shopping"* – P8. The findings also showed that the popularity of second-hand markets in Sweden played an influencing role in consumers' decisions. Any previous stigma was less common due to the fact that in Sweden and Lund more specifically second-hand shopping was considered a norm amongst students.

Table 4-3: Nationality of Participants

Country	Number of Participants
United States	2
Denmark	1
Sweden	1
India	2
South Africa	2
German	1
South Korea	1
Czechia	1
Poland	1

Source: Author's own elaboration

5 Analysis

In the previous section, the general findings were presented and discussed under eight broader themes related to the coding framework as high-level categories. The results are further synthesised through the application of SPT. This section will use the findings to describe each element of SPT that applies to second-hand clothing consumption. Lastly, the findings and SPT will provide insights with regard to evidence of rebound effects.

5.1 Social practice theory applied

The following section will consider how the themes can further be understood by using SPT to describe the practice of second-hand clothing purchasing. The application of SPT will provide insight into consumer feelings and actions and how these relate to the three elements of SPT. This section will also comprise of analysing the data to describe how the analysis relates to the discourse in general.

5.1.1 Material

There were only a few aspects considered to be classified as material elements for the practice of purchasing second-hand clothing. Materials are tangible elements that enable the practice of second-hand consumption. In this case, materials were classified as the shops where consumers choose to purchase second-hand clothing. This included both the physical shops as well as virtual stores online. Amongst the participants, the opinions about where to shop for second-hand clothing differed only slightly. Most of the consumers shopped in person for second-hand and the key reason for this was their perception of quality (section 4.1.7). Consumers preferred to shop in person for second-hand clothing in order to ensure that they were able to physically feel the material and judge the quality for themselves. The aspect of shopping in person was also mentioned as something that consumers enjoy (“*In person much more, because I like to get like the fit and the feel and the style of the clothes*” – P10). Some of the tangible elements of second-hand shops were also mentioned such as the organisation of the clothing, the store layout, and sifting through the endless racks of clothing in some stores. These aspects are also highlighted in consumers who find joy in the activity of going to physical second-hand stores, thus this element plays an important role. Within this aspect, some consumers also considered the aspect of finding something to buy in a second-hand store an achievement of something that they could be proud of (“*it's the achievement like I found something so cool in a second-hand store*” – P11). This can directly be associated with the tangible aspects of second-hand stores such as boxes and racks of items that are vast and varying and requires considerable effort to search through. Most of these aspects were expected however, quality as a preference to shop in-person for second-hand was surprising. Amongst, the literature, the main reasons to shop in person for second hand were if consumers enjoyed it as a recreational activity, or as a treasure hunt to search and find clothing (Bardhi & Arnould, 2005; Ertz et al., 2015; Padmavathy et al., 2019; Roux & Guiot, 2008). However, few studies associate consumer concern for quality with shopping in person.

In categorising the material element of online shops, these had a notable barrier amongst consumers. The involved the fact that online shopping in Sweden is different because Vinted (available in other European countries but not Sweden), Poshmark (US), and Trendsales (Denmark) are not available here. So even consumers who had a likelihood to shop online, do not do so in Sweden. This is interesting because online second-hand shopping is quite common in Sweden, especially with the H&M owned second-hand platform Sellpy. Sellpy, which has grown substantially since its launch in 2014 has become extremely popular and has plans to expand to 20 other European countries (Ringstrom, 2021). Due to this high presence of online second-hand, it was generally expected that more consumers shop online for second-hand.

Since consumers found the aspect of shopping in person an effort, it was surprising that more participants didn't consider online second-hand purchasing as an option. In this case, the effort considered was that second-hand shopping, due to the desire to shop at the physical stores, required extra effort for consumers to travel to the shop and spend more time looking for specific items ("*I think it's because of the fact that I am making the effort to go in store. So I'm like, I might as well just, like, get everything that I want.*" – P4). Another aspect that was also interesting was that consumers may purchase larger amounts of clothing due to the effort required.

The topic of effort also plays into another consideration that consumers make with regard to timeliness. Some evidence found related to this is how the participants answered some of the scenario-based questions. Most participants described that if time was a factor when attempting to fulfil the need, their decision to shop second-hand or new would be influenced. For short-term needs participants expressed that they may not have the time to look for a specific item second-hand because this was considered a timelier activity ("*If it's something that is next week, I think probably (I would go to) like a fast-fashion (and) not second-hand*" – P3). This is interesting because, in studies analysing the online second-hand market, the aspects of convenience mentioned may remove this barrier for consumers (Liu et al., 2021; Padmavathy et al., 2019).

The last aspect of a material element within the practice of buying clothing second-hand can be considered by how some consumers chose to discard clothing that they no longer use. In this case, the material elements are considered to be drop off boxes or sorting facilities. These were described as a way for consumers to discard their clothing with the intention that the items they discarded would be resold ("*But I've got a giant blue IKEA bag that I will just put clothes in that I will no longer wear and then I take it to like a second-hand store like here in Malmo. And then they take it to like a sorting factory*" – P10). There was also one participant who used online facilities to sell their items ("*I like to sell them on Facebook marketplace.*" – P9). Overall participants who found ways to dispose of their items, mostly linked to aspects of decluttering that Arman and Mark-Herbert (2022) refer to. Thus, consumers mostly got rid of their clothing to make space in their wardrobes or because they were not wearing those items. Consumers who chose to sell have taken the role of both buyer and seller in this case echoing some of these considerations of second-hand marketplaces from literature (Wilts et al., 2021; Yrjölä et al., 2021).

5.1.2 Competence

This element will follow more closely how Shove et al. (2012) have described them as "multiple forms of understanding and knowledgeability" that relates to second-hand clothing consumption. The first aspect that will be described is that of knowledge of how to shop second-hand. Although this may seem like a simple endeavour throughout the conversations with participants it became clear that there had to be some know-how around the practice of shopping second-hand. This was especially relevant to international participants who had never shopped second hand prior to moving to Sweden. (*And I think it was also a new concept for me, because we don't really have a lot of second-hand shops, especially for clothes back home. So I really wanted to go check it out and see what it's like* – P7). This was also highlighted through participants explaining their journey to learning how to shop second-hand which was either influenced by friends, information or cost ("*And you know, as a student you don't have a lot of money, so like when I already needed some clothes. I just went to try in the second-hand store because it was like more affordable than like regular stores*" – P11.) The importance here is to consider that the practice of second-hand clothing shopping requires a certain know-how and understanding and this need to be overcome for consumers to become more comfortable with engaging in this practice. This is interesting when considering the theme of international students and how some had come

from countries where second-hand shopping faces much stigma and is not that popular. Poland (the country of participant 11) has been studied within the context of second-hand markets and has been found to have levels of stigma against second-hand (Borusiak, et al., 2021; Borusiak et al., 2020).

The following concept that encompasses the element of competence is that of understanding the aspects of sustainability. There was a wide range of understandings amongst consumers for what counted as sustainability as well as how second-hand shopping relates to sustainability. Some consumers mentioned that sustainability was a motivating factor for deciding to shop second-hand, however, the understanding behind why it was a more sustainable choice was lacking. There were a few consumers who were minimalistic in their fashion choices and also understood the sustainability benefits to be minimalistic (*"honestly, like, the best thing to do is just not buy"* - P2). On the contrary, others knew about sustainability (more as a term than a concept) but didn't verbalise the real benefits that they thought encompassed sustainability and fashion. This can also be seen from the quote in section 4.1.5 where a participant mainly referred to how they could make the general connection but did not elaborate further.

However, the evidence for lack of understanding was further verified when the awareness of other mechanisms to shop fashion more sustainability was asked. In some cases, participants knew of no other mechanisms and in other cases only mention quite a few. However, it may be that some consumers do not understand how their clothing choices factor into the sustainability dimension. For example, consumers who were very concerned about the quality of clothing so that it could last them longer didn't mention this as a way to consume less clothing (sustainability related). Another example is when consumers considered the materials used in the making of the garments a very important aspect and went on to consider natural fibres, but also did not relate this to the impact of plastic and microplastics.

Only a few participants really understood the variety of mechanisms to shop for fashion. One consumer commented on how making their own clothes would also be an option but in this case, there is an aspect of know-how and understanding to mend or repair your clothes. One surprising finding was that only one consumer associated the aspect of waste with sustainability and fashion. Overall, the understanding of sustainability and clothing was limited to superficial conceptualisations of the impact of the fashion industry.

This was a very interesting find to consider because in general many studies consider the high association that is made between second-hand and environmental or ecological factors (Borusiak et al., 2020; Hawlitschek et al., 2018; Liu et al., 2021; Parguel et al., 2017; Wilts et al., 2021). However, these studies do not necessarily go into detail about the understanding of sustainability factors that are made for consumers. This may be due to the methodologies chosen within these studies because when applying SPT to the context of second-hand consumers, the circular economy was mentioned with aspects such as zero waste, cradle-to-cradle, and upcycling (Arman & Mark-Herbert, 2022). This is interesting because the same methodology was used in this study proving that perhaps the participants have no understanding of sustainability. although SPT was applied in this study perhaps participants simply did not explicitly state this.

One aspect that was also considered was the role that sustainability marketing plays in increasing competence amongst consumers. This was initially thought to play a big role in how consumers are influenced to shop second-hand but was not as prevalent as expected. Two participants considered how social media and company labels play a role in their awareness (*"So when people talk about it on social media, it does make me think…I never really saw any evidence or read*

up on anything that shows the unsustainable aspect of buying new clothing. But I do think societal norms definitely, or people speaking up about it definitely changed my viewpoint." – P4). The lack of understanding of the sustainable aspects when consuming second-hand may be related to sustainability marketing and perhaps the label of "second-hand" has become a greenwashing tool similar to "eco" or "green" or "recyclable". This issue was something that has been considered in literature that looked at sustainability labelling (Adıgüzel et al., 2020). In this article, they explain that even when using sustainable fashion brands "How sustainability information is delivered constitutes an additional issue clothing companies must consider" (Adıgüzel et al., 2020, p. 5). An interesting find related to this was when asked about what the second-hand industry could do to enable more consumers to shop second-hand, some suggestions were to improve the environmental narrative and storytelling behind second-hand. In this way perhaps the marketing of second-hand plays a larger role than initially considered for this study. Another surprising aspect here is that in general younger millennials like the participants are considered to be savvier when it comes to sustainability information (Salfino, 2020; Sorensen & Johnson Jorgensen, 2019). Another interesting find in literature is that consumers who shop online are more aware of sustainability aspects than those who shop in person (Zaman et al., 2019). This finding could also explain why levels of understanding of sustainability is low within this study since participants do not shop online for second-hand.

Lastly, considering all the barriers to online shopping that have been mentioned. It is reasonable to speculate that perhaps there is a lack of know-how of how to shop online effectively amongst the participants. In general, this practice is growing and as it expands the know-how may be gained over time.

5.1.3 Meaning

This element of meaning within SPT in the context of this study will consider how consumers relate to second-hand clothing consumption, the associations they make, and their feelings. There are many aspects to consider under this theme that participants have expressed in the interviews. These include their perceptions, expectations, and preferences when they shop for second-hand clothing.

Firstly, there is a perception that second-hand markets provide the opportunity for consumers to explore unique and vintage styles that are not traditionally available within normal clothing markets. This perception implies a few features of second-hand clothing when comparing it to regular fashion consumption. The current trends today change at a very fast pace and consumers sometimes feel that they cannot keep up with this. Second-hand clothing options offer them the opportunity to purchase vintage styles that are perhaps not available *("I can go for what I want and not what the industry tells me like is the next thing to"* – P12). They also allow consumers to be unique in what they purchase since often second-hand stores have only one of each item *("I don't like that they're so common and everybody's wearing them...So I then turn to say, the second-hand shops."* – P8). These aspects have also been investigated in studies that consider consumer attitudes and motivations. These findings were not particularly surprising since these perceptions have mostly been associated with second-hand, especially in its rise in popularity over the recent years (Valor et al., 2022). In a similar nature, the perception of second-hand shopping is something that is considered rewarding and effortful. Some consumers are motivated to shop second-hand because it is considered a social activity that they find joy in. To these consumers, second-hand clothing markets offer an opportunity to shop for clothing and enjoy themselves *("When we went...on vacation we were like, 'We need to check out the second-hand stores here'"* – P3). This has also been studied that considers why consumers shop second-hand and the activities of second-hand shopping.

Secondly, consumers associate meaning with price for many different reasons. Price is an important association made within the context of second-hand clothing. There is the general expectation that second-hand should always be the cheaper option for clothing simply because it has been used before. This infers an interesting connotation that second-hand clothing is understood as something lesser than newer items of clothing (*"I would rather spend my money on a quality product, which is not worn out."*). This is also something that relates to the literature but more to certain stigma associated with second-hand clothing such that the clothing is older and dirtier (Borusiak, et al., 2021; Rulikova, 2020; Wilts et al., 2021). However, this may also be caused by the perceptions of quality previously discussed. Consumers can either associate second-hand with high or low quality but either way the fact that second-hand has likely been worn before the price point should be cheaper. This is something that has been expected from the literature but not something that has been explicitly studied, but what is clear is where these associations may stem from. This may be due to stigma and old perceptions but also how the perception has changed when thinking about the market actors. Valor et al. (2022) have discussed the rise in popularity and how second-hand markets have expanded. In their study, they credit this to institutional actors who have worked to undermine stigma.

Another aspect that can highlight how consumers view low prices and second-hand clothing is how stigma towards second-hand clothing was spoken about. Only one participant showed signs of the older perceptions towards second-hand such as older, dirtier, faded, and worn-out clothes. However, some of the participants spoke about the perceptions of other people whether it be family or norms from their home countries (*"In South Africa, like people don't want hand me downs, like they see it as like, a little bit shameful."* – P6). Participants expressed that other people associated second-hand shopping with lack of income and assumed that the participants were choosing second-hand due to their financial status rather than other motivating factors (*"my family, they will be like, 'Oh, but we can give you money and you can buy something new.'"* – P11). This indicates that even beyond the participants, other consumers also associate the practice of buying second-hand with cheaper prices. It also shows how the aspects consider by Valor et al. (2022) are relevant in this context because as discussed, many of the international participants changed their perspectives and consumption habits when moving to Sweden.

Following the meaning associated with price, it can also generally be said that consumers are motivated by the lower prices of second-hand and it is somewhat an expectation. In literature, this has been studied vastly and is mostly referred to as economic motivations. Another key metal process that happens when consumers shop second-hand is that they often think more deeply about their clothing choices when confronted with higher prices or prices that are similar to new fashion. That being said, second-hand markets do offer consumers access to affordable clothing items, especially for those who value quality pieces (D'Adamo et al., 2022; Sorensen & Johnson Jorgensen, 2019).

Consumers are also motivated by sustainability aspects of second-hand clothing. The association (no matter how it is understood) is that second-hand purchasing is overall good and sustainable. These associations differ but the general idea is that consumers either through marketing or their own research think about second-hand as something that enables sustainability (*"I mean, the main reason is...sustainability reasons...I'd say that's like the root cause of why I'm like, Oh, this is a better option."*- P1). The sustainability motivator is one that is interesting because although consumers stated that they consume second-hand for environmental reasons, none of them perceived that they had a broader impact. These reasons were either justified by the fact that the fashion industry is too large to create an impact, or that it was not necessarily the responsibility of consumers to change the industry (*"On an individual level, like consumer behaviour, I don't know, if it has a massive impact. I think the biggest impact is probably the mass*

production of stuff" – P10). This implies that although consumers are motivated by sustainability it doesn't translate into a tangible impact for them personally. This further implies that consumers do not feel that the responsibility is on them when it comes to consumption of clothing but is more applicable on the production side. Interestingly, only two participants talked about the impact of the total consumption levels and how reducing these levels might be larger than purely shopping second-hand (*"So as someone who's a bit more conscious, I think that it's really hard for any type of consumption to be positive to climate change. So I try to be more of an advocate to being less of an over-consumer."*- P9). This shows that within the practice of actually purchasing second-hand clothing consumers are more likely to have shallow interpretations of sustainability.

The considerations about sustainability and the connection to the discourse have already been discussed but the meaning that consumers find within sustainability concerns is one that is interesting. Liu et al. (2021) studied how the psychological distance of environmental concern affects willingness to participate in online second-hand transactions and found that if consumers were concerned about environmental issues (i.e psychologically proximate) were more likely to participate in second-hand consumption. This does hold true for this analysis, however, although consumers care about the environmental issues they did not feel as though they were contributing to positive change or having an impact. There are three reasons why this may be true, one is that the participants were aware of how large the impact of fashion is and felt that they didn't make an impact, or they understood that addressing overall levels of consumption was a better way to have an impact. Thirdly, they thought that as consumers, they play a smaller role in the broader industry and that the ownness should be on the businesses.

Lastly, within meaning the feeling of guilt amongst consumers is one that should be noted. It will be discussed in more detail in the next section, but it is an important finding to include under meaning. The feeling of guilt was mostly spoken about in relation to feeling less guilty when shopping for second-hand clothing. This finding links to two other aspects of the meaning of second-hand clothing consumption. Firstly, the perception of fast-fashion plays a crucial role here. Consumers have negative connotations towards fast or mainstream fashion and thus consider this as something that is immoral to engage in. The reasons for this point to the negative media attention or general awareness of these aspects within Sweden. The second aspect relates to the perception of consumption in general. The reasoning is as follows, if consumers feel less guilty about buying second-hand clothing, they feel that consumption is something to feel somewhat guilty about. Although this might be drawing deeper meaning from consumer feeling, it is telling about what consumers think about the practice of buying clothing in general. This is also spoken about in literature when considering the motivations for second-hand because it relates to fashion impacts in general but also how consumers motivate their choice for second-hand (Borusiak, et al., 2021; Galante Amaral & Spers, 2022; Iran & Schrader, 2017; Liu et al., 2021; Padmavathy et al., 2019).

5.1.4 Second-hand clothing consumption as a practice

Second-hand clothing consumption consists of elements that continue to interact with each other. It is clear that there are notable barriers that still exist within the practice such as quality perceptions, difficulties with online shopping and even stigma. However, this analysis also shows how the elements of meaning and competence have contributed to the growth of second-hand clothing markets. In understanding second-hand consumption like this as a practice we can understand some of the reasons why consumers choose second-hand as their sustainable fashion option. In this analysis, it shows that perhaps consumers do not have the knowledge or skillset to choose options that are higher on the consumption hierarchy (see

Figure 2-1). Moreover, this application of SPT shows that consumers have little or a superficial understanding of sustainability which is something that not many studies have investigated. Looking at second-hand clothing consumption as a practice also aids in external and internal factors that motivate the participants. It is an option that is widely accessible and recommended in Sweden and among students. The low prices are attractive and there is an aspect of fun considered around choosing this option. A key enabling factor here is also the bad reputation of fast-fashion which influences the way consumers understand sustainable clothing options and influences the feelings that they associate when purchasing second-hand. This suggests that it is not the sustainability aspects that motivate consumers but perhaps the desire to not be associated with fast-fashion. A summary of all the elements combined can be seen below.
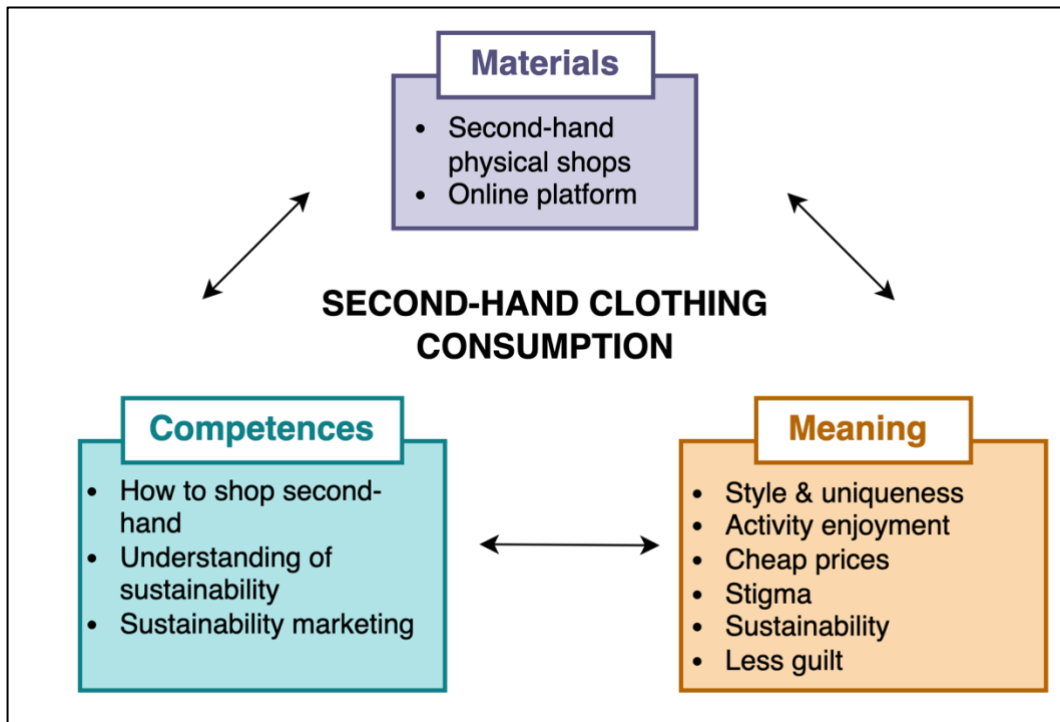
Figure 5-1: The application of SPT to the practice of second-hand clothing consumption
Source: Author's own illustration

5.2 Rebound effect evidence

Overall, social practice theory has aided in understanding the feelings, understanding, and meaning that consumers take from shopping second-hand. Consumers are motivated by cheaper prices and some even by the sustainability aspect of second-hand. Consumers have also expressed their struggles and perceptions of the practice since moving to Sweden. This next section will describe the evidence found regarding rebound effects in this study. The rebound effects can essentially be described in two ways which are related to the hybrid effect suggested in literature (Santarius & Soland, 2016). SPT has helped in more deeply understanding the practice of second-hand and some findings have confirmed certain aspects found in literature along with some surprising outcomes. However, the key insight that SPT can bring here is to explain why some of the rebound effects occur. This will also be discussed in this section.

5.2.1 Economic mechanisms

Firstly, the income effect as an economic mechanism at a theoretical level can be seen here. The fact that second-hand clothing is cheaper leads consumers to purchase more items or shop

for second-hand clothing more often. As noted by the analysis using SPT, there is generally an expectation that second-hand clothing should be cheaper and cheaper prices are generally associated with the practice. The findings also show that the economic motivation has sometimes been stronger than the sustainability motivation amongst the participants (*"It's cheaper. So that's what like, put me onto it in the first place. And sustainability is second"* – P10). An interesting finding that is relevant to the income effect is that all the 12 participants stated the cheap prices as a factor that they consider when choosing to buy second-hand clothing. It can be implied here that since many consumers are motivated by lower prices according to literature and in this study, the income effect could have a larger presence than initially thought. A similar phenomenon has been seen in literature although studied slightly differently. In this study, an indirect rebound effect was studied considering second-hand smartphones and re-spending effects (Makov & Font Vivanco, 2018). Another aspect to be noted here is that the income rebound effect is generally studied from a more quantitative analysis where the overall household income is investigated (Bjelle et al., 2018; Vita et al., 2019; Wood et al., 2018). These studies mostly found rebound effects (that vary in quantification[10]) amongst general clothing usage and not specific to second-hand. Although not explicitly studied when looking deeper at the circular economy rebound effect literature this result (income effect) is suggested (Adıgüzel et al., 2020; Iran & Schrader, 2017; Ottelin et al., 2020; Zink & Geyer, 2017). This is captured holistically in a quote "A general finding is that the greater the economic benefit of household 'green' consumption choices, the larger the rebound effect and less effective the action." (Murray, 2013, p. 247).

Although the act of purchasing more items second-hand may not seem harmful, it speaks to different aspects of the culture of consumerism. Participants alluded to the fact that due to the lower prices they tend to buy more items or shop more often (*"And I think also because it is affordable, so I can buy more things"* – P4). Excess consumption itself can set a harmful precedent for consumers feeling that since they are purchasing items that are more "sustainable" they do not need to address their levels of consumption. This is highly related to the critique that there is more focus on strategies to shift consumption rather than address overall levels of consumption (B. Bauer et al., 2018). In this way, it can also be implied that this excess consumption of second-hand clothing distracts consumers from other sufficiency strategies. This can be seen by some consumers that mention their associations with sustainability and second-hand but have little awareness of other mechanisms to make fashion more sustainable. Furthermore, their awareness of other options did not mean that they had experience engaging with these other mechanisms. For example, one participant was aware that wearing what they own is the most sustainable, but also shopped second-hand often and bought clothing often (*"The price is like, I don't know, maybe five euros per kilogramme. So then you can just buy a lot of stuff, like, two or three kilos!"; "Yeah, first I think the most sustainable thing is actually just wear what you have"* – P6). This demonstrated that even though consumers can be aware of sustainability aspects of fashion in general, the low prices of second-hand can promote unnecessary consumption. Another aspect to consider is that consumers shop second-hand more frequently due to the low cost. It has become an easier way to expand their wardrobes at a lower cost *"I don't want to spend all that money. I can buy three sweaters for the price in h&m"* – P7). Although Parguel et al. (2017) studied moral licensing what is interesting that they found was that even environmentally conscious consumers were likely to participate in indulgent consumption. This can also be seen

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[10] Rebound effects are generally quantified in percentage and can range from negative to positive. A negative rebound effect means that the actual savings are higher (i.e not rebound) and positive is the opposite. (Chitnis et al., 2013)

in the above analysis about consumers being aware of sustainability, but still consuming more clothing.

5.2.2 Psychological mechanisms

Secondly, psychological mechanisms can be seen to be present in the domain of clothing consumption. This psychological influence can either be explained by the bad perception of fast-fashion or the good perception of second-hand. In this case, morally bad refers to how consumers have understood the impact that the fast-fashion industry has had on social and environmental sustainability. The results show that consumers consider fast-fashion something that they do not want to be associated with unless they feel as though they can really justify it. The negative connotations with fast-fashion brands are present amongst the participants interviewed implicitly and explicitly. Understanding this connotation more deeply means that when consumers choose to not support or be associated with these brands, they felt better about their consumption decisions (*"But it's more like, okay, but I had the choice to go the environmentally better way or worse way. And I chose the better way. So it's more like you know I pat myself on the shoulder. Like a good job.* – P11). Or to put this in another context, they felt morally right for not choosing something that they perceived to be immoral.

Alternatively, there was also a flip side to the moral feelings involved. This can be explained by the good connotation that second-hand is perceived to have. The sustainability aspects that consumers associated with second-hand contributed to them feeling better about purchasing something second-hand (*"I support it fully but I still more feel that it's when I'm buying (from) second-hand stores and the environmental perspective is just to feel like better about myself."* – P11). Although participants were not very descriptive of why they thought second-hand fashion was good for the environment, it still played a role in making them feel better. In this way purchasing second-hand clothing alleviated some of the guilt around buying a new clothing item for their wardrobe (*"So I can like shop and not feel as bad about it."* - P10).

Another finding that should not be ignored within the realm of psychological mechanisms influencing rebounds is that consumers become less critical due to the moral licensing mechanisms. This is something that is mirrored by the findings of Parguel et al. (2017), essentially consumers feel good about their less environmentally damaging consumption decisions, so they become less critical. This was especially prevalent in one of the environmentally-conscious participants. The quote to support this is *"it's easier for me to buy things from second-hand. Like, I'm not that critical about it. I'm easily convinced, and maybe also kind of to have a need for something, it's easier for me to suddenly get inspired to just get something I never considered buying before"*- P12. Here, they also noted that from a sufficiency point of view they tend to overconsume and buy items that they do not need. Although aware of other sustainable mechanisms to own fashion, second-hand became the most popular one for them (*Maybe it's an excuse, because I really want to lower my clothes consumption, and it's not helping to get stuff even from second-hand, you know?"* - P12). This finding is something that is a result of the moral licensing rebound mechanism and contributes to excessive consumption of second-hand clothing. The sustainability promises of second-hand clothing are interpreted as a license for consumers to be less critical and thus even consumers who are considered environmentally conscious are distracted from aspects of sufficiency. As noted by Adigüzel et al. (2020) sometime the sustainability strategies in the clothing (reference to sustainability fashion lines) often stimulate demand, and consumers over-rate the sustainable information and may buy more clothing. They then not that this may offset the environmental benefits, and this can apply here too.

Overall, what these findings have shown is that there is evidence for rebound effects to occur within second-hand market environments. The evidence of the economic mechanism can be

witnessed by the income effect. The clothing within the second-hand stores is cheap thus it frees up income for consumers to purchase more items. Mostly this translates into the consumption of more clothing thus it can be considered a direct rebound effect [11]. The evidence of psychological rebound mechanisms such as moral licensing can also be witnessed by the feelings that consumers have when shopping second-hand in comparison to new. They feel that second-hand shopping is a morally good consumption action and thus their subsequent purchasing decisions are less critical. In this way, consumers end up purchasing more items or feel that since they have bought second-hand, they have the license to buy from fast-fashion again *("I'm pretty sure there's also moments where I'm just like, I haven't bought fast-fashion and so long, this is totally fine." – P3).* These mechanisms all result in a rebound effect because the excess consumption does not contribute to the sufficiency savings since consumers are buying more clothing items than they need. In this case, it could also be said that the individuals who do display this moral licensing behaviour have outcome-based mindsets (A. Bauer & Menrad, 2020). Participants who practiced more sufficiency behaviour were considered to have a rule-based mindset, and thus do not experience moral licensing. Furthermore, the environmental benefits of second-hand clothing are not realised because consumers do not replace their purchasing of new items with second-hand at a 1:1 ratio (because they'll buy 3 t-shirts second-hand but only one new if given the choice) or they consume both second-hand and new.

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[11] To consider the overall impact of other consumption areas this would need to be studied at a macro level using a quantitative design which is not what this study aims to do.

6 Discussion

In this section, the results will be discussed against the broader discourse of sustainable fashion consumption and rebound effects.

6.1 Relevance of Results

Overall, the results have shown the broader implications of rebound effects and the application of SPT has been useful to understand the rebounds more deeply. The insights from using SPT have provided a deeper understanding of the economic and psychological mechanisms that cause rebound effects. The evidence found, shows that consumer behaviour within second-hand markets can be a cause for concern.

The first area for concern is how the environmental benefits have been calculated. As noted in the literature most impacts are quantified by LCAs which make some unrealistic assumptions about consumer usage behaviour. Especially, regarding the replacement of new clothing with second-hand consumption in a 1:1 ratio. This study has produced results that indicate that this assumption remains questionable. Firstly, consumers purchase more items than needed due to the income rebound effect. Secondly, the way that sustainability is marketed to consumers (however misunderstood it may be), allows them to feel proud for choosing this option and become less critical about their consumption decision due to the moral licensing rebound effect. In this context less critical refers to consuming beyond what consumers need (overconsumption). In this regard, new assumptions that take the rebound effects into account should be included when assessing the true environmental benefit of second-hand clothing consumption.

Moreover, when it comes to the assumptions made about the environmental footprint of second-hand clothing consumption, imperfect substitution should also be acknowledged (Makov & Font Vivanco, 2018). The evidence from this study shows that there are some specific items of clothing that consumers do not consider purchasing second-hand and one that was notably mentioned was jeans. Many of the participants described pain points of finding certain clothing items second-hand (mostly pants) due to the irregular sizing so chose to buy some items second-hand. This is interesting because it implies that a 1:1 ratio of replacement might never happen with second-hand clothing. This is further linked to the imperfect substitution of second-hand clothing products.

Secondly, these results could be of concern because second-hand markets are growing at unprecedented rates and becoming a popular choice. The sustainability education directed at consumers about second-hand clothing is vast and found on multiple blogs and newspapers, and the presence is increasing on social media. As suggested in literature consumers overestimate the sustainability aspects without question and thus become negligent about their overall consumption decisions (Adıgüzel et al., 2020). This opens the discussion about second-hand clothing to include aspects of greenwashing which is concerning.

Second-hand clothing consumption can also be said to provide an avenue for excessive consumption of clothing as Iran and Schrader (2017) have already suggested. This has also been shown in the results about how consumers feel when shopping second-hand. In this way, second-hand markets do not promote sufficiency (consuming less or not at all) which is higher on the consumption hierarchy (Dalhammar et al., 2014) and preferred when examining overall consumption levels. If the detrimental impact of fashion is to be avoided the promotion of sufficiency strategies will need to become a more dominant approach.

Lastly, the circular economy aims to increase the use intensity of clothing. To increase the use intensity of clothing that promotes frequent wearing as well as multiple users, the quality of the clothing should allow for this. However, what has been pointed out by participants in this study is that finding quality products second-hand requires more effort. This implies that consumers may mostly be purchasing fast fashion products second-hand. The added barrier to finding quality second-hand items should be noted when arguing that circular economy concepts are present within second-hand markets.

Another aspect to consider related to higher quality and use intensity is that fast fashion is becoming more present in second-hand markets. This is concerning because products that are not durable will not last for long and thus not increase use intensity. The fact that the clothing is not built to last, the amount of time worn may be decreased and thus become waste at a faster rate. Further, in relation to use intensity, since consumers are purchasing more clothing, this can be correlated with shorter use phases for clothing (Ellen MacArthur Foundation, 2017). Overall, the foundation of the circular economy benefits of second-hand may also be questionable.

6.2 Reflections on research design

In this section research design of the study will be reflected on. Overall, the methodological choices made for data collection, interview questions, theories applied, and possible alternative methods will be chosen. The strengths and limitations of this study will also be discussed. This will include reflection on the research questions and whether these are considered to be fully answered. Lastly, the generalisability of the study will be discussed and the different contexts in which the findings could be applied.

6.2.1 Methods

The chosen strategy of enquiry has been a qualitative approach to investigate the topic. This method was considered the most appropriate since rebound effects within the second-hand clothing consumption domain are a fairly new concept. Thus, it has not been studied broadly nor assessed in the context of qualitative or quantitative approaches. Due to the lack of knowledge in this area, a qualitative approach was chosen to deeper understand the concepts and the reasons behind why there might be a rebound effect. A qualitative approach is more equipped to conceptually understand the issues behind consumer decisions. These decisions have affected the results in one key manner. Rebound effects are generally studied from a quantitative inquiry and are usually quantified through econometric analysis. In this way this study can only imply from causal relationships that there is a rebound effect present, this can only be verified by calculated numerical values. However, literature does show that rebound effects have been studied qualitatively and that when studied in this way more psychological rebound mechanisms are found (Truelove et al., 2014). Since a psychological rebound mechanism has always been suspected, a qualitative enquiry was an appropriate choice to make.

Another methodological choice that was used was to apply SPT to study the rebound effect and the practice of second-hand clothing consumption. As discussed in the literature review there are other ways to study sustainable consumption and one of those is the theory of planned behaviour (TPB) and its derivates. SPT has been motivated in different ways for this study. Firstly, it allows for a deeper understanding of second-hand consumption because instead of focusing on the individual it moves beyond and studies the practice itself. TPB mostly focuses on individuals and the choices they make but may not be able to describe deeper elements of what influences consumers. The application of TPB may have resulted in similar findings to those that investigate the general motivation to shop second-hand. These include

aspects that were also found in this study such as environmental concern, economic benefits, convenience (related mostly to online) and activity enjoyment motivations (Borusiak, et al., 2021; Borusiak et al., 2020; Hawlitschek et al., 2018; Padmavathy et al., 2019). However, when looking at the studies that apply TPB some aspects behind the reasons for environmental concern or economic benefits are not further studied. And thus, although TPB could be used to study the phenomenon of second-hand clothing intention, motivations, attitudes, and re-purchase intention it may not provide insight into usage behaviour nor the associations or processes that consumers experience when engaging in second-hand clothing consumption.

Lastly, another aspect that SPT highlighted was how consumers compare fast fashion and second-hand. This allowed for the deeper finding that perhaps consumers are not motivated fully by environmental benefits but are more demotivated by the fast fashion industry. However, it should also be noted that SPT is a fairly new theory and thus the application of SPT requires more experience to fully capture all elements properly.

Other limitations can be discussed in terms of data collection and the interview guide. Although the interview guide was informed by literature, upon reflection some aspects would have been useful to capture. This includes the marketing by second-hand clothing distributors (businesses) of sustainability aspects of second-hand consumption and how consumers perceive this. Asking this may have provided more insight into how consumers generally understand sustainability and clothing consumption as well as the degree to which marketing has influenced them. This also relates to the moral licensing theory where consumers feel better about themselves because they are doing something for the environment. Thus, the marketing aspect could have played a role. This also related to another limitation which is a more predatory approach to recruiting participants. It was previously assumed that because the younger generation is more familiar with online shopping that there would be more participants who shop online for second-hand clothing. This may have resulted in consumers talking less about the effort required to find desired items and more about the convenience. It may also have resulted in consumers shopping more frequently because of the convenience. Lastly, when shopping online for second-hand items the marketing can also be more aggressive where once purchasing clothing, the avoided impact is even mentioned on the receipt (Sellpy). Thus, this could also have changed some of the perceptions of the impact that consumers felt they had.

6.2.2 Other considerations

The research questions for this study have been justified by an extensive literature review questioning consumption and circular economy in general. From a qualitative inquiry, the research questions have been considered answered. The different possible rebound effects that occur in second-hand clothing consumption markets have been described. Moreover, using the application of SPT the explanation of why rebound effects occur has also been discussed. Overall, the research questions and general problem are considered to be legitimate taking into account the general concern about the circular economy rebound. It is also concerning that the second-hand consumption markets are growing and gaining more popularity. Since the issue of fashion impact is also gaining interest from research this study also contributes to adding to the discourse about understanding sustainable fashion consumption more deeply. For all of these reasons, the study is considered overall legitimate.

The generalisability of these results is an issue that is important but complex. Inherently within qualitative research generalisability is not the goal but rather particularity (Creswell & Creswell, 2018). In this study, the data sources used to answer the research questions have included both literature and interviews with participants and were deemed sufficient to answer the research

questions. The broader implications of the results indicate that there is a need for more research within this sphere (see section 7.3). There are context-specific aspects that are particular to the results of this study, namely three. Firstly, there is a high presence of second-hand clothing markets and general growth within this area. Secondly, the sustainability aspects of second-hand clothing are marketed to individuals. Lastly, the reputation of fast fashion has a well-accepted negative connotation. For this reason, there are several suggestions for where the results of this study could be applicable. Amongst generation Z and young millennial consumers, the rebound effects may be present. This is because these consumers are likely to be attracted to more sustainable consumption options such as second-hand clothing and they are likely to be aware of the negative reputation associated with fast fashion due to their interaction with social media (Sorensen & Johnson Jorgensen, 2019). However, the results may not be generalisable for older generations due to the stigma that continues to be present within this generation. In a study based in Czechia older consumers were found to have less preference to shop second-hand for clothing due to the stigma around dirtiness, low quality and smell (Rulikova, 2020). This issue also further touches upon geographical scope where second-hand clothing consumption is not widely accepted. In this way, these findings could also not apply to these contexts, and it should be noted that this was also evident amongst international participants when they referred to perception in their home countries. Regions where this could be studied are other Nordic countries that have a high sustainability awareness. Recently, evidence has shown that in more consumerist countries like America and China, the acceptance of second-hand clothing consumption is growing (Lebow, 2021). For this reason, it might even be more interesting to study second-hand in these contexts because the consumerist culture may result in rebounds being more prevalent or that consumers are less motivated by the sustainability aspects. For the most part, this study has the particularity of the context of international students in Sweden who shop for second-hand clothing, but some of the results may apply to other similar contexts.

7 Conclusions

The explicit answers to the research questions will be discussed in this section to conclude the overall study. Moreover, the implications of the results for the audience will be discussed. Lastly, this section will touch upon where further research should be employed.

The problem that required investigation for this thesis was the exploration of rebound effects within second-hand markets. Firstly, the sustainability framing of second-hand consumption relies on questionable assumptions, thus a further investigation into consumer behaviour was required. Due to preliminary evidence found in literature, second-hand clothing consumption showed the potential to exhibit rebound effects motivated by economic and psychological mechanisms. Overall, the aim of the thesis was to add to the understanding of second-hand clothing consumption and provide qualitative insights into the potential rebound effects.

7.1 Research questions answered

In this section, the research questions are answered explicitly.

RQ1: What is the practice of second-hand clothing consumption?

The interaction of three key elements as SPT dictated can be described to encompass the practice of second-hand clothing consumption. Firstly, material elements include the places where consumers prefer to shop. These include the physical brick and mortar shops that consumers visit and online platforms such as peer-to-peer or regular B2C shops. Secondly, the competencies of consumers encompassed within this element include consumers' know-how of how to shop second-hand (online or in-person) and their understanding of sustainability. The sustainability aspects of second-hand are mainly associated with avoided production of new garments but the competence showed that consumers only have superficial understanding of sustainability and second-hand clothing. Lastly, the marketing of sustainability was also considered to have an influence on the element of competence. The last element of meaning mainly considered the associations that consumers have when shopping second-hand. The motivations of sustainability, cheap prices and recreational activity enjoyment were all included here. Other aspects acknowledged how consumers perceive second-hand clothing which included meanings of stylish, unique, or conversely hinting to previous stigma such as low quality, and dirty. Lastly, the element of guilt associated with consumption and fast fashion was also included in consumers' relationship to second-hand clothing. Overall, these elements interact and describe the practice of second-hand clothing consumption.

RQ2: What are the consumption rebound effects of second-hand clothing consumption?

These consumption-related rebound effects can be described as when consumers purchase increased amounts of clothing due to the low prices or their feelings of guilt. The rebound effects can be considered direct rebound effects because consumers end up purchasing more clothing and thus stay within the same consumption domain. In this way, the practice of purchasing clothing second-hand within the realm of enabling the circular economy does not promote sufficiency savings. It also distracts consumers from other ways to consume more sustainably. Moreover, the environmental savings of second-hand are also not fully realised because they shop for both second-hand and new clothing.

RQ3: Why do these rebound effects occur in second-hand clothing markets?

These rebound effects are enabled by economic and psychological mechanisms. These can be defined as income effects and moral licensing effects. The lower prices of second-hand clothing allow consumers to have more income to consume more clothing. The psychological mechanism contributes to the feelings that consumers have when purchasing second-hand. They feel that consuming second-hand clothing is morally good and thus have the license to be less critical (or less good) within their consumption decision. This results in purchasing more clothing than needed or consuming both new and second-hand clothing. Although psychological mechanisms play a role, for the latter reason of consuming both second-hand and new, imperfect substitution may also be the cause for this. This indicates that although second-hand clothing markets are vast, they cannot act as perfect substitutes for new products.

7.2 Practical implications and recommendations for non-academic audiences

The discourse of the circular economy includes a broad scope of societal strategies that can allow for a lower impact on society and the environment. Within this, there is mention of redistributive markets and the increase of use intensity. However, beyond the sustainability specific discourse, there is far more emphasis on reuse in the fashion industry and businesses have capitalised on this to expand markets to include second-hand as the next sustainable move. However, the results of this study have shown that the strategy of redistributive markets should be scrutinised to ensure that the potential for rebound effects is well understood and can be addressed. It should be important to note here that these implications may not be relevant for other product categories because clothing has different product characteristics and associations for consumers. They have shorter lifespans from a consumer perspective than for example furniture or cars. For these reasons, the second-hand clothing market requires more investigation and monitoring, especially considering that even though second-hand markets are expanding, new fashion production is not slowing down. The results here show that policymakers, businesses and even ecological associations should make clear the potential for rebounds to moderate their belief that second-hand markets in the circular economy for fashion is the "holy grail" for sustainable consumption.

The implications for businesses show that although many strategies exist to enable sustainable consumption these should always be adopted with caution and the potential for rebound effects be understood. Currently, the shift towards second-hand clothing markets is growing faster than the implementation of other business models such as renting, leasing, and repairing. The reasons for this may be associated with the simplicity of offering second-hand items for retail than changing the fundamental business model. However, despite the simplicity of second-hand markets, the potential for reducing overconsumption through other fashion business models is more likely because the personal ownership of clothing is less emphasised. This will in turn result in extended use phases. However, all these strategies have the potential for rebound effects, the overall recommendation to businesses is to fully assess the potential sustainability pitfalls and fully communicate that to customers. Other aspects to consider from the business perspective are the promotion of sufficiency (consuming less) amongst consumers and having less harmful clothing production processes.

At a policy level, better strategies to promote sufficiency to address overall consumption levels should be a topic of importance. This is critical because although the circular economy strategies are high on the EU policy agenda (Sandin & Peters, 2018), they still focus more on shifting consumption rather than promoting the reduction of consumption levels in general. The critique of this strategy has already been discussed but the results of this study highlight this. Especially when considering that these results have shown that consumers are not aware

of other sustainable strategies, and do not practice high levels of sufficiency behaviours within clothing consumption. It is overall recommended that sufficiency strategies become a higher priority on the consumption policy agenda. Further, this study also shows the advantages of using SPT to understand consumption practice and thus the application of SPT to inform policy should be commissioned.

Lastly, the implications for consumers are also important to consider. Although, this study has shown that there are low levels of sustainability understanding amongst participants, providing more information may not be the only solution. Participants show that information about sustainability aspects would be helpful for them to know about more mechanisms to shop sustainably, but the evidence also shows that there will be moral licensing that occurs anyway. Consumers should be aware of how moral licensing may impact them, and that despite not choosing fast fashion, greater impact can be achieved through practising sufficiency. This involves, questioning the true need for the clothing items, maintaining their garments, and simply consuming less.

7.3 Recommendations for future research

In the academic sphere, there are several suggestions to be made here. The results show that there is a potential for rebound effects on second-hand clothing consumption. However, this should be studied at a larger scale to verify this. A more quantitative design is suggested using surveys of larger sample sizes or experimental designs. This is desirable because one study found that only at very high sample sizes can moral licensing be verified (Blanken et al., 2015). It can also be noted that exploring rebound effects at a macro scale may also provide insight into how large the rebound effect is and in which circumstances it may occur most.

Another issue that should require more investigation is the link between user behaviour in second-hand clothing markets and the environmental impact. According to Laurenti et (2019), there is a considerable gap in literature that links these two issues. Overall, this is important due to the crucial assumption made about user behaviour when investigating the impacts of second-hand consumption. Moreover, the use of SPT can also help in generating more realistic scenarios for LCAs that investigate this phenomenon.

Another aspect that is currently lacking from the discourse is an investigation into the second-hand seller's perspective. More research within this field has been suggested (Herjanto et al., 2016; Turunen & Pöyry, 2019), especially because second-hand markets allow for buying and selling. It may also be important to consider whether the seller's perspective includes aspects that show that they use second-hand markets as a disposal stream and thus increase the speed at which they consumer fashion. Evidence of this can be seen in the luxury second-hand market (Turunen & Pöyry, 2019).

Lastly, the issue of moral licensing and its evidence needs to be investigated further. The comprehensive literature review done by Reimer et al (2021) showed that there is a gap in moral licensing research within the rebound effect literature. These studies require more data and to be developed more comprehensively to show how they affect purchasing behaviour. It would also be interesting to investigate where demographic data, such as age and gender, play a role in moral licensing.

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Appendix

The appendix includes two items.

Appendix A: Detailed interview guide

Interview Protocol

- Introduce yourself and the topic.
- Ask them about what they do and where they are from.
- Ask for verbal consent to record the interview, as well as their insights within the analysis.

General Clothing Purchase Habits

1. In general, why do you buy clothes? what does clothing mean to you?
2. How often do you buy clothes? How much?
   a. on what channels?
3. Would you consider yourself to have a large wardrobe?
   a. How many items on average would you say you have of pants, t-shirts, and dresses jeans? Do feel that that is a variety?
4. How often would you say that you wear the items in your closet (refer back to their description of their wardrobe? what % of your cupboard do you wear regularly (what %?)
5. How do you go about discarding the clothing that you no longer wish to wear?

Second-hand clothing habits

6. Overall, what would you say the % of second-hand clothing to new clothing in your closet?
7. How often do you purchase second-hand clothing?
   a. Via which channels? Store which channels do you prefer? And why?
   b. What would you say is the most common item you buy? And how much do you tend to buy? And why?
      i. Examples: Special occasions? costumes? basics?
8. What would you say made you decide to shop second-hand? Or why do you shop second-hand?
   a. Examples: Cost, environment, utility, convenient (different motivations as suggestions)
9. What considerations do you have when you decide to shop second-hand or new, (if any)?
10. When buying clothing, second-hand what is your experience with regard to price? What makes you feel like a bargain:
    a. Have you noticed any trends in pricing?
    b. What about when you start to compare prices with new clothing?

11. You have a clothing need to fulfil, how would you go about fulfilling it in these scenarios?
    a. You have a formal function and need a suit/dress?
    b. You have stained 3 of your white t-shirts pink in the laundry?
    c. You are in need of new seasonal clothing like woollen sweaters?

**Ask question 12 if they have mentioned environmental motivations and question 13 if not.

12. If the mention environment, how would you categorise their type of impact? Do you feel that when you buy second hand it has an impact?
13. Since I'm studying environmental sustainability, I wanted to ask if you ever associate buying clothes with sustainability?
    a. Do you know of other mechanisms to shop fashion more sustainably?
    b. Do you think that you have a large impact?
14. How would you describe the way that you feel after you buy something second-hand?
    a. How would compare this feeling to when you buy a new item of clothing?
15. Lastly, if you would like to shop for more second-hand clothing, what would you say is your biggest challenge to overcome? Also, what would you say the biggest challenge for the industry?

Appendix B: Synthesised Codes

Table 0-1: List of synthesised codes

Codes	Description
Purchasing Behaviour	
Second-hand buying behaviour	Consumer shopping behaviour, their habits, actions, and feelings towards second-hand clothing shopping.
Buying behaviour in general	Consumer shopping behaviour, their habits, actions, and feelings towards shopping for clothing in general.
Number of items bought	Comments that consumers made about the number of items they much they buy when they shop for clothing.
Ratio of second-hand to new	The share of consumers' wardrobes that is second hand.
Shopping place preference	Consumers shared experiences of where they preferred to shop for clothing whether that be online or in-person for both second-hand and new items.
Online shopping opinions	General opinions of why consumers did or did not shop online for clothing.
Usage behaviour	
% Of regular wearing	This describes what percentage of consumers' wardrobe they say that they wear regularly, (at least twice a week).
Discarding behaviour	The methods which consumers use to discard clothing that they do not want anymore.
Relationship to clothing	The reasons for why consumers buy clothing, their feelings about clothing in general, and what clothing means to them.
Variety Perception	The perception that consumers have about the variety of clothing in their closets and what exactly they consider a variety.
Use behaviour	Consumers' wearing habits that include how often they wear items in their wardrobe.
Economic Aspects	
Actions due to price	Consumers make a decision using price as a deciding factor in situations involving clothing consumption.
Economic motivations	Consumers choose to shop second-hand because of the low prices or choose not to shop for new items because of the high prices.
Sufficiency Aspects	
Perception of wardrobe size	The perception of how large consumers felt their wardrobe was.
Sufficiency behaviour	Consumers try to buy clothing based on their need or they think deeply about their need for an item before purchasing it.
Feelings associated with second-hand shopping	

Feelings when buying second-hand	The feelings about price, sustainability, and consumption associated with second-hand clothing.
Moral licensing	Consumers feel as though second-hand clothing is a better option, thus feel the license to act less critically (or less pro-environmental).
Guilt	Consumers feel guilting for shopping for new clothing due to the reputation of fast-fashion.
Perception of second-hand	
Challenges associated with second-hand	Consumers discuss any pain points associated with trying to shop for second-hand clothing.
Uniqueness	Opinions about originality or the different in newer styles compared to second-hand.
Style	Opinions about fashion styles and trends.
Choice between second-hand and new	Consumers shows an indication of mental processes when making a decision about shopping for new or second-hand clothing.
Stigma	Stigma associated with second-hand clothing that includes bad smalls, dirtiness, lower quality and unlaundered.
Perception of impact	The perceptions that consumers had about themselves having an impact by purchasing second-hand clothing.
Preference of items	Consumers had particular preferences of which items they chose to buy second-hand.
Recreational enjoyment	Consumers found enjoyment in the activity or exercise of going second-hand clothing shopping.
Sustainability Aspects	
Sustainability Awareness	Perceptions of sustainability aspects through marketing.
Other sustainability awareness	Other mechanisms to shop sustainably that consumers mention; these included shopping locally, clothing swaps, to not buy clothing, to make your own clothing, to repair, and if they were not aware at all.
Environmental considerations	Consumers mainly think about environmental reasons when shopping for second-hand clothing.
International students	
Reference made to home countries and second hand	References that international student made about the home countries and what it was like to shop for clothing (second-hand or new).

Source: Authors own elaboration