Towards Circularity in Fashion E-commerce

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MASTER THESIS

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Business Model Development

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Abstract

Today, the textile industry in Sweden faces several issues regarding its negative environmental impact and lack of circularity. One identified topic within this area is the gap between fashion e-retailers and second-hand organisations or other receivers of garments. The gap creates a business opportunity in terms of a business model for a digital service that can support circularity by connecting key players within the clothing industry: e-retailers, consumers and receiving organisations. The service enables the efficient use of resources, by simplifying the processes for donation and extending the life cycle of clothing. Making reuse an essential part of people's everyday lives has the environmental and social benefits of reducing emissions from textile production and offering support to individuals and organisations in need of garments.

Based on the proposed business opportunity, the report guides the reader through the development and validation of a business model for a digital service system, which allows customers of e-retailers to donate clothes when purchasing clothes online, hence, making the customers users of the service and forwarders of clothes. The business model is developed and validated by using the frameworks of the Business Model Canvas and Value Proposition Canvas to analyse each key actor's needs and requirements for the service to adapt the system offerings accordingly. The discussion of the proposed business model indicates strong desirability among customers, organisational feasibility for delivering the system and financial viability for sustained profitability of the service. In conclusion, the resulting business model generates value for all actors involved by offering a digitalised donation experience, engaging consumers in the reuse of clothes, extending the life cycle of clothing and, finally, moving fashion e-commerce towards circularity.

Keywords: Business Model Canvas, Business Modelling, Circular E-Commerce, Clothing Reuse, Sustainability, Value Proposition Canvas.

Sammanfattning

I dagsläget står textilindustrin i Sverige inför flera utmaningar relaterat till dess negativa miljöpåverkan och brist på cirkularitet. Ett identifierat ämne inom detta område är klyftan mellan e-handlare av kläder och second hand-organisationer eller andra mottagare av kläder. Klyftan skapar en affärsmöjlighet i form av en affärsmodell för en digital tjänst som kan stödja cirkularitet genom att koppla samman nyckelaktörer inom klädbranschen: e-handlare, konsumenter och mottagande organisationer. Tjänsten möjliggör en effektiv resursanvändning genom att förenkla processerna för donation samt förlänga klädernas livscykel. Att göra återanvändning till en väsentlig del av människors vardag har de miljömässiga och sociala fördelarna av att minska utsläppen från textilproduktion och erbjuda stöd till individer och organisationer som är i behov av kläder och stödresurser.

Baserat på den föreslagna affärsmöjligheten guidar rapporten läsaren genom utvecklingen och valideringen av en affärsmodell för ett produktservicesystem, vilket utgör tjänsten som möjliggör för kunder till e-handlare att donera kläder när de köper kläder online. Dessa kunder blir därmed användare av tjänsten samt donatorer av kläder. Affärsmodellen utvecklas och valideras inom ramarna för Business Model Canvas och Value Proposition Canvas, där varje nyckelaktörs behov och krav på tjänsten analyseras för att kunna anpassa systemutbudet därefter. Diskussionen om den föreslagna affärsmodellen indikerar stark önskvärdhet bland kunder, organisatorisk genomförbarhet för att leverera systemet samt ekonomisk bärkraft och långsiktig lönsamhet för tjänsten. Sammanfattningsvis skapar den resulterande affärsmodellen värde för alla inblandade aktörer genom att erbjuda en digitaliserad donationsupplevelse, engagera konsumenterna i återanvändning av kläder, förlänga klädernas livscykel och slutligen flytta mode e-handel mot cirkularitet.

Nyckelord: Affärsmodellering, Business Model Canvas, Cirkulär E-handel, Hållbarhet, Value Proposition Canvas, Återbruk av kläder.

Acknowledgements

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First, we would like to thank our supervisor Daniel Hellström who has been our guiding light throughout the project. We strongly appreciate the inspiration, engagement, and valuable insights that you have brought to this project, and the knowledge you have transferred to us.

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Lastly, special gratitude to our family and friends who have supported us through this project and provided us with everlasting energy and confidence during our five years of studying in Lund. We now look forward to new experiences and challenges.

Lund, June 2022

Maria Hallgren & Alfhild Hedelin

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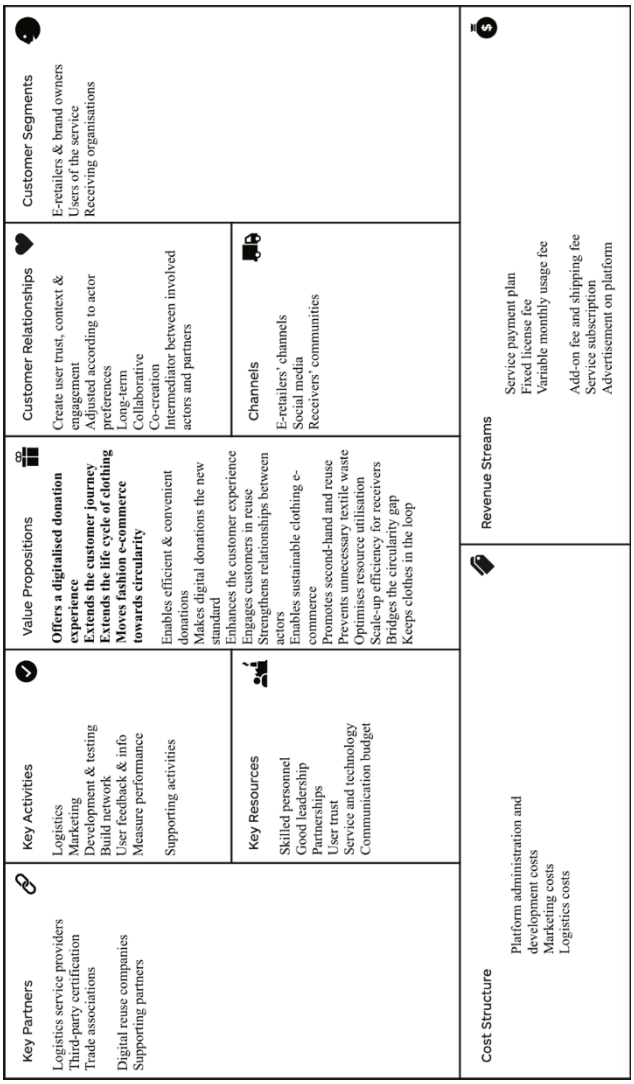
Executive Summary

The validated business model for the studied service system is visualised below. The system moves fashion e-commerce towards circularity by offering e-retailers, users, and receivers of clothing a digitalised donation experience, which engages consumers in reuse and extends the life cycle of clothing.



List of acronyms and abbreviations

BMC	Business Model Canvas
CBMC	Circular Business Model Canvas
C2C	Customer to customer
C2X	Customer to unknown destination
CO_2 eq	Carbon dioxide equivalents
CSR	Corporate Social Responsibility
EPA	The Swedish Environmental Protection Agency (Swedish: Naturvårdsverket)
LSP	Logistics Service Providers
PSS	Product-Service System
user	Potential user of the digital service, i.e., the customer of e-retailers and forwarders of clothes
VPC	Value Proposition Canvas

1 Introduction

This chapter briefly describes the textile industry and consumption in Sweden, with emphasis on the climate impact and sustainability issues that can be related to these areas. The issues lead to a business opportunity for a system that can bridge the gap between e-retailers and second-hand actors, through the more efficient use of resources and extended life cycle of clothing. Based on this business opportunity, the purpose of this project is described, followed by a system description and the project's focus and limitations.

1.1 Background

Textile consumption in Sweden has a major impact on the environment through its impact on the climate and emissions of harmful substances. In 2017, the Swedish textile consumption resulted in greenhouse gas emissions of 4.2 million tonnes of carbon dioxide equivalents (CO_2-eq), corresponding to the emissions from driving 850 000 laps around the earth by car. (Swedish Environmental Protection Agency (EPA), n.d.; Roos & Larsson, 2018). Furthermore, Swedish textile consumption is growing, with an increase of 40 per cent over the last 20 years. In 2021, the consumption nearly reached 15 kilograms per person, indicating an increase of approximately 4 kilograms per person since the year 2000 (EPA, 2021a).[1]

Approximately 80 per cent of the climate impact stems from the production of textiles, whereas the usage and after-usage stages account for the remaining share (Roos & Larsson, 2018). Producing textiles emits greenhouse gases and utilises tremendous amounts of raw materials, water, and chemicals. Producing 1 kilogram of textiles requires as much as 0.58 kilograms of chemicals (EPA, 2021b) while producing a single cotton t-shirt utilises 2,700 litres of fresh water, equivalent to one person's drinking needs for 2.5 years (European Parliament, 2022). Although textile production accounts for a major part of the impact, both producers and consumers

[1] In this context, textile consumption is measured as the net inflow i.e., import minus export, of newly produced clothes and textiles. The data does not include the import of textiles to private households as well as domestic textile production, as the latter is considered too small to have an impact on the numbers. (EPA, 2021a)

can contribute to significantly reducing the environmental impact through behavioural changes and technological improvements (Sandin, Roos, Spak, Zamani & Peters, 2019).

1.1.1 **Efficient Use of Resources**

The most effective factor in reducing the environmental impact of textile consumption is most likely to optimise the utilisation of resources by extending the life cycle of clothing (Roos & Larsson, 2018). In many Swedish households, individuals own more clothes than they use and many of these clothes are kept unused in their wardrobes. Simply using garments twice as many times before disposal, rather than buying new articles, has the potential to reduce almost half of the environmental impact. To successfully extend the life cycle of clothing, changes are required in both consumption and production. While consumers must change their behaviour by purchasing fewer clothes and using garments to their full potential, producers must be able to provide consumers with more durable garments. (Roos & Larsson, 2018; Sandin et al., 2019; EPA, n.d.)

1.1.2 **Towards Circularity**

Apart from extending the life cycle of clothes, the environmental impact can be reduced through reuse and recycling, where reuse is proven more beneficial than recycling (Sandin & Peters, 2018). Textile waste management practices of today, however, heavily rely on incineration and landfill, which are the least recommended options from an environmental perspective as well as considering the amount of value that can be recovered from the textiles. (Jäämaa & Kaipia, 2022) Out of the total amount of textiles consumed per person each year, approximately 8 kilograms result in residual waste for incineration and merely 3 kilograms are donated for reuse (Carlsson, Hemström, Edborg, Stenmarck & Sörme, 2011). Moreover, a large share of the disposed textiles, more specifically 59 per cent, were in such good condition that they could have been reused (Hultén, Johansson, Dunsö & Jensen, 2016).

In the proposed milestone targets for managing textiles and textile waste, developed by the EPA, it is clearly stated that establishing accessible collection systems is essential to improve the reuse rates in Sweden (EPA, 2016). Having access to convenient systems for collection is argued to be more important than having a positive attitude towards recycling and reuse. Although a positive attitude may increase the probability of recycling, accessible systems are required to support that decision in the first place. (Tekie, Palm, Ekvall & Söderholm, 2013)

Through initiatives established by the European Union, actors within the textile industry are currently searching for more efficient solutions to collect textiles. The Waste Framework Directive requires all EU member states to implement systems

that enable the separate collection of textile waste by 2025, to reduce textile disposal and increase reuse and recycling. (Jäämaa & Kaipia, 2022; European Commission, 2018) Another initiative, the Circular Economy Action Plan, was established to tackle the issues regarding the huge amounts of textile waste resulting from fast fashion, characterised by the mass production of cheap clothes with short life cycles. The plan includes an EU strategy for textiles, which encourages innovation and reuse, and suggests that actors should implement circular principles throughout all stages of the value chain for increased circularity. (European Parliament, 2022)

1.1.3 **Second-Hand Sector – Key Actors Pushing Reuse**

As of today, there are several actors in the second-hand sector in Sweden that are selling clothes that have been donated to them, and the second-hand market is growing rapidly both in Sweden and globally. Many of these organisations work in cooperation with volunteers for charity purposes and humanitarian aid, and the surplus from the donated clothes is a major contribution to those purposes. Moreover, they promote the climate-friendly aspect of buying second-hand clothes as part of their business. While regular second-hand organisations play an active and important role in the contribution to the circularity of clothes, they have recently shown spill-over effects on the retail sector. Retailers have observed and acted on the changing consumer demands and have started to implement resale and other initiatives to create more sustainable alternatives for their customers. (ThredUp, 2022)

In 2018, a collaborative project was initiated between the fashion e-retailer Zalando and the charity organisation Röda Korset to enable circularity within fashion e-retail in Sweden. The purpose of the initiative was to give e-customers the incitement to clean out their wardrobes and donate clothes and accessories to the charity organisation. The campaign concept was to offer the e-customers a prepaid shipping label with their initial order and thereby provide them an opportunity to send their clothes to the charity organisation free of charge. The forwarded clothes arrived at a sorting facility partner to be weighed, sorted, and sent to the charity organisation for second-hand retail. According to the involved actors in the experiment, the results of the campaign were very positive in terms of the quality and volume of the inflow, and the engagement from the e-customers. The general outcomes and responses were positive for the Nordic markets (Wargön Innovation, n.d.).

1.2 Research Problem and Questions

With the background presented on the textile industry and issues regarding its negative environmental impact and lack of circularity, there is an urgent need to close the loop between e-retailers and second-hand organisations or other receivers of garments. One step in closing the loop would be to provide business models that can generate value by promoting second-hand functions. As of today, there are multiple business models for buying and selling used clothes online, such as the digital marketplaces Sellpy and Tise (Sellpy, n.d.; Tise, n.d.). After researching the subject, however, no digital services for donating clothes could be identified, which constitutes a gap in the progress of making the clothing industry more circular.

The identified gap creates a business opportunity in terms of a business model for a digital service that can support circularity, by connecting key players within the clothing industry, and enable the efficient use of resources, by simplifying the processes for donation and extending the life cycle of clothing. Making reuse an important part of people's everyday lives has the environmental and social benefits of reducing emissions from textile production and improving support to individuals and organisations in need of garments. Based on the proposed business opportunity, the main questions of the research are:

- How can a business model for a digital service be designed to generate value from circular processes and enable the reuse of clothing?
- How can the digital service deliver value to key actors within the clothing industry and e-commerce?
- How do consumers of clothes perceive the conceptual service?

1.3 Purpose

The purpose of this project is to develop and validate a business model for a digital service system, which aims to support circularity within the clothing industry by utilising circular processes and simplifying the reuse of clothes. The emphasis is on analysing the value it can generate for all actors involved, by mapping and understanding their needs and requirements for the digital service and potential possibilities and limitations of implementation. The digital service system is described in the following subsection.

1.4 System Description

The development of the business model is based on a system supporting circularity within fashion e-commerce, by connecting providers of clothing, with consumers and receivers, as illustrated in Figure 1.1. The underlying idea of the system is to provide customers of e-retailers a digital service which allows them to donate clothes when purchasing clothes online, thus making the customers users of the service and forwarders of clothes. The system involves both tangible and intangible components, where the tangible aspects include the flow of clothing, the packaging in which the clothes are delivered, and the digital platform such as the app or website that the users interact with during the process. The incoming and outgoing flows of clothing are depicted by the filled arrows of the figure, created by the user when receiving newly purchased clothes and donating garments in the same package delivery. Here, clothing considers new, used as well as old clothes, however, the intention should be to forward clothes which are neat and clean enough to be reused, to create optimal economic and environmental value. Intangible aspects, on the other hand, include information flows, such as providing customer service, giving feedback on user donations, and informing about partnering organisations. The information flows are visualised by the dotted lines in the figure.

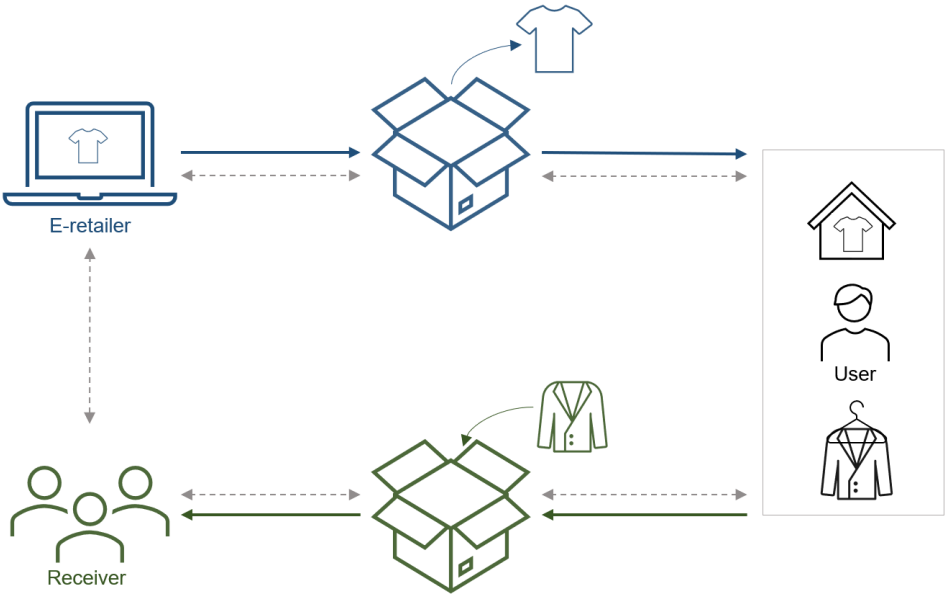


Figure 1.1 The System Under Investigation

1.5 Focus and Delimitations

The project focuses on the clothing industry in Sweden to initiate research on a smaller scale for potential expansion in the future. Sweden is often considered a pioneer when it comes to recycling, creating great potential for the country to take a leading role regarding the reuse of clothing and create an industry-wide standard where knowledge and solutions can be exported to other countries.

To take advantage of the increasing digital presence of many people today, as well as existing e-retail platforms, the focus of the report is on a digital service aimed at increasing clothing reuse rates within e-commerce. Therefore, the three key actors include fashion e-retailers, users of the digital service (i.e. the customers of the e-retailers and potential forwarders of clothing), and receivers of the forwarded clothes (such as charity organisations, non-profit organisations, non-governmental organisations, associations, and others in need of used garments). The project focuses on these three actors as they constitute the key players in the flow of clothing, from the outflow of clothes at the e-retailers to the inflow of clothes at the receiving organisations, where the users play a significant role in connecting these flows for increased circularity. The receiving organisations. The potential for improvement is high in the entire flow chain, and the challenged areas may contribute to the sectors becoming a more natural part of the ecosystem.

The research mainly focuses on the business model frameworks and concepts formulated by Osterwalder and Pigneur (2010), as these are widely recognised in the literature as well as in business practice.

1.6 Thesis Outline

The following structure of the thesis is presented below:

Chapter 2: Frame of Reference

Introduces the business model concept, including theory on business model development and two main frameworks for creating and analysing business models. Secondly, the concept of integrating products and services into single business models is presented. Lastly, the customer journey is described, with emphasis on the journey the customers experience within e-commerce.

Chapter 3: Methodology

Presents the methodology of the research, starting with a description of the systemic, holistic, and inductive research approach, followed by the research strategy for a qualitative study. The research stages and design are then described, along with key

project partners and a thorough description of each method used for collecting, analysing, and validating data.

Chapter 4: Empirical Descriptions & Findings

Provides the empirical descriptions and findings based on the main components of the Value Proposition Canvas, to support and create an understanding of the rationale of the validated business model in the following chapter. Initially, key involved customers are presented followed by mappings of each customer's Customer Profile and Value Map. The Customer Profile aims at achieving an understanding of the customer's needs and desires by exploring their Jobs, Gains, and Pains, while the Value Map describes the offerings of Products and Services that get the jobs done, create the gains and relieve the pains.

Chapter 5: Results – Validated Business Model

Supported by the empirical descriptions and findings, this chapter presents the collected data in the nine components of the Business Model Canvas, where the contents of the previous chapter are integrated into the first two sections of Customer Segments and Value Propositions.

Chapter 6: Discussion

The resulting business model and its components are discussed based on desirability, feasibility, and viability. The main topics are if the components are coherent such that the business model can deliver value based on the customer needs and that the system is profitable. Furthermore, the discussion addresses if there is insufficient information and how the project could be complemented.

Chapter 7: Concluding Remarks

Presents the concluding remarks for the project, based on the empirical findings, business model validation and discussion. For further development, implementation and management, the following subsections identify the main limitations and concerns regarding the project and provide suggestions for future research and continued development of the project.

2 Frame of Reference

This chapter introduces the business model concept, including theory on business model development and two main frameworks for creating and analysing business models. Secondly, the concept of integrating products and services into single business models is presented. Lastly, the customer journey is described, with emphasis on the journey the customers experience within e-commerce.

2.1 Conceptual Business Model

The term ‘business model’ had its first appearance in academic literature in 1957 but did not become prominent until the end of the 1990s. Its increase in popularity coincided with the emergence of the internet among businesses (Osterwalder, Pigneur & Tucci, 2005). The business model concept thus became widely recognised within both general businesses and e-businesses (Hedman & Kalling, 2003). E-business models helped the organisations to remain competitive in the Internet era, by restructuring the firm for increased efficiency and customer responsiveness (Dubosson-Torbay, Osterwalder & Pigneur, 2002). Ever since the term first appeared in literature, it has been interpreted in many ways, with various definitions, creating confusion and poor understanding of the business model concept. (Osterwalder et al., 2005; Ovans, 2015). The lack of a widely accepted definition has, for instance, resulted in the term being mistaken for other terms such as strategy, revenue model and economic model (Morris, Schindehutte & Allen, 2005).

According to several authors, the search for a common definition of the business model can be traced back to 1994 when the management consultant, educator and author Peter Drucker introduced the theory of the business. (Ovans, 2015; Strategyzer n.d.) Drucker defined a company’s theory of the business as a set of assumptions that shape the behaviour of the firm and the decisions made, regarding what to do and what not to do. The assumptions considered markets and were particularly related to the values and behaviours of customers and competitors. Furthermore, the assumptions considered the strengths and weaknesses of the business and how the firm generated money. (Daly & Walsh, 2010) Although Drucker did not explicitly mention business modelling in his articles, several authors later cited his work when developing their business model definitions. Joan

Magretta, for instance, described business models as stories that explain how firms operate. Moreover, she clarified that good business models answer Drucker's questions regarding who the customer is and what the customer values. Alexander Osterwalder and Yves Pigneur further built on Drucker's concept of assumptions when inventing the Business Model Canvas (BMC) in 2005. The canvas offers a structured approach to analysing assumptions made about the business from nine different perspectives. (Strategyzer n.d.; Ovans, 2015) Osterwalder and Pigneur define the business model as:

> *A conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams. (Osterwalder et al., 2005)*

More generally, the business model describes how an organisation generates, delivers, and captures value (Osterwalder & Pigneur, 2010). The main idea behind the framework is to create a reference model to support a common language within the business model domain. Creating a shared language further helps managers understand, describe, analyse, and improve the logic of the business and compare their models to the ones of other firms. (Osterwalder et al., 2005; Ovans, 2015). The canvas also facilitates the planning and design of strategies to be implemented across the organisation. Since the development of the framework, it has been tested internationally and used by organisations such as IBM, Ericsson, and Deloitte. (Osterwalder & Pigneur, 2010)

2.1.1 **Business Model Development**

A well-designed business model should support the viability, purpose, goals, and general organisation of a business. According to Osterwalder & Pigneur (2010), the challenge lies in making the business model understandable while still capturing the complexity of the organisation. Furthermore, the authors present six techniques for developing and designing business models: *Customer Insights, Ideation, Visual Thinking, Story Telling, Scenarios* and *Prototyping*. Choosing the correct technique for every individual case is important for the outcome of the business model and the value that it could generate. The choices are specifically based on the offer, the customers, and the value streams in the business's scope.

Customer Insights considers the customer perspective when developing and evaluating business models, with the incentive to facilitate a deep understanding of not only the desires of a customer, but their environment, daily routines, concerns, and aspirations. Visualising the customer perspective creates a foundation for the design of the business model. A nuanced perspective on the customer segment also

avoids the exclusion of new or unreached segments. Another useful technique when designing new business models is *Ideation* as it considers the customer perspective and aims to design models that meet unsatisfied, new, or hidden customer needs. *Ideation* is an iterative process that includes idea generation, specifically the creation of as many options as possible, and idea synthesis where the generated ideas are discussed, combined, and narrowed down to a few desirable options. (Osterwalder & Pigneur, 2010)

To make an abstract business model more tangible, there are a few practical techniques to use. *Visual Thinking* involves a visual description of the business model, often with figures, drawings, and post-it notes. Illustrating business models in this way promotes co-creation, facilitates discussion, and helps in structuring different options and ideas. Another method to effectively communicate the business model is *Story Telling*, as it reduces complexity, engages the audience, and makes them more familiar with the concept. *Scenarios* can further be created to analyse how the model might function under certain conditions and whether it must be adapted according to a specific situation. Potential scenarios could include how the model operates in different customer settings or future environments. Lastly, *Prototyping* involves the creation of future potential business models, represented in for instance simple sketches, spreadsheets, or described with the BMC. In business model design, prototypes are rather a thinking tool to explore the different directions a business model can take than an actual product or service. (Osterwalder & Pigneur, 2010).

After deciding on the techniques, the process for designing the business model consists of five phases. The process is however not linear, but rather iterative, with movement across all stages and phases that run in parallel. The five stages *Mobilise*, *Understand*, *Design*, *Implement* and *Manage* are briefly described below (Osterwalder & Pigneur, 2010)

1. *Mobilise.* To prepare the business model design project. Includes activities such as establishing project objectives, communicating the need for a new business model, testing preliminary ideas, and assembling a team with appropriate skills and resources.
2. *Understand.* To analyse the market to get a deep understanding of the environment in which the business model will function. Considers research such as studying potential customers, interviewing experts and other relevant respondents, examining previous studies, and collecting ideas and opinions.
3. *Design.* To brainstorm, ideate, prototype, test, and select alternatives and options out of the collected data and insights.
4. *Implement.* To communicate the findings, involve relevant actors, and execute the business model.
5. *Manage.* To conduct new scans of the market and environment for a continuous assessment and evaluation of the business model. In every

phase, the focus should lie on rethinking perspectives, managing synergies or conflicts, and keeping the business model updated for optimal value creation.

2.1.2 **The Business Model Canvas**

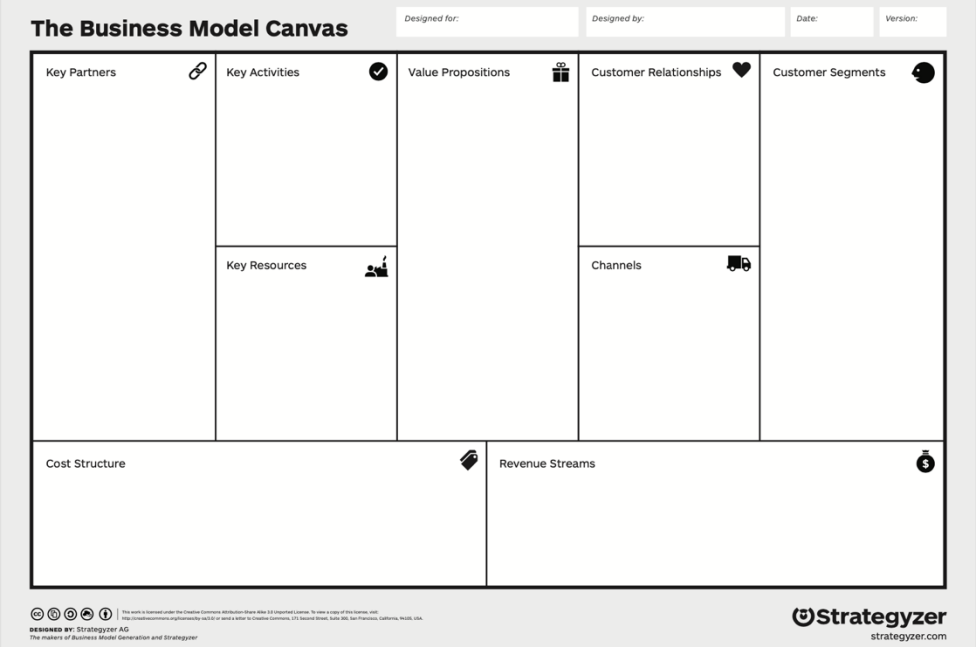


Figure 2.1 The Business Model Canvas (Strategyzer, n.d).

The Business Model Canvas (BMC), invented by Osterwalder and Pigneur in 2005 (Strategyzer, n.d.), is a framework for visually describing how a business can deliver value to its customers and how value can be generated for the organisation in return, often in terms of profit. Through the BMC, a shared language can be created for describing, illustrating, evaluating, and adjusting new as well as existing business models. The framework consists of nine building blocks categorised into four main areas of the business: its offerings, customer interface, organisational infrastructure, and financial viability. At the centre of the canvas is the *Value Proposition*, represented by the value that the products and/or services bring to targeted *Customer Segments*. Value can be delivered to customers through various *Channels* and with established *Customer Relationships*, while the creation of value is supported by the organisation's infrastructure, including *Key Resources*, *Key Activities* and *Key Partners*. Lastly, the financial viability of the business model is depicted by *Revenue Streams* and *Cost Structure* (Osterwalder & Pigneur, 2010; Osterwalder et al., 2005). The BMC is illustrated in Figure 2.1.

Customer Segments are the various groups of people or organisations that the business aims to create value for. It is the key component of the BMC as the business would not be able to operate without its customer. (Osterwalder & Pigneur, 2010) The customers can be grouped into one or several segments, which can be large or small, depending on the customers' needs, behaviours, and other attributes. Different customers could for instance require distinct offerings, channels, or relationships. By understanding customer requirements, the business model can be developed accordingly (Osterwalder & Pigneur, 2010; Barquet, Cunha, Oliveira &, Rozenfeld, 2011).

The *Value Proposition* consists of the offerings of products and/or services that create value for targeted customer segments (Osterwalder & Pigneur, 2010). As the offerings address the needs of specific customer segments, the value proposition should not merely describe the products and/or services but also explain the benefits offered to the customers, more specifically, how they aim to solve customers' problems and satisfy their needs (Ladd, 2018; Barquet et al., 2011).

Channels refer to how the business interacts with each customer segment to communicate and deliver the value proposition. The channels include all the touchpoints in the customer journey, from the stage of creating awareness about the products and services to delivery and after-sales. Thus, the performance of the channels is of great importance for the overall customer experience. (Osterwalder & Pigneur, 2010) Channels can be managed by the firm itself or through a third-party (Ladd, 2018).

The channels enable *Customer Relationships,* which describe the type of relationship the business aspires to establish and maintain with each customer segment, ranging from personal contact to distant and automated (Osterwalder & Pigneur, 2010; Ladd, 2018).

Revenue Streams represent the one-time or recurring payment generated from each customer segment to the business when delivering the value proposition. Revenue can be created from e.g., sales, usage fees, subscriptions, leasing, and licensing (Osterwalder & Pigneur, 2010; Ladd, 2018).

Key Resources are the necessary assets to create and offer the value proposition as well as maintain the other elements of the business model. Resources can refer to physical, human, intellectual or financial capital (Osterwalder & Pigneur, 2010; Ladd, 2018).

The resources support the *Key Activities,* which are the most important tasks the company must perform to create and offer the value proposition and make the business model work (Osterwalder & Pigneur, 2010). Activities consider functions and processes but might also include externally imposed constraints and incentives resulting from governmental regulation (Ladd, 2018).

Key Partners refer to the suppliers and partners that make the business model function. By establishing strategic alliances, joint ventures, and integrated buyer-supplier relationships, the business can reduce risk, achieve cost benefits, outsource certain activities, and acquire external capabilities and specific resources (Osterwalder & Pigneur, 2010; Ladd, 2018; Barquet et al., 2011).

The resources, activities, and partnerships necessary to deliver the value proposition to the targeted customer segment result in costs. The most important costs are then summarised in *Cost Structure.* Business models are often distinguished between cost-driven and value-driven depending on whether the emphasis is on cost minimisation or value creation (Osterwalder & Pigneur, 2010).

2.1.3 **The Value Proposition Canvas**

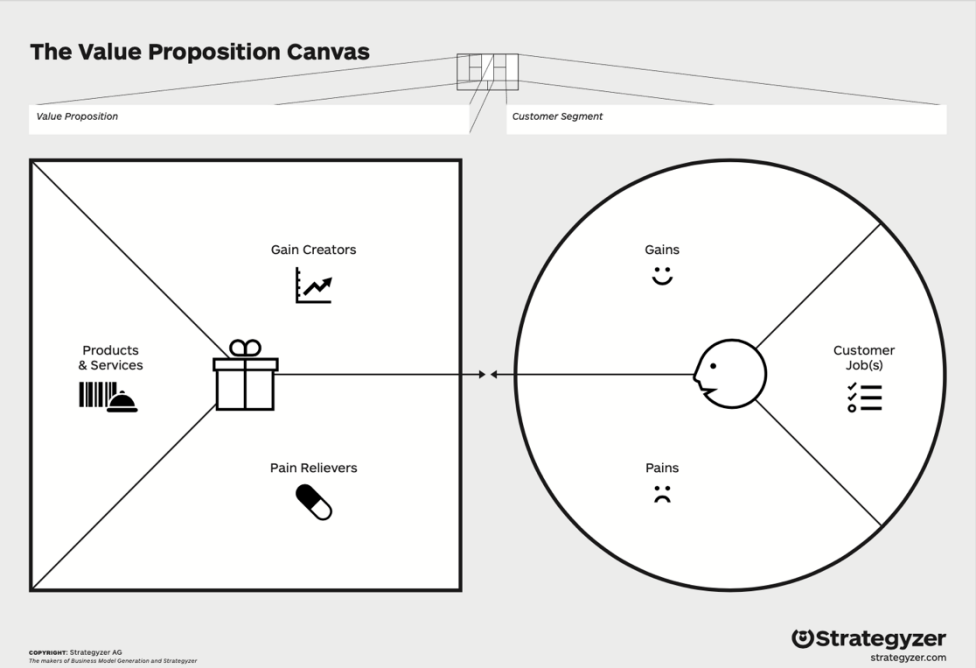


Figure 2.2 The Value Proposition Canvas (Strategyzer, n.d).

The Value Proposition Canvas (VPC) originates from the BMC and acts as a complementing customer-centred framework with a more detailed emphasis on the business model components of value propositions and customer segments. As seen in Figure 2.2, the VPC is divided into two parts, also known as the *Customer Profile* and the *Value Map*, with three components each. An optimal value can be created when the two parts are well synchronised and adjusted to every individual case. The main purpose of the VPC is to ensure that the value propositions described in the BMC are suitable for the needs of the customer segments as well as to make the

value propositions easier to understand, manage, and develop. The understanding of what is most important, and what is not important for the customer, is essential in the process of designing a successful value proposition (Osterwalder, Pigneur, Bernarda, Smith & Papadakos, 2014).

The *Customer Profile* pivots on understanding a specific customer segment and what they want by breaking down the segment into factors that can be observed: *Customer Jobs, Pains,* and *Gains* (Osterwalder et al., 2014).

Customer Jobs are the specific tasks that a customer wants to complete in their work or life, or needs they aim to satisfy. It is of high importance to investigate the jobs from the customers' point of view to avoid making any assumptions. The jobs can be categorised into functional, social, and emotional jobs. Functional jobs include specific problems the customers seek to solve, such as getting from one place to another. Social jobs relate to how the customer wants to be perceived by others. A customer might for example want to achieve status by impressing the people around them. Emotional jobs involve how specific tasks affect the customers' emotions such as feeling good, safe or achieving peace of mind (Osterwalder et al., 2014; Strategyzer, 2017).

Customer Pains are obstacles or blockers that prevent the jobs from being done or make the performance even more complex. Pains also relate to undesired outcomes, problems, and characteristics. The customers are then dissatisfied with existing solutions, for instance, due to poor performance, design, or quality. In addition, pains include potential risks that might arise when performing a job (Osterwalder et al., 2014; Strategyzer, 2017).

Customer Gains are positive outcomes that customers hope to achieve when getting the job done. Gains can be described on different levels, ranging from the most basic gains to the most desired. Required gains are the most necessary gains for the solution to function while expected gains are relatively basic, however, not necessary. Desired gains consider the outcomes that overcome customer expectations, while unexpected gains go beyond both customer expectations and desires (Osterwalder et al., 2014; Strategyzer, 2017).

The other part of the Value Proposition Canvas, the *Value Map,* offers a detailed description of how value can be created for the customer. The map consists of the following components: *Products & Service*s, *Pain Relievers,* and *Gain Creators.* The value proposition is developed around one or a few specific offers, which are stated in *Products & Services.* The products and services are then further described in *Pain Relievers* with emphasis on how the offerings can reduce or eliminate customer pains, for instance, by making their life easier. *Gain Creators* explain how the products and services can increase or maximise positive outcomes and benefits. Pain relievers and gain creators should not address every pain and gain identified, but rather focus on the most important ones (Osterwalder et al., 2014; Strategyzer, 2017).

2.2 Product-Service System

A Product-Service System (PSS) can be defined as the combination of tangible and intangible goods, in terms of products and services, that create added value for customers (Rennpferdt, Dambietz & Krause, 2021). A PSS is often described as a business model that offers different solutions to the market, which meet or even exceed customer needs by providing functionality, availability, and results to customers. (Durugbo et al., 2010; Shiratori et al., 2021). The degree of product or service content in the offering varies, as illustrated in Figure 2.3. In the category of product-oriented services, the business model focuses on the sales of products and offers few product-related services. In the use-oriented services, the product is still at the core of the business model, however, with an emphasis on providing services for leasing, renting, and pooling as the provider has full ownership of the product. The category of result-oriented services considers activities such as outsourcing and the delivery of certain outputs and does not necessarily involve any products. (Tukker, 2004)

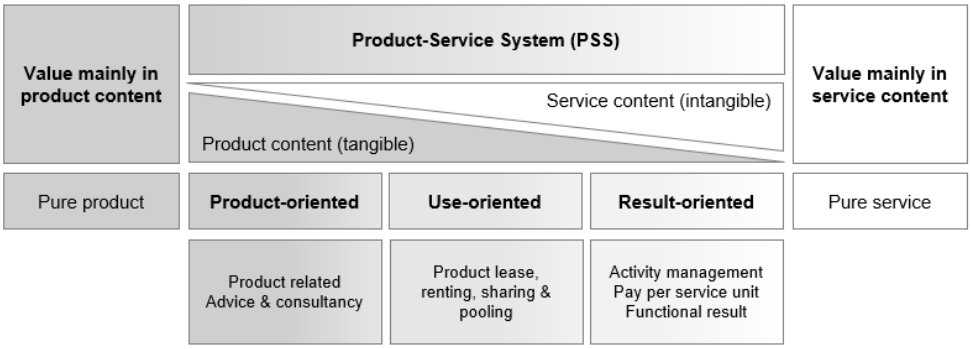


Figure 2.3 The Product-Service System (Tukker, 2004).

Products and services have traditionally been seen as two separate concepts (Durugbo et al., 2010). However, manufacturing companies have progressively moved towards a more integrated mindset by adding advanced services to their existing products. The transition towards the integrated concept of PSSs can be related to the growing importance of services and a change in the business environment. Factors such as increased globalisation and individualisation have supposedly motivated businesses to reach new market segments and search for innovative ways to satisfy the needs of existing markets. (Rennpferdt et al., 2021)

Integrating products and services into one coherent solution offers a variety of advantages in contrast to other, more traditional, business models. Firstly, PSSs provide a variety of options for customers. Secondly, additional value can be created when complementing products with services and vice versa. Added services can improve customer interaction, whereas added products can make the customer offering more tangible. Lastly, PSSs have the potential to minimise the

environmental impact of products by, for instance, extending the product life cycle and reducing waste. (Shiratori et al., 2021)

Mont (2002) further describes how PSSs can become a more sustainable option in contrast to traditional business models. Replacing the parts of customer offerings that are highly intensive in material with more dematerialised services, can reduce the material flows in production and consumption. The combination of products and services into a PSS can thus minimise the environmental impact, while still providing the customers with the same level of performance. According to Mont (2002), businesses can approach the concept of PSS by becoming more service-oriented rather than sales-oriented, for example by focusing on leasing and selling the use of the product, rather than the product itself, as well as introducing repair services. Thus, businesses can help shape society from a throw-away mindset to a mindset of repair and reuse.

2.3 Customer Journey

When developing business models with products and services, it is of high importance to understand the journey the customer experiences, from the initial phase of identifying a need for a service or product to the after-sales stages. The customer journey is a process that considers the interactions between a customer and a company, where the customer interacts with the company to achieve a certain goal. The concept of the customer journey has arisen from a growing service economy, as companies increasingly depend on providing customer-centric and high-quality services for sustained competitive advantage. The term is therefore closely related to customer behaviour and customer experience. (Benzarti, Mili & Carvalho, 2021; Halvorsrud, Kvale & Følstad, 2016). Customer experience is defined as the set of responses that the customer experiences during the customer journey. The responses can be cognitive or emotional and may occur from direct and indirect interactions with the company. Furthermore, Customer Experience Management (CEM) is the discipline for organising practices, processes, and tools to understand the overall customer experience, including the customer's desires and needs. The aim within CEM is thus to design personalised journeys and build customer relationships for an improved experience. (Benzarti et al., 2021) Providing personalised experiences has been proven to create a competitive advantage that affects revenues and brand image positively (Halvorsrud et al., 2016).

In traditional purchasing, the purchasing processes have been viewed as linear, but over time there has been a transition in how and when the customer interacts with the company, through so-called touchpoints. In today's context, the purchasing process has come to be viewed as a journey, as there are multiple touchpoints, channels, and paths for customers to choose from, which further occur in different stages of the process. Common characteristics of the customer journey are *channel*

switching, where the customer switches between online and offline channels; *feedback loops*, the iterative process where the company develops better products and services based on feedback; and *dropouts*, the sudden termination of the purchasing process initiated by the customer (Benzarti et al., 2021).

The emergence of the more complex customer journeys can be related to digitalisation and the growth of e-commerce, as e-retailers and logistics providers constantly seek innovative ways to satisfy customer demands. Furthermore, digitalisation has enabled customers to interact with e-retailers at any place or time. An example of the customer journey within e-commerce is illustrated in Figure 2.4. The figure shows the e-customer's journey, where different paths and touchpoints occur depending on the customer's needs and the options offered by the actors of e-retailer and logistics service providers. (Vakulenko, Shams, Hellström & Hjort, 2019)

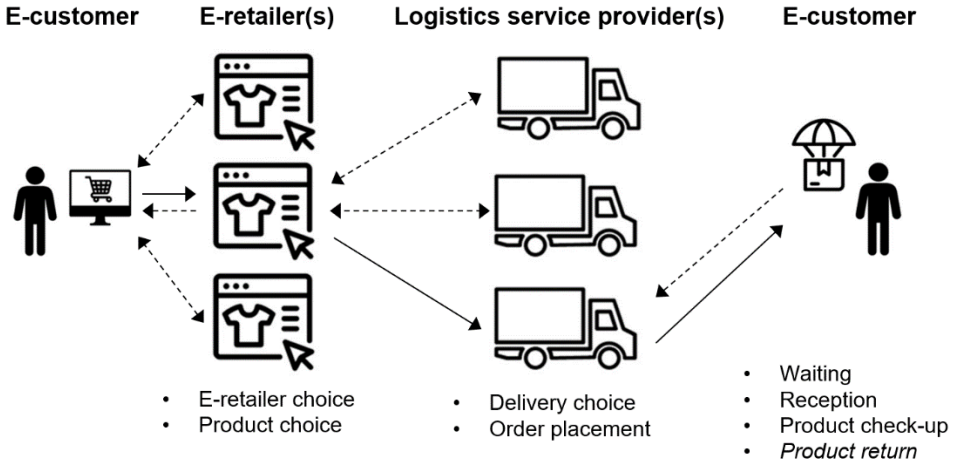


Figure 2.4 The E-customer Journey (Vakulenko et al., 2019).

Mapping the e-customer journey enables the company to optimise the customer experience by identifying touchpoints and estimating the impact of external actors (Vakulenko et al., 2019). By analysing touchpoints, the company can identify gaps and invest in the most critical touchpoints to improve the overall customer experience (Shiratori, Trevisan & Mascarenhas, 2021). In addition, the customer behaviour and choices made during the purchasing process can be better understood to create a basis for sales and marketing decisions (Benzarti et al., 2021).

3 Methodology

This chapter presents the methodology of the research, starting with a description of the systemic, holistic, and inductive research approach, followed by the research strategy for a qualitative study. The research stages and design are then described, along with key project partners and a thorough description of each method used for collecting, analysing, and validating data.

3.1 Research Approach

The research approach was characterised by maintaining a systems view. A system can be defined as the collection of an interrelated group of elements, which together become greater than the sum of its parts. Systems thinking emphasises the understanding of the system itself, with its function and elements, as well as the interconnections between the elements. (Arnold & Wade, 2015) To obtain systems thinking, one must be able to embrace the generic as well as the specific, such as being able to see both the forest and the trees (Richmond, 1994). A systems view was required to develop and validate the business model for the system of the digital service, described in Section 1.4, particularly, when applying theoretical frameworks and when gathering and analysing data. The theoretical frameworks of business models, product-service systems, and customer journeys can be viewed as different individual systems, which required a holistic approach for a full understanding of each system. A systems approach was further utilised when gathering and analysing data, to successfully summarise the different views of the respondents participating in this research.

Apart from establishing a holistic approach, the research was characterised by inductive reasoning. Induction is a common form of reasoning for scientific practices, with the main idea to find a general conclusion that is an amplified restatement of a specific theory and background through multiple empirical observations. This differs from deductive reasoning, where the conclusion is directly and logically derived from the background theory and data, without the addition of new knowledge or arguments. The focus is then to find a specific outcome from the general theory. For deductive conclusions, all initial premises shall thereby be true. For induction, however, the concluding evidence is supported when a saturated number of observations are compliant with a certain rule, and the

occurrence of new rules is decreasing. (Ketokivi & Mantere, 2010) The choice of scientific reasoning was made with consideration to the nature and purpose of the research as methods were used to collect specific empirical data to reach the desired outcome of a concluding business model.

3.2 Research Strategy

The research strategy was to perform an extensive qualitative study, where a mix of data collection methods was used to gather the views of the three key players of e-retailers, potential users of the digital service, and receiving organisations. Qualitative studies are preferred over quantitative methods when the aim is to capture a deep understanding of social phenomena (Gill, Stewart, Treasure, & Chadwick, 2008). Hence, selecting qualitative methods for data collection, rather than merely quantitative, allowed for a thorough exploration of the respondents' subjective views, thoughts, and interpretations. The choice of research strategy, therefore, enabled the processes of mapping and understanding the actors' needs and requirements on the business model for the digital service, thus aligning with the research purpose of examining the potential value the service could bring to all actors involved.

Although the emphasis was on conducting a qualitative study, a literature review was performed to gather information and gain a deep understanding of the main subjects of the research. The literature review formed the basis for the frame of reference and further supported the empirical research with theoretical models and reliable sources, hence increasing the overall research validity. In addition, the use of theoretical frameworks provided a structured approach when collecting as well as analysing data. The topics of the review were mainly related to business modelling, product-service systems, and the customer journey. Secondary data was collected from academic journals, articles, and books available at Lund University Libraries' database (LUBsearch) and Google Scholar. Examples of keywords used in the databases are shown below.

Business models; business model development; business model innovation; business model canvas; customer journey; customer experience; customer experience management; circular economy; product-service system; reuse; recycling; textile consumption Sweden.

3.3 Research Stages and Design

The research followed the first three stages of Osterwalder and Pigneur's process for developing business models, *Mobilise*, *Understand* and *Design*, described in section 2.1.1. The phases include activities such as preparing the project, understanding the environment, collecting opinions, as well as ideating and selecting the most viable options from the collected data. Performing these activities was therefore considered of high importance to achieve the research purpose of developing a business model for the digital service. (Osterwalder & Pigneur, 2010)

The process for developing the business model for the digital service, therefore, included the stages of preparation, data collection, analysis, validation, and review, as illustrated in Figure 3.1. The preparation phase included reviewing literature about business modelling, creating a standardised set of interview questions based on business model theory and selecting initial respondents. A major part of the research then consisted of collecting qualitative data using a combination of methods, more specifically, semi-structured interviews, field visits and observations as well as focus groups. Interviews were firstly held with respondents from the receiving organisations, followed by user groups, e-retailers, and other actors with valuable insights into the business model. Respondents at the receiving organisations were often interviewed in connection with field visits at their local units, whereas the potential users were interviewed in the format of focus groups.

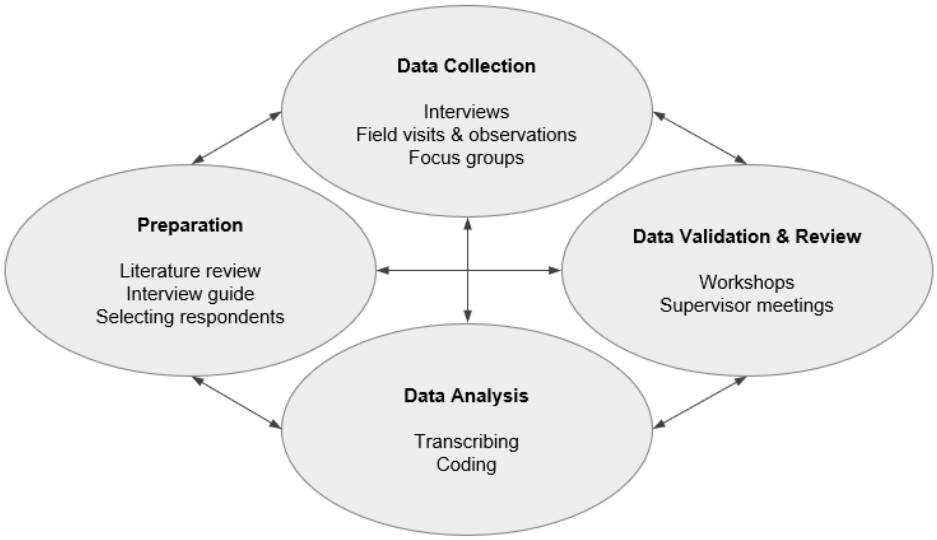


Figure 3.1 Research Stages and Design.

The collection of data was followed by data analysis, where the material was transcribed and coded. Preliminary results were then presented at workshops where respondents as well as members of the university had the opportunity to review the

material. Continuous feedback and suggestions on the entire process were further provided from meetings with the supervisor. As illustrated by the figure, the research process was designed to be more iterative and dynamic, rather than linear, which is further visualised by the double-pointed arrows. For instance, if complementary data was needed, there was flexibility in scheduling additional interviews or field visits. The initial selection of respondents was moreover not fixed but could be expanded throughout the process. In addition, the researchers continually adapted the structure and content of the interviews based on the type of respondent and method of data collection.

3.4 Key Project Partners

The project consisted of collaborative work with selected key partners of e-retailers and receiving organisations, presented in short below. The partners were chosen to capture the insights of key actors in the clothing e-commerce and non-profit organisation market in Sweden. Collaborating with key partners can help in obtaining an interactive research design. An interactive research approach has the benefit of bridging the gap between theory and practice through improved cooperation and enhanced iterative work among participants. Hence, the participants can obtain a full understanding of the research context, which is rarely achieved in traditional empirical research methods of one-time interviews. (Sandberg, Oghazi, Chirumalla & Patel, 2022)

Apart from involving key partners, the project was conducted in conjunction with a research project of the Research Institutes of Sweden (RISE). By including RISE representatives in interviews and field visits, additional questions and insights could be provided which allowed for maximum exchange of information.

3.4.1 **E-retailers**

Nelly Group, founded in 2004, is a Swedish fashion e-retailer with a focus on providing clothing for younger women. As of today, the company generates approximately 2,6 million purchases per year to customers in Sweden and the Nordics, with a turnover of 1.4 billion SEK. (Nelly Group, n.d)

RevolutionRace is a Swedish e-retailer, launched in 2014, to provide customers with mainly outdoor clothing. Today, RevolutionRace generates 1 billion SEK in turnover and is present in more than 30 countries. (RevolutionRace, n.d.a; RevolutionRace, n.d.b).

3.4.2 **Receiving Organisations**

Svenska Röda Korset is a non-profit association that was founded in 1865. Röda Korset is associated with the International Red Cross movement, and with approximately 26 000 voluntary workers, it is the largest non-profit humanitarian voluntary organisation in Sweden (Svenska Röda Korset, n.d.a). The organisation maintains 250 second-hand retail stores across Sweden, with a combination of full-time employees and voluntary workers. The products are donated by both private and public actors and the surplus goes to charity (Svenska Röda Korset, n.d.b).

Erikshjälpen is a foundation for children's rights that was founded in Sweden in 1967. Today, they own approximately 60 second-hand retail stores and a digital platform for selling clothes and products that are donated by private and public actors. The surplus is invested in assistance and projects related to children's rights and health (Erikshjälpen, n.d.a; Erikshjälpen, n.d.b.).

Myrorna started as a charity organisation in 1896 and was later merged into Frälsningsarmén, which is a Christian church. Today, although they're a part of Frälsningsarmén, Myrorna is an individual business organisation that sells second-hand clothes for charitable purposes, in any of their 30+ stores and online. The surplus is invested in supporting social projects for vulnerable people and families in Sweden (Myrorna, n.d.a; Myrorna n.d.b).

3.5 Interviews

In qualitative research, there are three main types of interviews: structured, semi-structured and unstructured interviews. A structured interview often consists of predetermined questions in a standardised order, with minimal variation and no room for follow-up questions. Hence, the interviewee is limited to respond within the context of the questions without the opportunity to further elaborate on their answers. Although no in-depth responses can be acquired from this type of interview, the process of the interview is often very quick and easy to administer. The unstructured interview has the opposite characteristics of being time-consuming and difficult to manage since there are no predetermined questions. Instead, the interview is often introduced with an open question where the interviewee can elaborate freely on their answers and where the following questions depend on the responses. A semi-structured interview can be placed in between these two as it allows for the participants to discuss ideas and responses in detail, however, within the context of a set of predetermined key questions. (Gill et al., 2008)

For this research project, a semi-structured approach was used when conducting the interviews, to capture the desired outcome in line with the purpose. An interview guide defined the scope of the interview and provided key questions related to the

business model for the digital service, see Appendix A. Although a standardised template was used, the interviewee had the opportunity to freely elaborate on their responses and explore new ideas. The main objective was to establish an innovative workshop environment, with no right or wrong answers, and where the respondent could express their thoughts and perceptions of the business model based on their personal and professional experiences. Furthermore, the interview guide was slightly adjusted depending on whether the questions were directed towards respondents from e-retailers, receiving organisations or user groups. In addition, follow-up questions varied depending on the situation and responses from the interviewee.

The interview guide consisted of questions related to the BMC and the VPC, see Figures 2.1 and 2.2. The emphasis was on the latter model and its components Customer Jobs, Customer Pains, and Customer Gains. During each interview session, the theoretical models were briefly explained to set equal conditions for the respondents to answer the questions as well as to give them a better understanding of the interview format. In certain cases, when the respondents needed more information regarding business models, they were able to watch a short video illustrating the nine components of the BMC.

The respondents from the partnering e-retailers, receiving organisations and other relevant actors are provided in Table 3.1. The respondents were strategically selected based on industry knowledge and past as well as current work experience. By choosing respondents with different backgrounds and professions, each interview provided additional insight into the business model, creating richness in the data collection. In connection to the interviews, respondents were able to suggest future potential interviewees at their organisations, who would contribute with further perspectives on the business model. Respondents were therefore added along the process until saturation had been achieved in the collected data, more specifically, when additional interviews did not provide any further insights or details to the already gathered data, which aligns with the approach for inductive reasoning.

All interviews were conducted in Swedish and lasted for approximately 60 to 90 minutes. Moreover, the interviews were recorded, transcribed, and coded for further analysis. Various approaches were used when conducting the interviews, from physical meetings to hybrid and digital meetings. When held in person, the interviews were scheduled in conjunction with field visits at the respondent's location. The number of interviewees at the sessions varied, as seen in Table 3.1, but was generally kept to one interviewee to fully explore the respondent's thoughts.

Table 3.1 Overview of Interview Respondents.

Respondent	*Organisation*	*Title*	*Actor*
Stefan Svensson	Nelly.com	Chief Operating Officer	E-retailer
Stephanie Andersson	RevolutionRace	Product Developer	E-retailer
Jan Kantola, Linda Modigh & Carl-Johan Malm	RevolutionRace	Head of Logistics, Inbound Supply & Demand Manager, Fulfilment Manager	E-retailer
Anders Urhed	ProFlow AB	Principal Advisor	Logistics
Martina Bozic	Röda Korset Second Hand	Business Developer	Receiver
Li Fredén	Erikshjälpen Second Hand	Team Leader	Receiver
Charlotte Lidman	Myrorna Second Hand	E-commerce Manager	Receiver

3.6 Field Visits and Observations

Field visits were conducted at the receiving organisations to observe their processes, activities, and logistics flows in detail. By creating a detailed picture of the supply chain and possible issues related to the flow of clothing, the observations provided deep insight into the potential needs and requirements of the digital service. The data obtained were complementary to the information received from the interviews and formed the basis for the empirical descriptions and findings. The field visits were performed in total, at second-hand units in Gothenburg, Helsingborg, and Stockholm, where each location represented one of the organisations. The geographical variety provided balance in the collected data and captured potential variation within the country. The number of units visited was moreover restricted to make the process of collecting and analysing data feasible and within the scope of the project.

Each field visit included participants of one to three employees from the receiving organisation, with varying professions, responsibilities, and experiences, see Table 3.2. At the beginning of each visit, the observers and participants were presented to each other with a brief description of the research project and the organisation. The purpose of the observation was then explained, and an overall agenda was suggested to set clear expectations for the visit. The introduction was followed by a guided tour around the premises. The employees guided the observers through the flows of

clothing: from the processes of collection, via sortation, pricing, and marketing, to the sales of clothes. To achieve a better understanding of the flows and processes, the observers were able to ask questions which were not predetermined but rather depended on the situation and sights on the tour.

Table 3.2 Overview of Respondents in the Field Visits and Observations.

Respondent	*Organisation*	*Location*	*Title*	*Actor*
Maria Maruszewski	Röda Korset Second Hand	Olskroken, Gothenburg	Store Manager	Receiver
Alva	Röda Korset Second Hand	Olskroken, Gothenburg	Part-time Employee	Receiver
Li Fredén	Erikshjälpen Second Hand	Helsingborg	Team Leader	Receiver
Totto Renstig	Erikshjälpen Second Hand	Helsingborg	Store Manager	Receiver
Henrik	Myrorna Second Hand	Ropsten, Stockholm	Responsible for E-commerce	Receiver

The observations were conducted in Swedish and lasted for approximately one hour. Recordings were made and photographs were taken to connect the insights provided in the material with the physical layout of various departments. The material was later transcribed and coded for further analysis.

3.7 Focus Groups

To capture the perspectives of the potential users of the service and not a full population, focus groups were the selected method of data collection. According to Gill et al. (2008), a focus group is an organised group discussion with a specific topic, which is moderated and recorded for research purposes. The method aims to gather the collective views and spontaneous thoughts of the participants to generate an understanding of their experiences, needs and beliefs. Before conducting focus groups, researchers must consider group composition and size. The level of information shared in advance with the participants often differs as well as how familiar the members are with each other. The critical success factor, however, lies in group interaction. How the group mix and dynamics might influence the session should therefore be well considered beforehand to ensure optimal interaction. According to Gill et al. (2008), focus groups function successfully with participants ranging from three to fourteen people, where six to eight participants are recommended to prevent the discussion from being too limited or chaotic.

For this research project, five focus groups were held, with three participants per group and where each group was monitored by two moderators. The group size was set to three, lower than the recommended numbers mentioned above, to ensure that everyone had the opportunity to fully express their thoughts. Three participants were still considered sufficient to capture a rich description of the user's perception of the digital service. When composing the groups, consideration was taken to include early adopters and people active within e-commerce and social media, as these individuals would most likely resemble the potential users of the digital service. According to a study by EPA (2020) on textile consumption in Sweden, people who purchase clothes online are mainly from the younger population, often women, and those who are interested in clothing and fashion. The study further shows that the largest consumers of clothing are individuals in the age group of 17 to 29 years who purchase an average of 2.6 garments per month, in comparison to the total average rate of 1.8 garments per month. Based on the findings from the study, the participants of the focus groups were between the ages of 23 and 27, with the majority being women, and where everyone expressed an interest in clothing e-commerce. To obtain balance in the results, some groups were of mixed genders whereas others consisted of only females respectively males. The number of participants and group constellations were determined in consensus with the supervisor. Table 3.3 provides a list of the focus groups, where one group of three participants is viewed as one respondent.

Table 3.3 Overview of Respondents in the Focus Groups.

Respondent	***Participants***	***Ages***	***Actor***
Focus Group 1	2 Females 1 Male	24-25	Users
Focus Group 2	2 Females 1 Male	23-24	Users
Focus Group 3	3 Males	24-27	Users
Focus Group 4	3 Females	23-24	Users
Focus Group 5	3 Females	23-24	Users

Before each discussion was initiated, the potential service was briefly explained. The format of the focus groups then followed the structure of the interview guide, which was slightly adjusted to match the user's perspective. All discussions were performed in Swedish and lasted for approximately two hours. The discussions were then recorded, transcribed, and coded for further analysis.

3.8 Workshops

Collaborative and interactive workshops were held together with respondents from different organisations to present preliminary findings, validate results and increase the overall quality of the collected data. The sessions lasted for approximately one to two hours and enabled an exchange of thoughts and ideas related to the business model for the digital service, with suggestions coming from all participants. In a digital workshop with the organisations, respondents had the opportunity to review and revise the summarised results from the transcribed material to ensure accuracy in the gathered information and confirm potential quotations. The respondents who participated in the workshop are presented in Table 3.4 below.

Table 3.4 Overview of Respondents in the Workshop.

Respondent	***Organisation***	***Title***	***Actor***
Stefan Svensson	Nelly.com	Chief Operating Officer	E-retailer
Anders Urhed	ProFlow AB	Principal Advisor	Logistics
Peter Hietala	Easycom	CEO & Co-founder	Logistics
Erik Sandberg	Linköping University	Professor in Logistics	Academia, Logistics
Klas Hjort	Lund University	Senior Lecturer at Packaging Logistics	Academia, Logistics
Anna Björkman	CLOSER, ASTER	Project Manager	Non-profit organisation
Martina Bozic	Röda Korset Second Hand	Business Developer	Receiver
Mats Johnsson	Erikshjälpen	Chairman	Receiver
Charlotte Lidman	Myrorna Second Hand	E-commerce Manager	Receiver
Emma Enebog	RISE	Researcher in Environment and Sustainable Chemistry	Research Institute

Preliminary findings were also presented in a physical workshop with three students from the Computer Science and Engineering programme at Lund University, who had the task of developing a prototype for the digital service, in terms of the proposed user interface. The workshop was aimed at presenting preliminary results of the user groups to the students, who in turn shared their initial idea and design of the digital service.

3.9 Data Analysis

Every interview session was recorded and transcribed, for further coding and analysis. The transcriptions were produced manually by transforming the obtained recordings into written text, where irrelevant information was excluded from the final transcriptions. At the end of the process, the transcribed material reached a total of 328 pages, which demonstrates a rich amount of data. The qualitative data in the transcriptions were categorised and sorted according to the components of the frameworks of BMC and VPC. Furthermore, qualitative data were coded to capture the most essential information within each business model component. Coding was mainly performed in first and second-level coding. In the first chapter of Hahn's (2008) handbook for qualitative research, the author describes first-level coding as initial or open coding where the aim is to significantly reduce large quantities of information into a more manageable and focused set of data. By narrowing down data, researchers can more easily find the answers to their research questions. In second-level coding, also defined as focused coding or category development, material from the previous level is further refined and sorted. (Hahn, 2008)

After completing the transcriptions, the material was evaluated and summarised to represent the perspectives of e-retailers, users, and receiving organisations in one final business model, presented component-wise in Chapter 5. The evaluation process included quoting respondents to mediate their subjective experiences and observations as well as highlighting specific topics, similarities, and patterns in the collected data through coding. When choosing which respondents to quote, the aim was to represent respondents equally to achieve balance in the results. The quotations along with first and second-order coding are provided in the tables of Chapter 5.

3.10 Research Ethics

According to Mohd Arifin (2018), ethical considerations have strong importance when preparing and performing qualitative studies. The concern is especially apparent when interviews or other face-to-face interactions and data collection are conducted with a vulnerable group of participants. In these cases, the responsibility of the ethical process lies with the researchers, to confirm proper consent of voluntary participation, anonymity, and confidentiality of the participants. Furthermore, transparency, objectivity and clear and honest communication of the motives are important in every aspect of the process. (Mohd Arifin, 2018)

For the nature of this research, the data collection process was planned and organised to ensure the voluntary involvement of all participating actors, and to protect the integrity of each group studied. This included receiving mutual consent

from participants regarding the level of confidentiality and anonymity throughout the recruitment and dissemination process, obtaining approval for recordings and quotations, as well as following up on the respondents' participation. To avoid bias and ensure the viability of the ethical and formal progress, weekly meetings were held with the supervisor at the university, where the written contents of the report were continuously reviewed.

3.11 Research Validity

According to Yin (2009), researchers can evaluate the quality of their empirical research through four different and widely used tests, as displayed in Table 3.5. Although the tests are commonly used for case studies, they can be applied to any empirical social research.

Table 3.5 Case Study Tactics (Yin, 2009).

Test	*Description*	*Case Study Tactic*	*Research phase*
Construct Validity	Identifying correct operational measures	Use multiple sources of evidence	Data collection
		Establish a chain of evidence	Composition
		Have key informants review the report draft	
Internal Validity	Establishing a causal relationship as distinguished from spurious relationships	Do pattern matching	Data analysis
		Do explanation building	
		Address rival explanations	
		Use logic models	
External Validity	Defining the domain to which findings can be generalised	Use theory in single case studies	Research design
		Use replication logic in multiple case studies	
Reliability	Demonstrating that operations can be repeated with the same results	Use case study protocol	Data collection
		Develop a case study database	

All four tests have been applied during the process of this project by utilising the recommended tactics. First, *Construct Validity* was achieved by involving multiple respondents in data collection and gathering the perceptions of more than 30 individuals of different backgrounds and professions. The findings were then documented in the result tables of Chapter 5, which functioned as the chain of evidence by visualising the connection between data collection and data analysis. Lastly, respondents were able to validate preliminary results in the interactive workshops and review the research draft upon request. The report was further

validated and reviewed by the supervisor. Thus, all recommended tactics stated in Table 3.5 were applied to obtain construct validity.

Second, *Internal Validity* was obtained by identifying patterns and relationships when analysing the collected data and relating it to each component of the business model frameworks. For instance, a perceived problem in the logistics flows of multiple receiving organisations could be associated with a Customer Pain for that segment. Multiple research tactics were used to support internal validity, such as recording interviews, transcribing files, coding the material, and visualising the reasoning in result tables, which made it possible to derive any conclusions or statements made to the original raw data.

Third, *External Validity* was enabled through the chosen research approach of systemic thinking and inductive reasoning, which emphasises maintaining a holistic view and drawing general conclusions from many specific observations. During the project, data was gathered from multiple respondents to be aggregated through the processes of coding and finding common denominators, trends, and patterns in the qualitative data. The aggregated data was then summarised in the theoretical frameworks of the business model and value proposition canvas. As theory was used to generalise findings, external validity was fulfilled according to Table 3.5.

Lastly, *Reliability* was achieved by documenting each stage of the data collection through sound recordings, transcriptions, pictures, and notes, and saving the files in an internal database.

4 Empirical Descriptions & Findings

This chapter provides the empirical descriptions and findings based on the main components of the Value Proposition Canvas, to support and create an understanding of the rationale of the validated business model in the following chapter. Initially, key involved customers are presented followed by mappings of each customer's Customer Profile and Value Map. The Customer Profile aims at achieving an understanding of the customer's needs and desires by exploring their Jobs, Gains, and Pains, while the Value Map describes the offerings of Products and Services that get the jobs done, create the gains and relieve the pains.

4.1 Key Involved Customers

The customer segments identified include e-retailers, users, i.e., the customer of e-retailers and forwarders of clothes, and lastly, receiving organisations. The circular flow between these is illustrated in Figure 4.1, where filled lines visualise direct flows of clothing and dotted lines represent information flows.

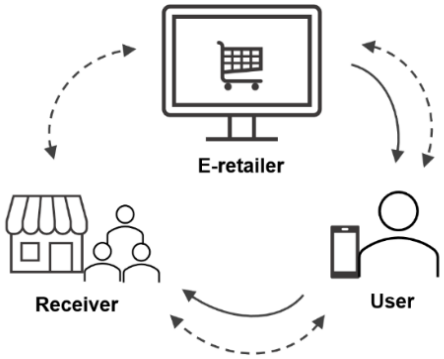


Figure 4.1 Circular Flow Between Key Customers.

4.2 E-retailer Profile and Value Map

The Customer Profile and Value Map for the e-retailer is displayed in Figure 4.2.

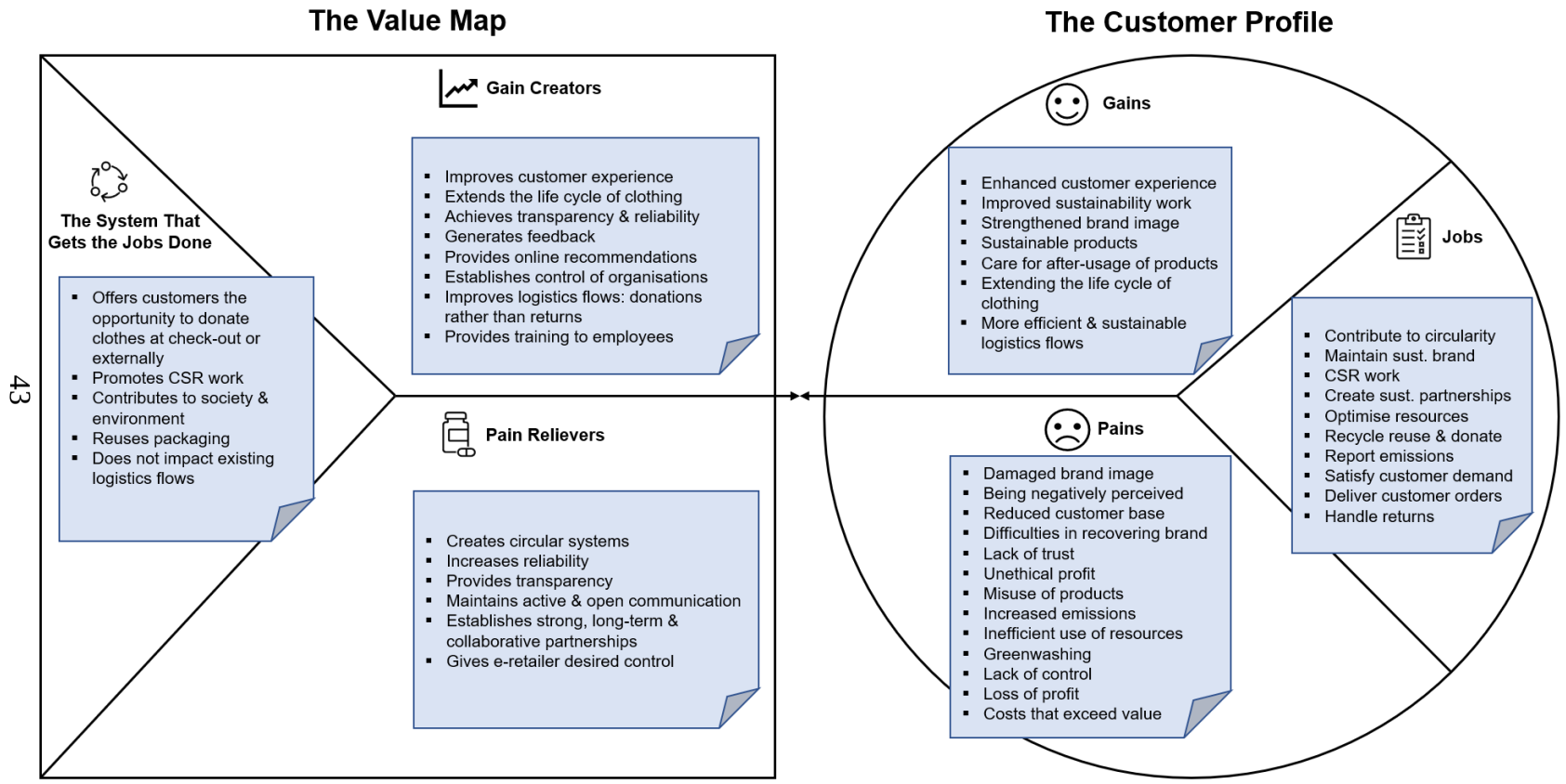


Figure 4.2 E-retailer Profile and Value Map.

4.2.1 **Customer Jobs – E-retailer**

The tasks that the e-retailers wish to complete can be categorised into functional, social, and emotional jobs. The functional jobs include *satisfying customer demand* by *delivering customer orders* and *handling returns.* Maintaining high performance in these functional tasks can enhance the overall customer experience of the customer journey, from the stages of pre-purchase to after-sales. The participating e-retailers of the project, Nelly and RevolutionRace, currently manage outgoing and incoming flows of clothing by partnering with large transport and delivery actors in Sweden, such as Postnord, DHL, Bring, Budbee, and Instabox (Nelly, n.d.a.; RevolutionRace, n.d.c). However, the e-retailers' policies and processes for shipping and return differ slightly. When returning products at Nelly.com, a return shipping label is provided in the package. The shipping is then paid by the customer if the product is completely returned, and free of charge if the product is exchanged for another size or model (Nelly, n.d.b.). RevolutionRace, on the other hand, provides free returns for all orders, under the condition that the customer uses a prepaid shipping label, which is sent in the original package (RevolutionRace, n.d.c.).

During the interviews, the respondents of the e-retailers expressed a high perceived value in the social jobs of working for *corporate social responsibility* (CSR) and maintaining a *sustainable brand image*. Reports published by the e-retailers further align with the respondents' views. According to Nelly Group's sustainability report of 2021, the corporate sustainability responsibility and strategy have developed during the reporting period, with an updated identification and mapping of the most important issues. The updated analysis addresses global sustainability areas and goals, with an emphasis on climate work, and includes materiality issues such as carbon dioxide emissions, packaging, returns, transport, and waste reductions. Representants from the corporate management, customers and other stakeholders participated in the analysis. Measures to handle the issues are, for example, to *report emissions* in three areas: production, storage handling, and transport. To prevent unnecessary packaging, strategic measures to reduce returns and packaging material are in progress. Furthermore, Nelly strives to *recycle*, *reuse*, and *donate* unsold products in a developing initiative called "Zero Waste". A general work towards establishing a *more circular* business model is also under development, to meet the needs and requirements of customers, the industry and legislation. In their work toward becoming more sustainable, several *partnerships with sustainability actors* have been initiated (Nelly Group, 2021).

According to RevolutionRace's sustainability report for 2020/2021, the company performs active sustainability work that involves social, economic, and environmental sustainability, which is incorporated into their business model. Becoming *more circular* is an ongoing project that the company strives to improve and develop. In the report, the company states that no products were discarded during the period 2020/21, and the overproduction rate was kept at one per cent,

which aligns with their promises of never sending products for combustion and keeping the overproduction rate under three per cent. The report further mentions that the company strives to *optimise return handling* by making every returned product re-sellable and maintaining a general process for preventing returns through active feedback loops from customers. A sustainability survey, or so-called interested party analysis, which the company sends out to customers, partners, stakeholders, and media, has for example resulted in the *optimisation of packaging material and transport* during the period (RVRC Holding AB, 2021).

Regarding the emotional job, the respondents from the interviews and workshops stated that employees generally feel good in their daily lives by working at a company with sustainable core values to indirectly *contribute to circularity* within fashion e-commerce.

4.2.2 **Customer Gains – E-retailer**

The gains, or positive outcomes that the e-retailers hope to achieve when getting their jobs done, include an *enhanced customer experience* resulting in happier customers who are more likely to stay with the company and generate future earnings. Customer retention can be supported by, for example, maintaining high performance in the activities of delivering customer orders and managing returns, or in the work for increased circularity.

Many respondents, therefore, explained the positive outcomes of *improved sustainability work* and *strengthened brand image*, resulting from maintaining sustainable flows of clothing. As of today, Nelly keeps an active dialogue with transporters to increase the number of fossil-free transports and improve their overall sustainability work (Nelly Group, 2021). Moreover, one respondent from RevolutionRace mentioned the need to offer their customers *sustainable products*, which can be reused and recycled, to show customers as well as other actors within the industry that they *care for the after-use of products* and actively work for *extending the life cycle of clothing*. Providing customers with sustainable products aligns with the e-retailer's current CSR work and makes the customers associate the brand with sustainability. Furthermore, the respondents mentioned that partnering with external actors for increased circularity implies further gains, particularly if the partnerships result in *more efficient and sustainable logistics flows*.

4.2.3 **Customer Pains – E-retailer**

As mentioned in the jobs and pains, e-retailers find it important to deliver high performance in the entire customer journey and maintain a sustainable brand image. The main pains have therefore been identified as the risks related to *damaging the brand image* and being *negatively perceived by customers*. Factors such as badwill,

i.e. the opposite of goodwill, inefficiencies in transport and material usage, and misuse of products can have a significantly negative effect on the company's brand image and sustainability profile. In addition, the customers might lose trust in the company, creating further frustrations in terms of a *reduced customer base*, *loss of profit* and *difficulties in recovering the brand name*.

Furthermore, the respondents from the e-retailers described risks that might occur when performing goodwill activities or when initiating collaborations with external actors. The risks mentioned consider ethical issues, for example, if the initiatives are subject to *unethical profit*, *misuse of products* or similar that would create a *lack of trust* among customers, and environmental issues, including *increased emissions* from *inefficient transport* and *unnecessary use of packaging material*. Highlighted by several respondents, and related to the environmental issues, is the risk of *greenwashing*, that might occur if the e-retailers appear to be utilising CSR practices or establishing sustainable partnerships with the sole intention to market their sustainability work, rather than actively working for improved circularity by integrating sustainability issues into their core values. Another frustration that might arise when involving external actors in business functions considers the *lack of control*. One respondent from the e-retailer highlighted that the company might become the secondary actor, with a minor role, in a transaction between multiple actors with dominating interests and strong wills. Additional factors creating feelings of dissatisfaction among the respondents of the e-retailers include costs of time, money, and energy. The respondents explained that *if costs exceed the perceived value* in internal business processes or external collaborations, the activity will most probably not be continued.

4.2.4 **System of Products and Services – E-retailer**

Based on the analysis of the e-retailers' customer profile, the digital service can offer them an integrated set of products and services, i.e. a product-service system (PSS), which can fulfil their jobs, support their gains, and relieve their pains. The functional jobs performed by the service consider tasks related to improving the customer journey, as the e-retailers can *offer customers the opportunity to donate clothes* after having purchased clothes from their websites. In addition, the customer can *reuse the packaging* provided by the e-retailer, further increasing the sustainability of the flow of goods. Moreover, integrating with the system of the digital service *does not impact the existing logistics flows* of the e-retailer as the movement of goods, from the user to the receiver, occurs in the post-purchase stages of the customer journey. The service can be *integrated at check-out* at the e-retailer's website, to reach a larger customer base, or offered in an *external app or website* connected to the purchase at the e-retailer, to minimise the complexity of integrating with their current digital platform.

Furthermore, the social job performed by the service includes the *promotion of CSR work* through positive actions towards circularity and sustainability as a commercial clothing brand. The *contribution to society*, from a humanitarian as well as environmental perspective, is further an emotional job that the service gets done, by creating good feelings internally among the employees and making them proud of working at the e-retailer.

4.2.5 **Gain Creators – E-retailer**

To help the e-retailers achieve the gains of improved sustainability work and strengthened brand image, gain creators include achieving *transparency* and *reliability* by *controlling partnering organisations* across the chain and *providing e-retailers with feedback* on the performance of the service. Feedback can include statistics on the e-retailer's sustainability impact from partnering with the service and the number of customers who are also users of the service. Respondents also mentioned *providing online recommendations and ratings* connected to the service to further show increased transparency toward customers. If the customers feel that the service is transparent and reliable, it can create positive spillover effects on the partnering e-retailers, further supporting their brand image as sustainable e-retailers.

Furthermore, the service helps obtain the gain of managing efficient and sustainable flows by *extending the life cycle of clothes*. Respondents from RevolutionRace explained that the digital service has the potential to be especially appreciated by their target group, and potentially *improve the customer experience*, as they highly value sustainability and circularity in products. Improving the customer experience can further make the customers remain with the company for a longer time. Another gain creator is that the service does not imply additional strain on the existing logistics flows of e-retailers. E-retailer respondents explained that the service could even imply *improved logistics flows* by making customers *donate rather than returning* their clothes, thus minimising the workload in return handling, especially if the returned garments would have been discarded or recycled regardless due to their poor condition. Another gain creator to help e-retailers achieve efficiency in their flows is by *providing training to employees* before the implementation of the service. The respondents from the e-retailers explained that educating their employees, particularly within customer service, would make them well prepared for answering potential questions from customers regarding donations.

4.2.6 **Pain Relievers – E-retailer**

The service can help e-retailers eliminate their concerns regarding the risk of damaging the brand image or being negatively perceived by customers, by providing *transparency* and maintaining *active and open communication*. The service can

offer e-retailers reliable and verified information about users, partners, and other actors of the system, and in that way build trust. A well-functioning communication between the e-retailers and the digital service, in terms of feedback and information, also results in *increased reliability* and gives the partnering e-retailer the *desired control*, which further helps in *strengthening the relationship.*

The environmental issues of inefficient material usage can be addressed as the service provides the e-retailers with *a circular system* where their packaging, and potentially also their products, can be reused. Furthermore, the e-retailers' perceived stress regarding the risk of greenwashing can be relieved as the digital service aims at establishing *long-term and collaborative partnerships* with actors who actively strive to work for increased circularity within the industry, which reduces the risk of the service becoming a strategy tool for e-retailers to market their sustainability work.

4.3 User Profile and Value Map

The Customer Profile and Value Map for the users are described in detail in the subsequent sections and displayed in Figure 4.3 below.

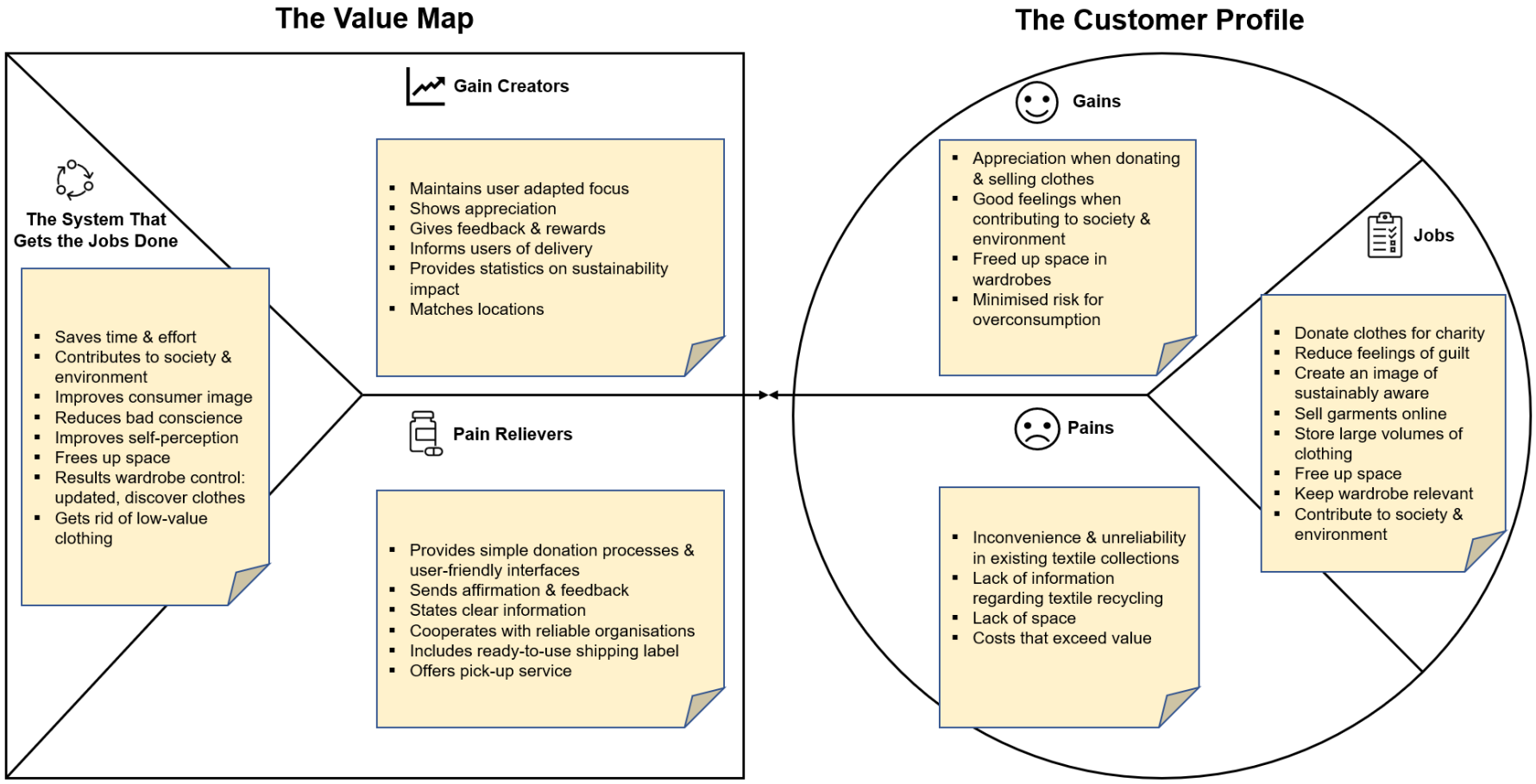


Figure 4.3 User Profile and Value Map.

4.3.1 **Customer Jobs – User**

To understand the users' perceived jobs-to-be-done, the workshops with the focus groups were initiated with a mapping of their consumption behaviour, as well as their preferences and previous experiences regarding the after-usage stages of clothing. Their general frequency and habits when buying clothes from e-retailers were similar among the focus groups. Multiple respondents mentioned that they often purchase clothes from the lower-cost segment, and choose quantity over quality, due to their restricted student budget. Purchasing large volumes of clothing online has further made them used to the processes of returning clothes and frequently visiting the post office:

> *As soon as there is a 50 per cent sale, I order. I almost exclusively shop during sales. Maybe it is because of my student budget. (Focus Group 1)*

> *I cannot think of one time when I have not returned at least one item from an order. (Focus Group 1)*

According to the respondents from the focus groups, the described consumption behaviour has resulted in many consumers *storing large volumes of clothes,* old clothes as well as new ones, in their homes and connected storage spaces. Hence, the users emphasised the need to *get rid of clothes to free up space* in their wardrobes and *keep the wardrobe relevant*:

> *I have a lot of clothes in the back of my wardrobe that I do not use, it would have been nice to get rid of them and keep the wardrobe relevant. (Focus Group 3)*

> *I currently put away clothes in the attic, but I would like to get started with donating and recycling. (Focus Group 4)*

Apart from storing large volumes of clothing, many respondents explained that they take care of their garments in various ways, from discarding clothes to *selling garments online* and *donating to charity*. Most of the respondents were generally positive about donating clothes. Some expressed a desire to *get started with donations* instead of keeping clothes unused in their homes, and many mentioned that they regularly donate clothes to flea markets, charity organisations or similar. Several respondents specified that they prefer to sell garments of higher value on digital marketplaces for second-hand while donating or even discarding garments of lower second-hand value:

> *Twice a year, I usually collect all my old clothes, put them in a bag and leave them in a clothing collection container. (Focus Group 5)*

> *I have tried Blocket a few times […] but in those cases, the clothes have had a higher value. (Focus Group 3)*

I sell things in Facebook groups if there is a possibility to get some money for the effort, but in other cases, I donate or throw away the clothes. (Focus Group 5)

To summarise, the respondents of the focus groups expressed an unsustainable consumption behaviour which has resulted in a high turnover and storage of clothing. Therefore, consumers highly value the functional task of clearing out their wardrobes, in various ways, to obtain more space in their homes and keep track of their wardrobe. Although the users manage the after-usage of clothing in multiple ways, the respondents highlighted donating clothes for charity as the most important factor in making them feel better. The respondents explained the emotional jobs of donating clothes in terms of *contributing to both society and the environment* to *reduce feelings of guilt* and bad conscience regarding their unsustainable consumption behaviour. Contributing to extending the life cycles of clothing and increasing the overall reuse rates create good emotions. Moreover, donating clothes can make individuals feel important and valuable, in doing small gestures that can have a positive impact on the much larger context of the fashion industry and its related sustainability issues.

Lastly, the social jobs of the users regard the desire to be viewed as *sustainably aware* consumers. As explained by the focus group respondents, there is currently a trend among the younger population to purchase clothes second-hand, creating the potential for a donation trend, where people donate clothes to contribute to society and the environment, improve their images as sustainable consumers, and influence other consumers to do the same.

4.3.2 **Customer Gains – User**

Positive outcomes that the users hope to achieve when performing the functional task of getting rid of their clothes can be categorised into gains centred around the individual and gains related more to society. The self-centred gains include the benefits of *freeing up space* in wardrobes and homes and receiving *personal appreciation* such as monetary compensation when selling clothes online. The respondents highlighted the importance of receiving feedback when donating clothes for charity, in terms of receiving confirmations on deliveries or messages showing gratitude for their donations. These types of personal appreciation are especially important when there is no monetary compensation involved. Furthermore, the emotional value related to the donation can be strengthened, as the consumers can be sure that their clothes are taken care of in the best way possible.

The gains related to society, which are less self-centred, consider the *good feelings* that arise among users when donating clothes and contributing to reduced overconsumption of clothing. Several focus group respondents highlighted that clearing out the wardrobe before making donations might also *minimise the risk of overconsumption*. By clearing out the wardrobe, the consumers are perhaps more

likely to know what garments they already have at home which might prevent them from purchasing new clothes which they do not need.

4.3.3 **Customer Pains – User**

The respondents from the focus groups agreed that the factors of time, effort, space, and money are the most critical factors regarding the management of the after-usage of clothing. Most respondents described current solutions for textile collection as *inconvenient* for the consumer as existing containers are often overfilled, which the consumers often do not realise until they have already taken their time and effort in going there. Many respondents also highlighted *unreliability* in current collection systems in terms of donations not being reused in the best way possible or not arriving at the desired destination. Therefore, the respondents described a wish for more efficient and transparent systems. Some respondents stated that the perceived *inconvenience* and *unreliability of existing textile collections*, in combination with a general *lack of information regarding textile recycling*, make consumers discard their clothes instead:

> *I throw away worn-out clothes. I should recycle them, but I do not know how to do that in the right way, and therefore I throw them away instead. (Focus Group 1)*

Other respondents explained that selling garments online also implies costs in terms of time and energy put into preparing the clothes, creating an account on the platform, and posting an advertisement. The costs were often considered too high in contrast to the reward, making some users dispose of the clothes instead of sending them for recycling or reuse:

> *I do not think it is worth the trouble of selling, especially when the second-hand value is low. (Focus Group 2)*

> *To be honest, I throw away the clothes because I think the reward is too low and the cost of selling is too high. (Focus Group 3)*

Considering the costs, in terms of time, money, and effort, in going to the recycling station or selling clothes online, increases the probability of consumers storing large volumes of clothes at home. Hence, the consumers often end up with an overflowing wardrobe and a *lack of space* in their homes, which were frequently described as frustrations among the respondents. In general, the respondents viewed it as problematic if the *total costs exceed the experienced value*, or if the value is not properly communicated. However, among the costs of time, money and effort, most focus group respondents highlighted the money aspect as the major headache, especially for students with a restricted budget. In addition, the respondents generally had a negative attitude towards bearing the shipping costs in connection to online purchases and sales of second-hand clothing.

4.3.4 **System of Products and Services – User**

The digital service offers consumers a PSS which performs the jobs to be done, creates gains, and relieves pains. As the customers of the e-retailers receive newly purchased clothes in regular package deliveries, they become users of the service by placing their garments in the same packaging and sending the package to a pre-determined receiving organisation. The service addresses the consumers' current lacking knowledge regarding the after-usage of clothing, by offering a simple system with *several partnering receiving organisations* for users to choose from. The functional jobs that get done include the *opportunity to free up space* in wardrobes and homes, which enables users to obtain *better control of their wardrobe*, *keeping the wardrobe updated* and potentially making them *discover unused garments*. In addition, users *save time and effort* in sending the package from home, or at the post office, rather than travelling to a textile recycling site, further aligning with the identified consumer behaviour of individuals being more used to going to the post office than visiting waste disposal sites. Furthermore, the digital service specifically makes it easier for consumers who want to *get rid of low-value clothing*, as these garments are oftentimes more difficult to sell online.

The social jobs are done through *improved consumer image* by making users appear more sustainably aware. In addition, features within the service can be developed to help establish relationships and social networks among users. Hence, the service also has the potential to create a donation trend, where people encourage each other, making more people willing to donate, more frequently.

The emotional jobs that get done include the consumers' *contribution* to the environment and others in need as well as their *reduced bad conscience* and generally *improved self-perception* as aware consumers.

4.3.5 **Gain Creators – User**

As previously mentioned, there is strong emotional value connected to the donation of clothes. Respondents described the emotional value as so powerful that individuals could potentially do more work than needed, in terms of preparing and sending the donations, with the knowledge that their garments are taken care of in the best way possible. Most respondents, however, mentioned that time and energy savings are the most important gains to be addressed. To help support and create these gains, the service must be developed with *user adapted features*. A user adapted focus implies that the features of the service are adjusted after user preferences, considering the choice of receiving organisation, selected method for package delivery, ways of communicating, and notification settings. Respondents mentioned the need for including a variety of options, while another respondent highlighted the importance of including pre-determined choices for the users who would rather not choose by themselves.

Furthermore, the service must provide users with *feedback and rewards on donations* for enhanced emotional value. Feedback can include *information on the delivery process*, personal *appreciation messages* as well as *statistics on the sustainability impact* of the donation. Appreciation can also be shown by giving users coupons or similar offers in connection to the donation. Providing user feedback, particularly in the latter stages of the customer journey, is essential in strengthening the emotional value and retaining users.

Moreover, many respondents suggested the feature of *matching locations* of the users and receiving organisations to minimise transport distances. The feature is a gain creator as it supports the emotional value of feeling good when using the service. Hence, users can know that their donations do not further impact the environment negatively by requiring longer transport distances compared to other alternatives for donating textiles, such as travelling to the recycling station.

4.3.6 **Pain Relievers – User**

The service relieves the stated troubles among users, related to the inconvenience and complexity in current processes for managing the after-usage of clothing, by offering *simple processes* and *user-friendly interfaces*, which in combination creates the optimal conditions for consumers to adopt the service. First, the process of organising the original package and sending it away consists of as few steps as possible, by for example providing a printed, self-adhesive, and *ready-to-use shipping label* in the package, addressed to a pre-determined receiving organisation, which eliminates the need for printing and pasting the label on the package. Second, the service offers multiple methods for delivering the package, where most respondents suggested *offering pick-up service* for minimised effort among users. Actions like these make the process less complicated, save time and effort, and assist in relieving the stated user pains. Lastly, the user interface of the service is to be simple, intuitive, and informative. *Providing clear information* avoids the occurrence of user mistakes such as mixing up return labels and attaching the wrong one to the package.

To address the pains of low reliability and trust in current collection systems, there are ethical requirements on the digital service to ensure that the system cooperates with *reliable and loyal receiving organisations* such that donations arrive at the desired destination. Providing users with *affirmation and feedback* on donations, including delivery confirmations, appreciative messages, and statistics on environmental impact, are positive service functions that help relieve the pains related to reliability.

4.4 Receiver Profile and Value Map

The subsequent sections present the Customer Profile and Value Map for the receivers where the findings have been summarised in Figure 4.4 below.

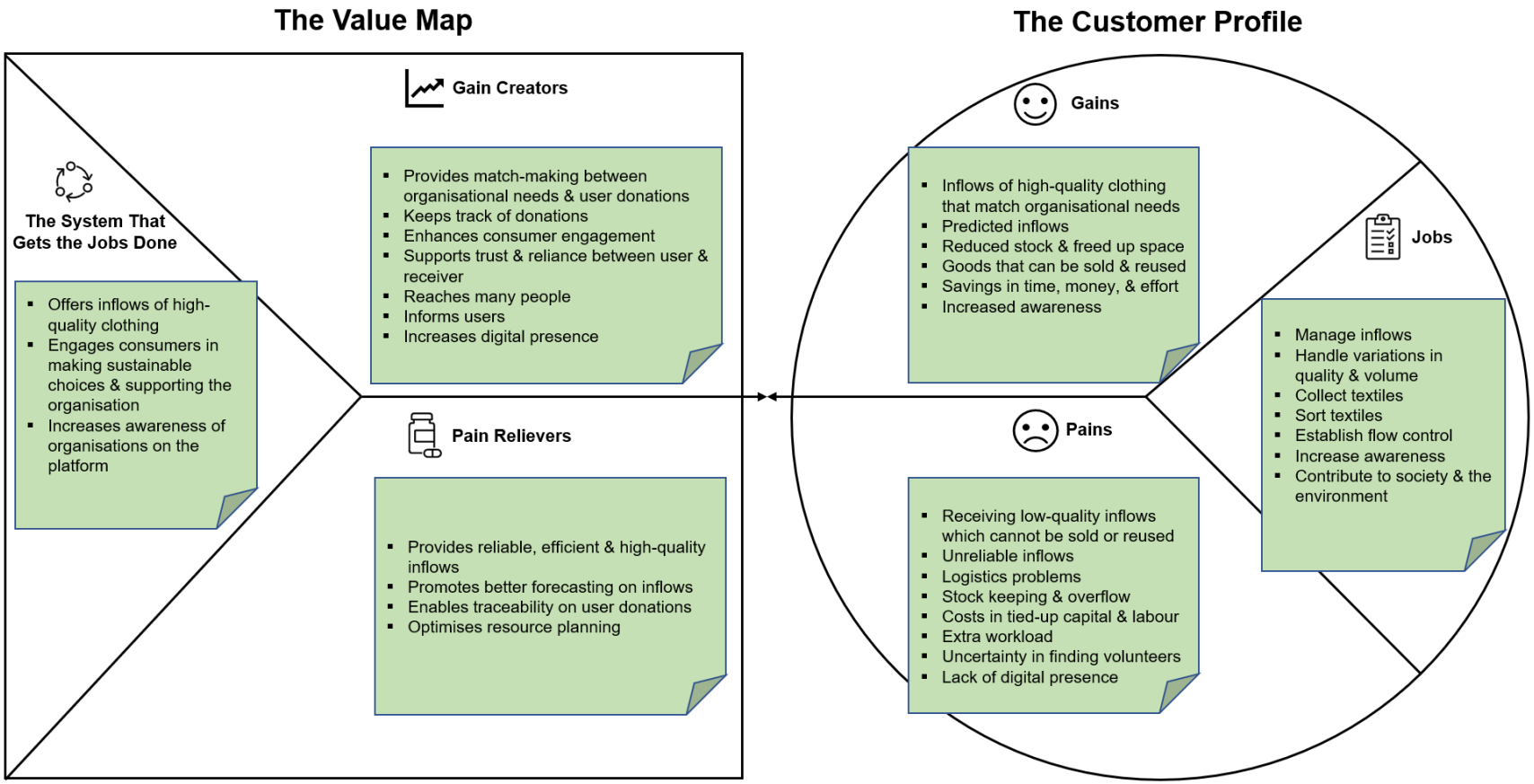


Figure 4.4 Receiver Profile and Value Map.

4.4.1 **Customer Jobs – Receiver**

The most important aspect among the receiving organisations is the functional job of *maintaining the inflows of clothing*. As observed during the field visits at the second-hand stores of the participating organisations, each organisation has their unique strategy for collecting and sorting textiles. Regarding *the collection of textiles*, all organisations accept private donations in-store. However, Erikshjälpen and Myrorna also provide containers outside the store and at public sorting facilities and waste disposal sites. Apart from donations from private households, textiles are also sent, or picked up, directly from e-retailers and stores with excess stock. In general, the organisations receive a lot of donations, and most of the stores have experienced an increase during the last years. Out of the total volumes of donations, clothing constitutes the largest share. According to Röda Korset and Myrorna, more than half of the donations correspond to clothing.

Considering *the sorting of textiles*, the processes differ depending on whether the organisation utilises external sorting facilities or internal activities, or both. Myrorna utilises two external sorting facilities, one for goods and one for textiles, whereas Erikshjälpen performs all sorting and preparation in-house by having their employees examine each garment and separate the clothes that cannot be sold. Sortation at Röda Korset, on the other hand, is performed both internally and externally. After the donations arrive in-store, the employees of Röda Korset classify the goods roughly by dividing them into "soft" and "hard" articles. All soft donations are then sent to their external partnering facility Wargön Innovation for further sorting. Everything sent to Röda Korset's sorting facility is later returned to the same store where the donations were made, unlike at Myrorna where goods are distributed from the sorting facility to various stores in Sweden. Respondents from Röda Korset further explained that displaying donations in the same store helps in establishing a strong connection with the individuals making the donations.

Due to the different collection and sorting strategies, the organisations currently *manage differing quality on the inflow of clothing*. As Röda Korset only accepts donations over the counter, they manage to ensure high quality of the received goods, in contrast to donations from textile containers. Röda Korset states that approximately 40 per cent of the clothes received are possible to sell in the store, compared to the equivalent number at Erikshjälpen of around 21 to 22 per cent, where textile containers are used. In addition, the organisations with external sortation experience higher quality on donations as the goods go through the external facilities first. Utilising resources of external sorting facilities further helps *in handling seasonal variations* and *establishing control* in the flows of goods. Röda Korset and Myrorna thus both expressed a relatively even inflow throughout the year, whereas Erikshjälpen stated that seasonal variations occur frequently, which the employees must be prepared to manage, for instance through well-planned stock keeping and efficient use of labour resources.

When it comes to the social aspects, the organisations expressed a desire to *increase awareness about organisational purpose and core values*. The organisations are currently working to spread awareness and market their organisation by being present on social media and privately owned as well as external sites for advertising and selling goods online.

Like the e-retailers, the employees of the receiving organisations experience an emotional job in their daily working lives by working at an organisation that directly *contributes to society and the environment*.

4.4.2 **Customer Gains – Receiver**

The most important gains for the receivers include *efficient inflows of pre-sorted high-quality clothing* and *increased organisational awareness*. The receiving organisations, especially Erikshjälpen where most activities are performed internally and manually, would appreciate more efficient inflows in terms of receiving neat and clean clothes of high quality, and preferably pre-sorted, to minimise the workload of the employees. Furthermore, the clothes should preferably *match organisational needs* and seasonal variations to *predict inflows*, *reduce stock* and *free up space* in storage areas. Receiving high-quality products that match current needs *saves costs in time, money, and effort*, and increases the likelihood of the *goods being sold and further reused*, which is further beneficial for the financial viability of the organisation and for the organisation's purpose of contributing to society and the environment.

The respondents of the receiving organisations were also positive about working for *increased organisational awareness* among consumers, for instance, by being present in relevant and digital marketing channels. As observed during the field visits, the receiving organisations have varying levels of digitalisation in their current operations. While Myrorna has developed a system for selling donations online, by partnering with an external e-commerce business, the interviewed employees of Röda Korset mentioned the preference for manual solutions over digital when, for example, producing work schedules. Despite the varying degrees of digitalisation, all organisations described a need for becoming more digital in sense of increasing their presence on social media or expanding their online marketplaces. Utilising digital channels for communication would help the organisation reach a larger customer base, inform people about their organisation, and encourage recycling and reuse to, in the end, fulfil the societal and environmental purposes of the organisation.

4.4.3 **Customer Pains – Receiver**

The respondents from the receiving organisations highlighted headaches mainly related to *unreliability* and *low quality* of the goods received. Sudden variations in inflows, such as receiving large and unpredicted volumes of clothing in a short period, might be subject to further issues in terms of *storage overflow*, *stock keeping* and *increased workload* and stress among employees, resulting in *high costs in tied-up capital and labour resources*. Due to the general uncertainty regarding inflows, the organisations might have to acquire extra storage space in advance or hire additional personnel to be able to manage potential and future variations in inflow. Hence, an issue might also relate to the *uncertainty in finding voluntary workers* on short notice, to meet the temporarily higher and unforeseen workload. Furthermore, most of the participating organisations currently experience *logistics problems* in overflowing goods and lack of space caused by an increasing volume of donations. As the work at the organisations, related to collecting, sorting, and preparing clothes, is mostly performed manually by volunteers and employees, unreliable inflows only put more pressure on the already strained operations of the organisations.

Other frustrations regard the risk of receiving *low-quality inflows*, more specifically, if the goods are below standard, too varied, or if a large share is unsellable. At Erikshjälpen, where all sorting is managed internally, approximately 21 to 22 per cent of the clothes received are possible to sell in-store, while between 5 and 15 per cent goes directly to recycling. Erikshjälpen's employees are therefore responsible for managing the goods that cannot be sold, by sending them to external parties for further recycling, reuse, or disposal, causing additional *workload* and temporarily *stock keeping*.

4.4.4 **System of Products and Services – Receiver**

Through the PSS of the digital service, the participating receiving organisations *acquire an additional inflow of high-quality clothes* to their business and ensure that the clothes are reused in the best way possible. The service performs the functional jobs by offering the organisations a greater inflow of high-quality clothes as the service aims to match current organisational needs with user donations and inform users to only donate clothes which can be further reused. Furthermore, the receivers' social tasks of increased awareness can be done by providing users with *information on the organisations* on the digital platform. Their social jobs are further done as the service *engages consumers in the sustainable choices* of donating, reusing, and extending the life cycle of clothes, which potentially influences more consumers to purchase second-hand garments from the receiving organisations. Lastly, the service fulfils the emotional job of *supporting the organisational purpose of standing up for societal and environmental problems*, through the provision of resources of reusable and marketable garments.

4.4.5 **Gain Creators – Receiver**

As stated previously, the main gains among the receiving organisations relate to increased awareness and improved inflow quality. Partnering with the digital service helps in creating these gains as the organisations can *reach many people through new channels*. The organisations can *inform users* about their core values, purposes, and objectives on the digital platform itself or through related channels of the service. To reach a larger consumer base, the organisations can also utilise the channels of partnering e-retailers and other actors involved in the system. The service system can therefore support the receiving organisations in *increasing their digital presence* on social media.

Moreover, to support the gain of improved quality on inflows, the digital service can be developed with a *match-making system* to suffice timeliness and variable needs, where user donations are matched with organisational needs such that the organisations receive the correct garments at the right time and season. Focus group respondents suggested including a map or list in the service interface where users can view the garments of highest priority and see which organisations desire these the most. Furthermore, the respondents recommended the feature of making users register the type of clothing and quantity donated to *keep track of user donations* and facilitate the forecasting of inflows into the receiving organisations. Having users register donations further *enhances engagement among users* as they become more aware and involved in the organisation's core business, needs and requirements. Engagement also helps in *supporting trust and reliance* between users and receivers.

4.4.6 **Pain Relievers – Receiver**

Implementing a match-making feature within the service system, by giving users the incitement to register donations and choose receivers with matching needs, increases the possibility to *monitor inflows* at the receiving organisations. Requiring users to register their donations promotes *better forecasting* and, hence, reduces the previously stated troubles regarding unreliable inflows. Furthermore, user registration of donations *enables traceability* back to the user and gives incitement for users to send garments of higher quality, thus addressing the pains related to low-quality inflows. Through the *reliable and high-quality inflows* created by the service, the receiving organisations can obtain *more efficient flows* of clothing and *optimise resource planning*. Frustrations regarding stock keeping and workload can therefore be minimised as the service helps in reducing costs and risks related to unforeseen overload in work.

5 Results – Validated Business Model

Supported by the empirical descriptions and findings, this chapter presents the collected data in the nine components of the Business Model Canvas, where the first two sections of Customer Segments and Value Propositions describe the contents of the Customer Profile and Value Map from the previous chapter. The validation is based on the needs and demands and how they are met. The results are supported by tables containing key insights from the collected qualitative data.

5.1 Customer Segments

The customer segments are the actors that the product-service system (PSS) for the digital service creates value for, as the PSS extends and transforms the e-commerce customer journey by connecting several actors that can gain value. The customer segments, presented in Table 5.1 below, consist of three key actors that are specifically important for the PSS:

- *E-retailers and Brand Owners* – Businesses within the fashion industry that produce and sell clothing. According to research by Handelsfakta (2021), 31 per cent of clothes and shoes sold in Sweden during the year 2021 were sold through e-retail platforms. This is a 17 per cent growth compared to 2020, with a forecast of continuous growth. This poses a high potential customer segment for the PSS. Furthermore, the increasing e-commerce industry is partially a result of an ongoing digitalisation trend in Sweden, according to Handelsfakta (2021). Respondents expressed both e-retailers and brand owners as relevant potential customer segments due to the incitement of *Producer Responsibility*, which is a state-established policy instrument for reaching the Swedish environmental goals related to the waste hierarchy. The policy follows the principle "the polluter pays" and an extension of this implicates that the producers should bear the costs of creating awareness and for measures in waste handling of their products. (Naturvårdsverket, n.d).
- *Users of the Service* – Individuals that are customers of e-commerce, regularly order clothes from e-retailers and get the opportunity to pass on their clothes to receivers. The user segment can be divided into three target groups. Most of the respondents highlighted that the user target group is

young people, mainly women, between the ages of 15 and 35, that live in an urban area and have an interest in clothes and online shopping. This is supported by Handelsfakta (2021), showing that e-commerce is more common in cities and areas with good conditions for e-commerce and deliveries. Other respondents mentioned parents with young children as a target group, as they have high clothing consumption by frequently purchasing clothes as their children grow older. However, the service is not restricted to individuals, but could also include businesses or e-retailers experiencing an overflow of textiles through excess stocks.

- *Receiving organisations* – Charity organisations with second-hand stores, i.e. actors who receive and sell donated clothes to make a surplus for charity purposes and humanitarian aid. Today, the organisations receive large volumes of clothing, where Myrorna collects about 30 tons of clothes and furniture every day from donations (Myrorna, n.d.c), and Röda Korset receives about 3000 tons of textiles per year (Röda Korset, 2021). The organisations will act as the last touchpoint in the PSS. The organisations constitute potential customers as they gain value from receiving additional volumes of high-quality clothing, which helps them in receiving clothes that can be sold and further reused, but also creates additional value for their customers buying the forwarded clothes.

The network of customers within the service system should include many e-retailers, with large market shares, to reach a larger set of users and to involve actors within the fashion industry causing the greatest environmental impact. The choice of receivers, on the other hand, should include trusted, recognised, and controlled organisations to ensure transparency in the flow of clothing. This might restrict the number of receiving organisations involved, as more resources might be required to control each organisation's internal activities and flows.

Table 5.1 Customer Segments.

Insights	First-order coding	Second-order coding	Business model component
”As a company, we could exploit this in our mission towards becoming more circular and contribute to the fashion industry in whole becoming more circular.” (E-retailer) “It would create value for us as a brand to become more sustainable.” (E-retailer)	Brand image and CSR	E-retailers and brand owners	Customer Segments
”Textile producers have the responsibility to make sure that their products are used responsibly and for a longer period.” (Group 3)	Producer responsibility		
”This is a project that all of us can endorse, so my opinion is that all e-retailers should take responsibility and engage. I don’t see a reason to exclude anyone in that field.” (E-retailer)	Many large e-retailers		
”Primarily large enterprises offering a great variety of clothing, for example, Boozt, Zalando, and Nelly.” (Group 4) ”As of today, our customers are entirely digital, thus I believe that the service target group would be broad and it would be natural for our customers to use the service. […] I imagine people in their 30’s and younger to be the main appreciators of the service.” (E-retailer) “Our target group is 15 to 25 years old, and the customer segment is 15 to 35 years old. […] A large share of those younger people might like to participate in this movement.” (E-retailer)	Young and digital users	Individuals/users	
”The elder has more belongings, but the young people are more prepared for the service.” (Logistics) ”Younger people […] I think urban city people would have liked this more.” (E-retailer)	People living in the city		
“Targets people interested in fashion as what they pass on might be desirable for others.” (Receiver)	Interested in fashion		
”Households where there is a high turnover of clothes: young people that are very fashion interested, […], families with small children.” (Group 2) ”Families with small children as their consumption of clothes is very high.” (Group 1)	Parents of young children		
”Other users could potentially be businesses or shops […] with temporary production or overstock, or in the movie and theatre sector.” (Group 2)	Other businesses		
“It can be some kind of marketing for us to inform about our purpose and goals.” (Receiver)	Marketing organisation	Receiving organisations	
“It can be a way for us to receive products which are quite okay, and not just goods that are worth 5 SEK or less, or not more than leaving the textile for recycling.” (Receiver)			
”You save time and resources if the product arrives at the right place from the beginning […] if it’s neat and clean and marketable directly (Receiver)	High quality flows		
”They must be very controlled if we are talking about charity organisations, and that makes it problematic per definition to have too many connected to a service like this.” (E-retailer)	Few organisations		

5.2 Value Propositions

The value propositions describe the value the PSS for the digital service creates for its customers, including the problems it solves, and the customer needs it satisfies. The main value propositions are presented below with a short description of how they bring value to the different customer segments. The value propositions are supported by selected respondent insights in Table 5.2.

5.2.1 **Offering a digitalised donation experience**

- A digital service system for textile collection
- Enables efficient and convenient donations
- Makes digital donations the new standard

A digital donation experience is especially valuable for users who seek a stress-free donation system which can save them time and energy in contrast to traditional collection systems. Furthermore, they experience value in the freed-up space the system offers, in terms of efficiently getting rid of clothing and reusing the package provided by the e-retailer. The users also value the offered convenience in the system service, including the ability to view organisational needs, choose a receiver, use a prepared shipping label, track donations, and receive feedback. Based on the service features offered, the receiving organisations highly value the high quality and timeliness of the goods received.

5.2.2 **Extending the customer journey**

- Enhances the customer experience
- Engages consumers in the reuse of clothing
- Strengthens relationships between key actors

The service system extends the journey of the e-commerce customers as they are offered the opportunity to forward their clothes to charity organisations or others in need of garments. Offering customers the service system enhances the overall customer experience, especially for customers who want to reduce their bad conscience regarding their unsustainable consumption behaviour. Furthermore, the perception and brand image of the e-retailer improves as customers associate the company with sustainability. Hence, e-retailers can experience value in strengthened relationships with customers. The relationship can also improve between consumers and receiving organisations as the system offers receivers the valuable aspects of increased organisational awareness and presence on digital

platforms, which can further extend their customer group and support in their contribution to bringing humanitarian aid.

5.2.3 **Extending the life cycle of clothing**

Partnering with the service system for sustainable e-commerce is highly valued among e-retailers, as they can extend the life cycle of their produced clothes and contribute to longer life cycles of products in general, which further improves their brand image and aligns with their current sustainability work. The service also enables users to extend the functional lifetime of their garments, through user donations, but can also influence users in becoming more sustainably conscious by reusing garments they already have in their wardrobes. In general, the service system promotes second-hand markets and the reuse of clothing, which is highly valued among the receiving organisations as they can achieve consumer awareness and at the same time scale up their efficiency in inflow handling by communicating their needs that result in better inflow prognoses and planning conditions.

- Enables sustainable clothing e-commerce
- Promotes second-hand and reuse
- Prevents unnecessary textile waste
- Optimises resource utilisation
- Scale-up efficiency for receivers

5.2.4 **Moving fashion e-commerce towards circularity**

- Brings circularity to everyone
- Bridges the circularity gap within fashion e-commerce
- Connects people in the journey towards circularity
- Makes clothes stay in the loop

The system connects the key actors and drives change by creating value in the good feelings that arise as the actors contribute to the greater good, directly by offering donations or indirectly by integrating with the service. Users, especially, can experience feelings of “saving the world” in terms of reducing the climate impact and moving the industry towards circularity, by doing the relatively small actions of donating clothes.

Table 5.2 Value Propositions.

Insights	First-order coding	Second-order coding	Business model component
"This will be the new norm. We can be part of a project that creates the new collection method. It implies major added value as it's a great opportunity to avoid going to these tiresome containers for textile collection and that we can actually have a digital process for it." (E-retailer)	The new norm A new and digital donation processes	Offering a digitalised donation experience	Value Propositions
"I think this service could be very appreciated by our customers since they are very aware and conscious of the sustainability challenges that the world is facing." (E-retailer)	Connecting key actors	Extending customer journey	
"This is one way of approaching the non-profit sector via conventional e-commerce." (Receiver)			
"We get a value chain that creates an opportunity for our products to live longer, not exclusively at the first-time user." (E-retailer)	Longer life cycles	Extending the life cycle of clothing	
"It should feel good for the consumer, create a value for the planet earth and maybe also strengthen the e-retailer's brand image." (Logistics)	Contribute to sustainability	Moving fashion e-commerce towards circularity	
"We get the opportunity to receive an assortment […] could generate significantly more resources to our organisational purposes." (Receiver)	Efficient use of resources		
"I think this could be a service for the world, for the user and for our society." (E-retailer)			
"The small deed for the many people to make to save the world." (Receiver)	Save the world		

5.3 Customer Relationships

Customer relationships highlight the type of relationship each customer segment expects from the business of the digital service. Creating strong and long-term relationships with each customer segment is critical for the PSS to sustain its performance, enable co-creation and move the industry towards circularity. The supporting data for the customer relationships is provided in Table 5.3.

The relationship with the users must be aimed at establishing a community, where users experience feelings of solidarity and trust, to extend the customer journey in terms of engaging users and retaining the user base. As suggested by respondents, the service can establish membership clubs to *create a user context* where users feel that their contribution is important and that they are part of a greater movement. Further efforts to extend the customer journey include offering feedback on user donations as well as rewards and coupons. The respondents expressed trust as an important aspect of the relationship. To *create user trust*, the focus groups highlighted the importance of only communicating necessary information on the digital platform and excluding any notifications that could be perceived as spam. In addition, trust can be created by being transparent and informing users about transactional aspects such as sharing user data and information.

Regarding the relationships with the receiving organisations, the service should maintain a *close, collaborative, and long-term relationship* to enable co-creation. Co-creation with receivers refers to the gathering of valuable input in service system design and adjusting offerings based on their needs and requirements. Managing such a relationship with receivers helps in continuously and collaboratively improving business operations and achieving long-term sustainability goals.

For the e-retailers, the relationship varies depending on desired control and the number of partnering organisations. Channel control, i.e. the ability to impact the choice of business partners along the chain, is easier to obtain through *close collaboration*. However, *distant relationships* can be more suitable if the service maintains a large network of partnering organisations, as these relationships are less resource-intensive to manage.

Aside from the relationships with each actor, the respondents suggested that the digital service should generally act as an intermediator between the three actors by managing any potential communication between them.

Table 5.3 Customer Relationships.

Insights	First-order coding	Second-order coding	Business model component
”You don’t want to get too much or too few notifications, only the important or necessary ones. […] The service should be easy and convenient, somewhat like a fly on the wall. It should just work when you need it to work, or else it’s just annoying for the user.” (Group 3) ”It should not be perceived as spam, but notifications like “this donation has made a difference here” are nice.” (Group 2)	Important messages	Create user trust	Customer Relationships – Users
”I don’t have a problem with getting notifications when I’ve done something, but the worst thing I know is when I get reminders that say, ‘Don’t you want to donate something today?’” (Focus Group 5)	No reminders		
”It feels like our [the users] interaction should be with the app only, and then the app handles every other relationship.” (Group 1)	User focus		
”You want to engage the users by making them feel like members of a community, customer club or similar. […] The relationship should give the user a social context.” (E-retailer)	Membership	Create user context	
”I don’t think the relationship needs to be that close in the system flow itself.” (E-retailer) ”A more distanced relationship”. (E-retailer)	Less contact		Customer Relationships – E-retailers
“We work closely, and we like to have control over our own channels. Even if we might not have owned this channel, we would have liked to keep a close collaboration. […] we would also prefer to make an active choice to which organisations the users can donate their clothes.” (E-retailer)	Channel control	Distant or close relationship	Customer Relationships – Receivers
“The more actors involved in the service, the less contact will be kept with each, since it is hard to have too much contact with too many actors. […] Initially, it might be a good idea to keep a closer communication to be able to have an active feedback loop regarding what works, what doesn’t work and how it can be improved.” (Receiver)	Initially close contact	Close, collaborative, and long-term relationship	
“Everyone strives towards the same goals, everyone contributes and collaborates, and it grows into a long-term relationship.” (Receiver)	Long-term		

5.4 Channels

The channel components in the business model framework represent how to find, win, make, keep, and grow happy and satisfied customers. To reach the full potential of the market for the PSS and target all relevant customer segments, however with an emphasis on the user, multiple channels have been addressed. The three most important channels to communicate the service offer are described below and supported with quotations in Table 5.4.

- *E-retailers' channels* – Many respondents highlighted the use of partnering actors' marketing channels and integrating with their websites to reach out to the already existing customer base of the e-retailers, for more efficient and beneficial market penetration. The use of e-retailers' channels is mainly targeted at marketing the brand and concept of the digital service to the e-retailer customers to potentially influence them in becoming users and forwarders of clothes. The service could also make use of the packaging provided by the e-retailer by, for example, displaying the brand or instructions on how to further forward clothes.
- *Social media* – As respondents have expressed, it is important to use the channels in which the customers are already active and where they want to be reached. The most important channel according to all e-retail respondents and focus groups is social media. Here, it is important to select platforms which are up to date and adapted to each customer segment to reach as many as possible.
- *Receiver's communities* – Exploiting the receivers' current communities as a channel has the potential in communicating the service offerings to customers who do not regularly visit e-commerce websites or social media platforms.

Table 5.4 Channels.

Insights	First-order coding	Second-order coding	Business model component
”Social media. We could also have it on our website. […] from our point of view, it would be most beneficial if we used our current channels.” (E-retailer)	E-retailers’ channels and websites	E-retailers’ channels	Channels
”Our channels. […] It is all about finding the relevant channels. The trending platforms right now are TikTok and Instagram. This is also where our customers are active.” (E-retailer)			
”A good way to reach out is the same way the packaging does.” (Group 3)	E-retailer’s packaging		
”Choose the channels where people are familiar with purchasing and interacting. […] most likely to get the customers ‘on the hook’.” (Receiver)	Relevant and modern social media platforms	Social media	
“Social media is the strongest channel, and obviously also the involved e-retailers’ and organisations’ channels.” (Logistics)			
“I believe that an integration could increase the usage.” (Receiver)	Integrated with receivers and other partnering channels	Receiver’s communities	
“The businesses that collaborate with this service. I think they should promote the service in their advertisements. That builds trust.” (Group 5)			

5.5 Revenue Streams

The revenue streams of the described service system consider *what* will be paid for, *how* it will be paid, and by *whom*. The customers and the users of the system do not necessarily coincide, and a distinction can be made between them, which creates different possible revenue streams for the PSS. The actors' willingness to pay for the service system differs as well, due to varying underlying motives. Alternative scenarios for generating revenue are presented below, with support from Table 5.5.

- *E-retailers and Brand Owners* – Potential payers of a *service payment plan*, which includes a fixed licence fee or implementation payment, a variable monthly usage fee, and additional fees for extra services such as advertisements on the platform. Both e-retailers and brand owners have an interest in generating revenue streams for the service due to the positive effects related to strengthened brand image and improved CSR work, as well as an act of producer responsibility.
- *Users* – Potential payers of the service, either as an *add-on option* at the e-retailer checkout or simply by paying for a pre-paid and ready-to-use *shipping label* on the service platform. Some focus group respondents expressed a willingness to pay for the service to ensure that their forwarded clothes are taken well care of, however, most were not willing to pay for doing an act of kindness.
- *Receiving Organisations* – Potential payer of a *service subscription* which provides them with an additional inflow of high-quality clothing, matched according to their organisational needs. This subscription might also include a fixed licence fee or an implementation payment.

An important highlight is that it is not one certain revenue stream that is of most importance for the service, but the combination of revenue streams. Related to that, multiple respondents have mentioned a *collective contribution* from all parties as a feasible solution. Moreover, involving *governmental and municipal initiatives*, for financing, coordinating, and creating incitement for systems of reuse, recycling, and waste management, could be a beneficial solution. However, their willingness to pay for the service has not been verified, due to their lack of participation in this project, but the option could potentially generate further revenue streams. Another revenue stream, suggested by the respondents and mentioned above in *E-retailers and Brand Owners*, is to provide relevant and controlled *advertisements* on the service platform. An example of an ad-supported digital platform service is Spotify free (Spotify, n.d).

Table 5.5 Revenue Streams.

Insights	First-order coding	Second-order coding	Business model component
”If we adopted this service, I would imagine us as a business to pay for the service.” (E-retailer)	Service payment plan	E-retailers and brand owners	Revenue Streams
”The e-retailers should finance the transports as they see added value in the action, and also as their customers become more loyal to the brand.” (Logistics)	Shipping and membership fees		
”The payment of the service would be some type of membership fee and of course that we pay for shipping.” (E-retailer)			
”I would like to pay at check-out on the e-retailer’s website to have everything paid when I receive the package.” (Group 1)	Option at check-out	Users	
”I would be able to pay a small fee for shipping to get the packaging delivered to my home for like 19 SEK” (Group 5)	Shipping fee		
”A customer (user) might be willing to pay to make sure their clothes become useful.”(Logistics)			
“The charity organisations could pay the shipping for the added value of gaining access to a better inflow of clothes.” (Logistics)	Shipping fee	Receiving organisations	
”It is not like other collaborations are free of charge. If you know that it generates a certain inflow, then you could assume that the receiving organisation might be willing to pay for the collaboration.” (Receiver)	Collaboration fee		
”You pay for the service, to get the products delivered to you. […] If you could instantly see the value created in terms of quality, the incitement to pay is higher.” (Receiver)	Service payment		
”Some type of collective effort from all actors in the value chain to contribute […] There are also legal incitements for businesses that produce physical products to take part in efficient ways to reuse and recycle.” (Logistics)	Collective contribution	Co-operation	
”States, municipalities, and similar actors should be affiliates. Especially in terms of waste handling, reuse and clear systems and processes for that.” (Receiver)	Governmental and municipal initiatives		
”From our point of view, it would be nice if we could take part in some type of advertisement activity […] Adverts for products that are bad for the environment would not be very appreciated to see.” (E-retailer)	Advertisement on platform	Advertisement	
”There is a distinction between advertisements and other advertisements. […] it is important to remain credible throughout the process.” (Receiver)			
”I must express the importance in having control over what is advertised and get guaranties for it.” (E-retailer)			

5.6 Key Activities

Key activities are the most important tasks for the PSS to operate successfully. Both primary and secondary activities are presented in Table 5.6. Primary activities include the development of *efficient business functions* to establish the service. The respondents identify *logistics*, *marketing*, and *product development* as the most important aspects of the business. Efficient logistics is needed to maximise the customer experience and consider user factors such as receiving packages in time, with the correct shipping label and being able to send the package conveniently. The logistics aspect is also important for the receivers, as the inflow of clothes should not imply extra work for them. An activity might therefore include the consolidation of packages before reaching the locations of the organisations. Moreover, marketing and product development are necessary for the initial establishment of the service in terms of creating awareness among users, developing a network of potential partners, and building and testing the digital platform.

Furthermore, primary activities include the development of *well-functioning service features* such as providing users with feedback on their donations and informing them about partnering organisations and their local needs. Providing users with feedback not only strengthens the emotional value related to the donation but improves the touchpoints of the customer journey, by strengthening the connection to the user throughout the entire donation process. Managing each touchpoint efficiently, and according to users' needs, thus has the potential to enhance the overall user experience. Providing feedback and information also increases transparency and helps in building user trust.

Secondary activities consider future tasks, such as frequent *evaluation* of business performance, which is of great significance when the service is up and running, and *supporting activities*, such as internal warehousing and sorting. The supporting tasks, however, can be managed externally, under the responsibility of the receiving organisations or other partnering actors.

Table 5.6 Key Activities.

Insights	First-order coding	Second-order coding	Business model component
”It is very important that the logistics function seamlessly, and that it feels like a natural part of the whole picture. That, in combination with marketing, is important.” (Group 2)	Logistics Marketing	Efficient business functions	Key Activities – Primary
”To build an app, […] test the app until it is simple and intuitive.” (E-retailer)	Develop and test		
“That you tie large partners to the service so that the user can get the opportunity to donate regardless of what e-retailer or website it buys clothes from originally.” (Group 3)	Create network		
”Trust is very important, especially for the giver/user […], to feel that he or she can trust the service and that they get something in return. It could be points, gratitude, hearts, or other types of affirmation that boost’s their conscience and makes the users feel better about themselves.” (E-retailer)	User feedback	Well-functioning service features	
”To be able to donate clothes internationally to people in need, for example to poverty or war-torn countries.” (Group 3)			
”To communicate what we (receiving organisation) are lacking could be beneficial for us.” (Receiver)	Report local needs		
”To assess what products that could create most value, to prevent unnecessary load on the system”. (Logistics)	Inform users		
”To deliver some kind of holistic knowledge to the giver, for example, what the receiving organisation stands for, why we do this or what we would like to receive.” (Receiver)			
”To be able to evaluate the service to determine whether it is economically profitable or not.” (Receiver)	Measure performance	Evaluation	Key Activities – Secondary
”This may require some type of handling of the garments, and how they are batched out. […] The receiving organisations probably don’t want 40 packages per week from different users with a variety of products and qualities, there must be some type of central warehouse.” (Group 4)	Warehousing	Supporting activities	
”Will there be any sorting activity at your facilities first? […] To prevent the customers of the service to get tired of receiving poor quality products.” (Receiver)	Internal sorting		

5.7 Key Resources

Key resources are the human, physical, financial, or intellectual assets necessary for realising the activities and offering the value proposition. The different assets for the PSS of the digital service are presented in Table 5.7. Human assets are considered the most important resources for the digital service and involve the employment of *skilled personnel*, especially within marketing and logistics; *good leadership* to support the entire organisation; the establishment of *partnerships* to create a well-developed network with partners who can provide the business with sufficient capabilities and resources. Multiple respondents mentioned *user trust* as an important human asset, however, the process of building trust takes time. Hence, user trust will most probably be achieved after having all the other resources in place and should therefore be seen as a potential and future human asset.

Physical resources consider the development of the actual *service and technology*, including the platform, network, and the physical packaging in which the donations are placed. Although important for the service to function, the packaging can be viewed as an external key resource as it is most likely to be provided by the e-retailers when the customers purchase clothes from their websites.

Financial assets include the capital that the organisation requires to operate successfully, potentially provided by actors or individuals who see value in generating revenue streams to support the business *financially*, as described in section 5.5. Within financial assets, a *communication budget* should be established to support marketing and increase awareness of the service.

Table 5.7 Key Resources.

Insights	First-order coding	Second-order coding	Business model component
”Logistics and how it is handled. Who will receive it, how will it be sent out, how do we track it?” (Group 4)	Skilled personnel in marketing and logistics	Human assets	Key Resources
”It is very important to have a well-functioning marketing department with great expertise.” (Group 5)			
”Good transport and marketing resources are matters of competence.” (Group 2)			
”Making the service convenient […] completely relates to competence and the people working with it. They will be crucial for achieving efficiency.” (Group 1)			
”Great management, a good contact network and reputation. […] Before reaching out to the large actors, you need to have those to rely on.” (Group 3)	Good leadership		
”That you find a good logistic part.” (Receiver)	Partnerships		
”The importance lies in how to build up the trust from the customers […] and the interface simplicity is also essential.” (E-retailer)	User trust		
”To receive good quality products that can be subject to resale. To increase the inflow and make it as easy and convenient as possible.” (Receiver)			
”First and foremost, the technology and network. How to create contacts and build the platform.” (E-retailer)	Service and technology	Physical assets	
”It is partially the packaging, how it’s packaged and who takes care of it.” (Receiver)	Packaging		
”That the service receives wide dissemination through many channels, and that there is some type of communication budget around the service so that it doesn’t end up in the shadows of the internet.” (Receiver)	Communication budget	Financial assets	
”There must be actors with capital who can finance the service.” (Group 5)	Financial support		

5.8 Key Partners

Key partners consider the network of suppliers and partners that make the business model function by reducing risk and providing external capabilities, activities, and resources. Both primary and secondary partners are presented in Table 5.8. Primary partners for the PSS include *logistics service providers (LSP)* who are crucial for the management of goods within the service system. The providers offer transport from users to receivers and the companies must be well-chosen to provide optimal freight management and transport methods with minimal impact on the environment. To increase transport efficiency, the LSP can be selected to enable a sharing economy, where freight forwarders work collaboratively and share a set of carriers to maximise the load in each truck. Delivering goods in full trucks helps in reducing emissions from transport. Apart from providing transport activities, the LSP can offer consolidation and distribution of goods to the receivers, to reduce the extra workload at the organisations from unpacking multiple, small packages. Primary partners also include actors for *third-party certification* and *trade associations*. The certification unit is important to increase transparency and user trust by verifying business activities and confirming statistics on sustainability impact. Trade associations can help the business establish partnerships with e-retailers, which is beneficial when developing the service system and expanding the network of e-retailers.

Secondary partners include *reuse companies* and *supporting actors*. Connecting with reuse companies within clothing and other sectors can increase brand awareness among their customers and broaden the customer segments. In addition, the business can be inspired by the current operations of similar and well-functioning business models. Supporting partners consider commercial as well as governmental partners who can contribute with finances and other resources. Multiple respondents mentioned partners for supporting activities, such as recycling, textile repair, sorting, and packaging. However, before considering these as partners, it must first be determined whether these activities should lie within the scope of the business or if they can be managed by partnering e-retailers and organisations.

Table 5.8 Key Partners.

Insights	First-order coding	Second-order coding	Business model component
”From a practical perspective, I think that the ones that provide C2X-services or the transport from the customer to any recipient are the key players.” (Logistics) ”Partners that provide green transports.” (Group 1)	Sustainable transport	Logistics Service Providers (LSP)	Key Partners – Primary
”There are lots of vehicles that are out to deliver things to people, and they will keep running regardless of if they are full or empty, and if they are empty, they should be able to pick up other things on the return route.” (E-retailer)	Freight sharing		
”There will be value created for a company to be seen as more environmentally friendly, and that gives incitement for a third party to control the accuracy of the activities.” (Group 3)	Extra control	Third-party certification	
”Trade associations could help initiate this, or similar collaborations that could assist in reaching out to e-retailers. It could be for example Svensk Digital Handel.” (E-retailer)	Svensk Digital Handel	Trade associations	
“Similar business models within other sectors: Swappie (for phones), and Karma (for food). Partnering with such could strengthen the sustainability image and brand and help reach out to a bigger audience and market.” (Group 2)	Swappie, Karma	Digital reuse companies	Key Partners – Secondary
”Recycling centrals or municipalities […] that can provide premises and resources.” (Receiver) ”If I could donate the clothes to another party that also could repair it before resale.” (Focus Group 1) ”Someone that sorts the received material.” (Receiver) ”Collaborations with packaging companies, so that the packaging is specially developed or environmentally friendly.” (Group 2)	Municipalities Recycling facilities Textile repair Sorting Packaging	Supporting partners	

5.9 Cost Structure

The cost structure consists of the main cost driving elements from performing the key activities, acquiring the resources, and establishing the partnerships. The three main costs for this conceptual service are presented in Table 5.9 and consist of:

- *Platform administration and development costs* – The initial investment cost of developing the business, designing the technological platform with desired service features, and testing the system. Development costs also include the labour cost of employees who develop the service system and administer the business functions.
- *Marketing costs* – The labour costs of hiring and establishing a skilled marketing department to penetrate the market and build a strong network of customers and partners. Marketing costs also relate to costs of advertising the service system through partnering organisations' channels and social media.
- *Logistics costs* – The costs of establishing partnerships with well-chosen LSP, who can support the system with sustainable transport methods, high truck utilisation and route optimisation to minimise the negative environmental impact of transport. The aspect of shipping is therefore crucial both in terms of costs, but also for achieving efficiency and maintaining a sustainable brand image of the service system. Logistics costs mainly include labour costs. However, to meet the requirements and needs of users and receivers, costs also consider service costs related to activities performed by the LSP, such as tracking packages to provide user feedback and storing packages in warehouses before distribution.

Table 5.9 Cost Structure.

Insights	First-order coding	Second-order coding	Business model component
"I assume that the main cost would be to administrate the app." (E-retailer) "To manage administration is a matter of capital." (Group 1)	Administration	Platform administration and development	Cost Structure
"The platform itself is a major investment cost. (E-retailer) "You need to build the digital service and integrate it with multiple parties. I think that will be expensive, and also the shipping cost." (E-retailer)	Platform		
"Excellent marketing activities, that could induce trust and visualise a movement greater than the company. That is a major cost." (Group 2)	High-quality marketing	Marketing costs	
"In that case, the biggest cost will probably be for the shipping, to cover that." (E-retailer) "Logistics and handling of the physical products, so that the service could be as smooth and efficient as possible." (Logistics) "The physical handling is also complex, with emphasis on the transports." (E-retailer) "Sorting and logistics costs are probably the two greatest cost creators." (Receiver)	Logistics, shipping, transports	Logistics cost	
"Personnel costs are potentially the main cost factor. […], and cost regarding how the inflow of products is handled and sorted. (Receiver)	Personnel	Labour costs	

5.10 Business Model Summary

Visualised in Figure 5.10 is the finalised validated business model canvas.

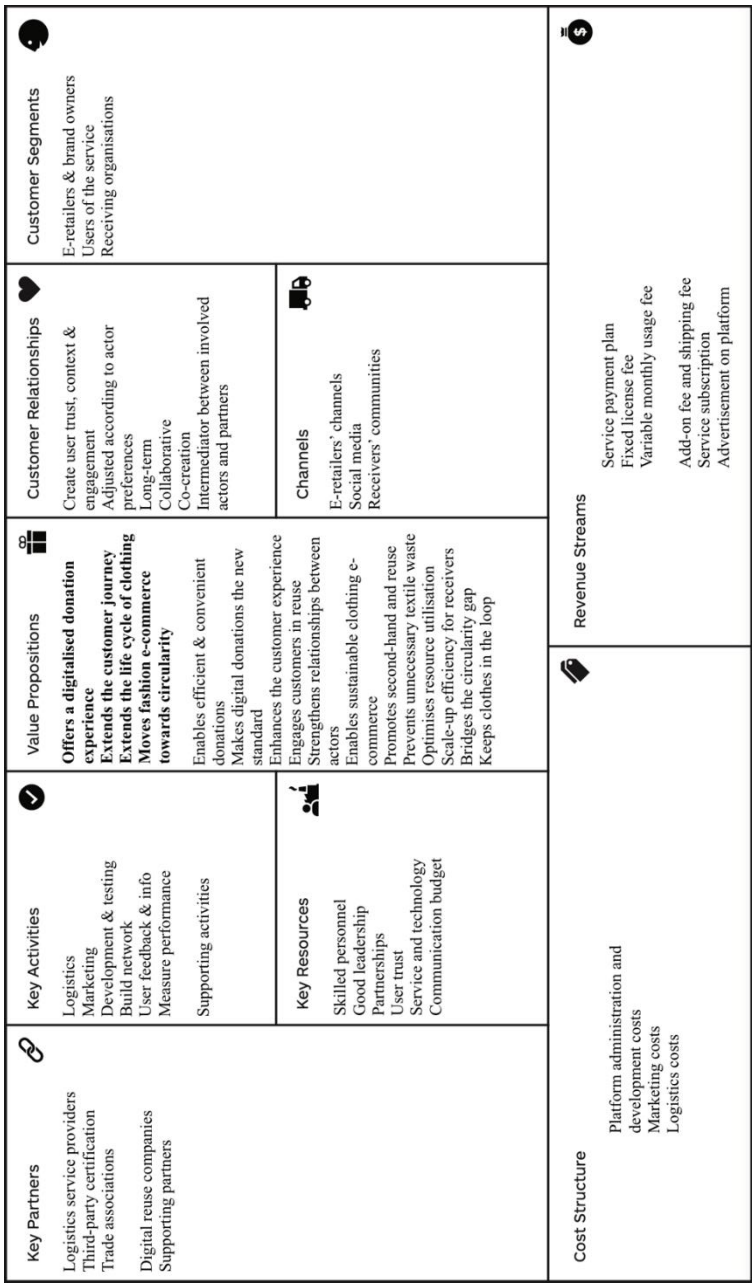


Figure 5.10 Validated Business Model Canvas

6 Discussion

In this chapter, the resulting business model and its components are discussed based on desirability, feasibility, and viability. The three sections are respectively related to the research questions. Other main topics are if the components are coherent such that the business model can deliver value based on the customer needs and if the system is profitable. Furthermore, the discussion addresses if there is insufficient information and how the project could be complemented.

Figure 6.1 The Three Main Sections of the Business Model Canvas (Strategyzer, n.d.).

6.1 Desirability

Desirability considers the question of 'Do customers want it?'. As seen in Figure 6.1, desirability regards the value propositions offered to the identified customer segments and how well the offerings fit their current needs, requirements and jobs-to-be-done. Below is a discussion based on the overall perception of the digital service among customers and the factors speaking for and against its desirability.

Based on the findings of the previous chapters, the key customers of e-retailers, users and receivers experience high value in the service system and actively desire to engage in the reuse of clothes, due to the potential positive effects created by the service system. As e-retailers provide their customers with a digitalised donation experience, the targeted user segment, i.e., consumers with a high turnover on clothing and bad conscience regarding their unsustainable consumption behaviour, can achieve more space, improve their self-perception as sustainable consumers, and enjoy good emotions when receiving feedback on their donations. Moreover, under the condition that the service is well-executed, there is potential in enhancing the overall customer experience of the e-commerce journey, creating positive effects on the brand image of e-retailers. Apart from improving the experience, the customer journey also extends as users forward their clothes to receiving organisations with matching needs. The forwarded donations have the potential to generate high-quality inflows, which are highly desired by receivers. Due to the benefits created and the offerings that align with identified customer needs, desirability is considered strong.

Furthermore, the system has long-term desirability as the business model aligns with industry requirements for increased sustainability within the fashion industry. The business model is therefore prepared for potentially stricter policies, which might require a larger share of companies to take responsibility for the after-usage of products. Increased sustainability requirements might also make other actors desire the system. Future customers can include businesses with excess stocks of clothing, logistics service providers or municipalities, who might see value in using, integrating, or generating revenue streams for the service as an act to contribute to circularity. Lastly, the system is long-term desirable as it offers a digital platform in a digitalised society where many receiving organisations seek to increase their digital presence online.

A risk related to desirability is the potential competition created by Sellpy or similar digital platforms for selling second-hand clothing. Users might not desire the service system if they can sell their clothes instead. However, the core idea of the digital service system is to manage flows of donations where users feel appreciated by contributing to the society and environment. Platforms like Sellpy, on the other hand, consider a different flow of clothing, specifically for selling clothing of higher value online to receive monetary compensation. Although potential competition might occur, these platforms pose no major threat. They could even act as a complement to the service system by potentially becoming customers or users of the service. The businesses could use the service to forward clothes, which cannot be sold on the platforms, or allow their customers to donate clothes which they do not want to keep. The digital service could also be inspired by the business model of these platforms as they play a key role in transforming the fashion industry towards circularity.

As the concept of the digital service system is based on donating clothes in connection to e-commerce purchases, there is another potential risk of users viewing the system as something that encourages clothing consumption. However, the system is not merely restricted to e-retailers of newly produced clothes but could also, in a future and ideally more circular environment, include e-retailers and providers of second-hand garments. In addition, the system creates an incentive for users to clear out their wardrobes by going through their inventory. As consumers become more aware of what garments they already have, they might be prevented from buying clothes they do not need. Moreover, the system also encourages more consumers in the reuse of clothing, by offering a simple donation process to targeted customer segments with a high clothing consumption rate. Their presumably low awareness regarding reuse and recycling of clothing can also be addressed by providing sufficient information on the digital platform. The system can therefore transform the general public towards circularity.

6.2 Feasibility

The feasibility aspect answers the main question of 'Can we deliver it?', see Figure 6.1. Here, it is evaluated whether the digital service can deliver value to key actors within the fashion e-commerce industry, based on its internal capabilities of key activities, key resources, and key partnerships.

The key aspects for the successful delivery of the system consider acquiring skilled personnel and good management in the most important business functions of system development, marketing, and logistics. Regarding the logistics function, the service must establish relationships with a well-chosen LSP who can provide efficient solutions for transport and distribution, meeting the previously mentioned requirements of optimised routes, high utilisation rate in trucks and consolidation of packages. The latter requirement has the potential to reduce the workload at the charity organisations and make them able to handle a possible increase in received goods.

An important risk preventing the feasible delivery of the system solution considers if the forwarded clothes cannot be reused and create additional value for end customers. As mentioned previously, users are more likely to donate clothes of lower value, to get rid of clothes quickly, while selling more expensive garments online. This behaviour creates a potential risk in that organisations might receive greater inflows of low-value garments, potentially causing storage overflow and increasing the workload. To handle the concerns and make the solution feasible the system must first provide sufficient information on how to donate correctly to prevent user mistakes. Information can be provided on the digital platform, in external channels or as instructions on the packaging. Second, the needs of the receiving organisations must be communicated to the users via the match-making

features of the service, such that they know what to donate. A suggestion is to start with a small set of partnering organisations, to expand the network based on the initial performance. Third, the business could be inspired by similar initiatives, e.g., the previously mentioned reuse project between Zalando and Röda Korset or business models of similar companies, to imitate their ways of maintaining valuable products throughout the entire extended customer journey. Lastly, the business could potentially partner with sorting facilities or actors for textile repair to ensure good quality in the inflows to the organisations.

6.3 Viability

Viability, displayed at the bottom of Figure 6.1 relates to the question 'What is the service worth?'. This section determines whether the business model is designed to create value and remain sustainable in the long term, with regards to the financial aspects of revenue streams and costs. A viable business has more revenue coming in than what is spent on the running costs. However, it is also of great importance to consider viability in sustainable terms by including environmental and social aspects, to evaluate whether the total sustainability aspect outweighs potential costs.

To address the main characteristics of a viable business, apart from the financial status, is that it has an identified customer base, a consideration of the competition to create a competitive advantage, and a unique selling proposition. Based on the findings in the previous chapters, the customer segments, as well as the target groups, are identified and their willingness to buy could be considered stable by the mapping of their interests, needs, behaviours and the previously mentioned reuse project. Furthermore, the competition in terms of Sellpy and similar sales platforms is a potential risk to the viability, but as expressed in *Desirability*, this service follows a different core idea and another flow of products. Other competition is the traditional over-the-counter donations or container collection, but as stated in previous chapters, the uniqueness in the service's value proposition is its user experience, convenience, time efficiency and general purpose to do good for the planet, the people, and the user themselves. This makes the service stand out on the market.

The revenue streams for the service, presented in Chapter 5, differ depending on the actor. For the e-retailers and brand owners, the main revenue streams are service payment plans that include fixed licence fees, variable monthly usage fees and additional fees for add-on services. This revenue stream is seen as a major contribution to the service viability in the short term and the long term. The receivers are also payers of a similar service subscription, but for the generated inflow of clothes. The users pay one-time fees in the form of shipping fees or similar add-on options when purchasing new clothes at the e-retailer's websites. The latter is less predictable as there are no continuous inflows. Other possible revenue streams

include controlled advertisement on the platform, and state financing and initiatives, but the latter's willingness to pay is not yet verified.

The main costs for the service are, as mentioned in Chapter 5, costs for supporting key activities, acquiring resources, and maintaining partnerships. These are the platform administration and development costs, the marketing costs, and the logistics costs. The development cost is generally a larger investment cost which requires a stable revenue stream initially. This could be supported by the fixed licence fees and implementation fees that are mentioned in the previous paragraph. Marketing costs are typically high but could be optimised and/or potentially reduced by exploiting the involved actor's channels and possible integrations on their websites. The shipping costs were frequently discussed during the interviews as great pain. Many e-retailers viewed it as frustrating if the costs of time, money and energy spent exceed the perceived value of the service. "Who pays for the shipping?", while the users and receiving organisations expressed that they had a low budget for costs such as shipping. To increase the viability in the logistics cost area, the emphasis on LSP partnerships, partner deals and integrated shipping costs with an emphasis on the value propositions of the service as well as the sustainable transporting methods as attractive perks for payment, are possible solutions.

From a sustainability perspective, which is an abstract value, it could be hard for customers to understand the full value and associated positive effects that result from paying for a service. To highlight, the financial, environmental, and social benefits of the service could therefore strengthen the sustainability profile and support the service price.

To sum up, the combination of revenue streams is what makes the service more viable both in terms of long-term sustainability and predictability, and a collective effort could lower the payment price per actor and thereby possibly increase the involved actors' willingness to pay. The latter could also be boosted by a strong sustainability and awareness profile. In addition to keeping the costs manageable with efficient organisation and acquiring of resources, value-creating partnerships and sustainable performance of activities, there is viability potential for this service.

7 Concluding Remarks

This final chapter presents the concluding remarks for the project, based on the empirical findings, business model validation and discussion. For further development, implementation and management of the PSS, the following subsections identify the main limitations and concerns regarding the project and provide suggestions for future research and continued development of the project.

7.1 Towards Circularity

The purpose of developing and validating a business model for a digital service system was fulfilled, and the research questions were answered by identifying, mapping, and analysing the involved actors' needs, pains, gains, and configuring the system to create value in each step of the chain.

According to the previous discussion on the empirical findings of the validated business model, the proposed system for the digital service indicates strong desirability, feasibility, and viability in terms of being able to satisfy customer needs and requirements, having the sufficient resources to deliver the system and maintaining sustained financial viability. In conclusion, the resulting business model generates value for all actors involved by offering a digitalised donation experience, extending the customer journey by engaging consumers in the reuse of clothes, extending the life cycle of clothing and, finally, moving fashion e-commerce towards circularity.

7.2 Limitations and Concerns

The main limitations of this project can be found in the use of Osterwalder & Pigneur's framework of the Business Model Canvas (BMC). First, the framework considers a relatively simple and linear flow, where key partners, along with internal resources and activities, support the business in delivering its value propositions to the end customers. However, the analysed system for the digital service, and the potential business related to it, is much more complex, with several potential customers who are interrelated in a circular flow, as depicted in Figures 1.1 and 4.1.

In addition, the system does not only consider first-tier customers but also delivers indirect value to second-tier customers, i.e. the customers of the partnering organisations, as well as society. The system for the digital service, therefore, impacts a network of customers through its contribution to circularity and related societal and environmental benefits. During interviews with respondents, the complexity of the system became apparent as the first-tier customers of the service, i.e., the e-retailers, users, and receivers, were sometimes mistaken for the second-tier end-customers of the receiving organisations, i.e. the individuals purchasing second-hand garments from the organisation's boutiques.

Second, the BMC does not consider the aspects of sustainability or circularity in the nine business model components, which made it difficult to visually present the sustainability impact as well as quantify the value of circularity within the service system and relate it to the stated costs. Traditional and linear models such as the BMC might therefore be more difficult to utilise and apply to future and unexplored areas of circular business models. Despite the model's weaknesses of simplifying complexities and missing out on circularity aspects, the theoretical framework offered a simple tool for visually describing the general aspects of the business proposal.

Other concerns of the project execution regarded data collection, where interview questions about the respondents' perceived Customer Gains and Pains were often asked in connection to the proposed service system, rather than being entirely separated from the system proposal. The answers of the respondents thus reflected Gain Creators and Pain Relievers more than actual Gains and Pains. Hence, complementary data from observations and secondary sources were required to fill in the gaps.

7.3 Future Research Suggestions

Based on the previous discussion on the limitations of the traditional BMC framework, sustainable and circular business models are suggested for further research. Several authors have highlighted the need for a Circular Business Model Canvas (CBMC) (Lewandowski, 2016; Gonzalez, Vermeulen, & Baumgartner, 2020). Utilising a CBMC for the development of business models, where circular flows impact multiple stakeholders, provides a more relevant and accurate view of the generated and captured value, as it considers the value from circular, environmental and social aspects, and not only visualises the financial aspects as in the Cost Structure and Revenue Streams of the traditional model. Other potential suggestions for frameworks include mappings of value networks to capture complex interrelations between key actors.

For further studies and development of the service system, the project has created an overall view of key questions regarding the service system and initiated potential partnerships with key project partners. The next steps include the stages of implementation, considering activities of communicating the business model purpose, involving key actors, and executing the business proposal. Future activities then consider continuously assessing and improving the business model based on customer and user perceptions and service system performance. If these activities are successful, there is future potential in expanding the service to include other valuable customers. Future customers might consider physical clothing boutiques, rather than merely e-retailers, and a broader set of receivers, such as non-governmental organisations, associations, or directly to individuals in need of clothing. In addition, the service has the potential to expand to other markets than Sweden and eventually also include other industries than fashion e-commerce, for instance by creating processes for users to donate and forward smaller goods such as electronics or homeware.

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Appendix A Interview Material

The following section presents the questions and the presentation used during the interviews with the respondents. The questions were slightly adapted depending on the respondent. All questions have been translated from Swedish.

A.1 Interview Questions

- **Value Propositions**
  - What value do you think the digital service can deliver?
  - For e-retailers? User? Charities? Other actors?
  - What needs could be fulfilled by this service?
- **Customer Segments**
  - Who can the service target and create value for?
  - Who do you see as important customers i.e., the actors who might be willing to pay for the service?
  - Who do you see as important users? What does the target audience look like?
- **Customer Jobs**
  - Describes what customers and users feel they want to achieve. It can be whether they are trying to perform a specific task, solve a problem or fulfil a need.
  - What can be the functional, social, and emotional values of the service?
  - What needs can be met?
- **Customer Pains**
  - What limitations do you see with the service?
  - What are the main difficulties and challenges of the service?
  - What risks do you see with the service?
  - What can prevent customers and users from using the service?
  - What could be perceived as too expensive with the service?
  - Is there anything in the service that risks underperforming?
  - What common mistakes could occur?
  - What could create negative emotions with the service? What feelings?

- What negative social consequences exist?
- What could keep customers and users awake at night?

❖ **Customer Gains**
- What opportunities do you see with the service?
- What do you think is positive and gratifying about the service?
- Do you see a marketing opportunity in the service? CSR?
- How would the service make everyday life easier for customers and users?
- What savings can be created by the service?
- What do you think customers and users are looking for in a service like this?
- What are the expectations for the service and what would it take to go beyond these expectations?
- What would increase the likelihood of starting to use or take part in the service?
- What are the positive social consequences of the service?
- What is the dream for the customer or user?
- What would determine whether the customer or user sees the service as successful or unsuccessful?

❖ **Revenue Streams**
- Who might fund the service and how?
- What are your thoughts on advertisement in the service? Are there better or worse methods for advertising?

❖ **Key Partners**
- Which actors can be important partners for the service?
- What are your thoughts on the choice of e-retailers and charities that are part of the service? Are there others?
- How could these contribute resources and activities?

❖ **Channels**
- Through which channels can the service reach out to its customers and users?
- Does the choice of channel matter? Are there better or worse channels?

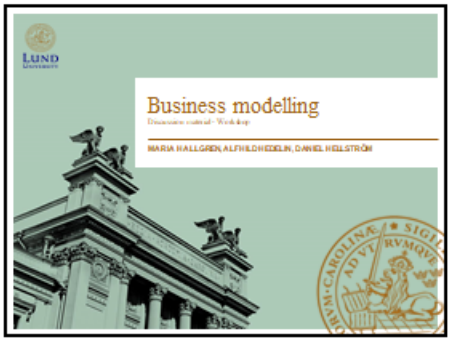
❖ **Key Activities**
- What do you think are the most important activities for the service?

❖ **Customer Relationships**
- What do you think the relationship might look like between the service and its customers and users?

❖ **Key Resources**
- What do you think are the most important resources for the service?

❖ **Cost Structure**
- What are the main costs of the service?
- What resources and activities could be the most expensive?

A.2 Interview Guide



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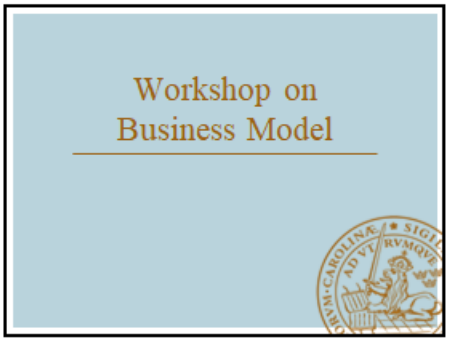

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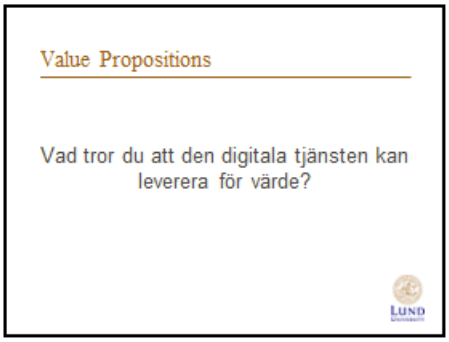


6

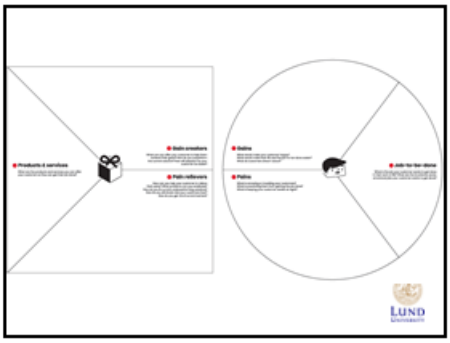
Customer Segments

Vilka kan tjänsten rikta sig mot och skapa värde för?

7

Lets go deeper…

8



9

Customer Jobs

Vad kan det finnas för **funktionellt**, **socialt** och **emotionellt** värde i tjänsten?

10

Customer Pains

Vad ser du för begränsningar med den digitala tjänsten?

11

Customer Gains

Vad ser du för möjligheter med den digitala tjänsten?

12

Lets go back to the business model

13

Revenue Streams

Vilka hade finansierat tjänsten och hur?

14

Key Partners

Vilka aktörer kan vara viktiga samarbetspartners för tjänsten?

15

Channels

Genom vilka kanaler kan tjänsten nå ut till dess kunder och användare?

16

Key Activities

Vilka är de viktigaste aktiviteterna för tjänsten?

17

Customer Relationships

Hur kan relationen se ut mellan tjänsten och dess kunder och användare?

18

Key Resources

Vilka är de viktigaste resurserna för tjänsten?

19

Cost Structure

Vilka är de huvudsakliga kostnaderna för tjänsten?

20

Overall Discussion and Questions

21