



# Multisided C2C Second-hand Fashion Applications: How Will the Fast Fashion Industry Adapt?

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## ABSTRACT

With climate change, our planet has been suffering dramatic changes and environmental crises. The fast fashion textile industry plays a significant role, being the third most polluting industry in the world. With this problem, sustainable trends around fashion have gained traction over the years. Supported greatly by these trends, the market for resale fashion has grown, rising 11 times faster than traditional retail into 2025. The second-hand fashion market is forecasted to be twice the size of the fast fashion one by 2030. Multisided C2C second-hand fashion applications follow eCommerce and digital trends having advantages like an easy and user-friendly direct buy-sell online process, more agility and profitability for buyers and sellers, and a wide pool of products and therefore users.

This dissertation concluded that multisided C2C second-hand fashion applications are a driver for growth of the second-hand fashion market, as they will be the business model of the future for the market. Since the second-hand fashion market is becoming an important segment of the fashion industry, multisided C2C second-hand fashion applications positively impact the fashion industry in Western Europe growing its value. Furthermore, a scenario analysis showed that the most likely scenario for the evolution of fast fashion, being multisided C2C second-hand fashion applications a prevalent part of the Western European fashion industry, would be maintaining their core business, while adopting brand's used clothes retake programs where clients would sell back their items to brands gaining store credit or discounts.

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## SUMÁRIO

Com as mudanças climáticas, nosso planeta tem vindo a sofrer mudanças dramáticas e crises ambientais. A indústria do fast fashion desempenha um grande papel neste problema ameaçador, sendo a terceira indústria mais poluente do mundo. Com este problema, as tendências sustentáveis em torno da moda ganharam força ao longo dos anos. Apoiado por essas tendências, o mercado de moda de revenda tem registado um crescimento notável, crescendo 11 vezes mais rápido do que a moda tradicional até 2025. O mercado em segunda mão tem previsão de duplicar o fast fashion em 2030. Multisided C2C second-hand fashion applications seguem tendências como o eCommerce e a digitalização, tendo vantagens como, um processo online de compra e venda direta entre clientes fácil e user-friendly, mais agilidade e lucratividade para os usuários e uma ampla pool de produtos e clientes.

Concluimos que as aplicações multisided C2C second-hand fashion applications são um impulsionador do crescimento do mercado em segunda mão, uma vez que serão o modelo de negócio do futuro. Segunda mão está a tornar-se um grande segmento, as multisided C2C second-hand fashion applications impactam positivamente a indústria na Europa Ocidental, aumentando seu valor. A análise de cenário realizada mostrou que o cenário mais provável para a evolução do fast fashion, sendo as Multisided C2C second-hand fashion applications uma parte predominante da indústria, será manter seu core business, mas adotar programas de retomada de roupa da marca onde os clientes vendem seus itens de volta às marcas em troca de crédito ou descontos na loja.

Título: *Multisided C2C Second-hand Fashion Applications: How Will the Fast Fashion Industry Adapt?*

Palavras-chave: *Multisided C2C Second-hand Fashion Applications; Mercado da moda em segunda mão; Mercado da Fast fashion; Indústria da moda; Moda; Modelo de negócio*

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## GLOSSARY

MCSFAs – Multisided C2C second-hand fashion applications

C2C – Consumer to consumer

B2B – Business to Business

# 1. INTRODUCTION

## 1.1 Background

With the rise of climate change, it has become clear that actions by consumers matter greatly for protecting the planet and promoting sustainability. The Point of No Return, in 2035, is the year after which even aggressive policy measures would be unlikely to meet the goal of Paris Climate Agreement of limiting global warming to below 2 degrees Celsius (relative to pre-industrial revolution levels) by 2100. A 2° increase will still have severe impacts on the world (Aengenheyster et al., 2018). The fast fashion textile industry contributes to this problem, being the third most polluting industry in the world. It emits more carbon than international flights and maritime shipping combined (McFall-Johnsen, 2019). Moreover, 60% more garments were bought in 2014 than in 2000, with the life cycle being half as long (N. S. E. S. S. Remy, 2016). The clothes equivalent of one garbage truck is dumped in a landfill every second (United Nations Environment Programme (UNEP), 2018). Fast fashion companies are constantly criticized and are facing more regulation in western Europe. Brands have taken actions to tackle this issue with solutions such as “sustainable collections”, e.g., H&M’s conscious line, and promotion of product circularity. But this is not enough.

Consumers are more aware of the “dark side” of fast fashion and search for ways to lower their environmental impact without compromising shopping needs. Many solutions such as “slow fashion stores”, second-hand stores, or second-hand online platforms have gained relevance over the last few years, since reducing garments production drastically is the only long-term solution to the industry’s sustainability problem. The market for resale fashion is growing, 11 times faster than traditional retail by 2025. It is forecasted that the pre-used market will be twice the size of fast fashion by 2030 (Cross-Border Commerce Europe, 2021). Multisided C2C second-hand fashion applications (MCSFAs) are gaining relevance now for their disruptive business model. For instance, regarding global cross-border sustainable marketplaces operating in Europe, C2C models are prevalent. For the top 5 marketplaces, four follow a pure C2C business model and operate in the fashion-jewelry-baby sector (Cross-Border Commerce Europe, 2021).

## **1.2 Problem Statement**

The objective of this dissertation is to evaluate how large of a disruptor multisided C2C second-hand fashion applications in the fashion market will be and whether this business model is likely to prevail in the future. The following research questions will be addressed:

RQ1: What is the impact of multisided C2C second-hand fashion applications for the fashion industry in Western Europe?

RQ2: How will fast fashion evolve if multisided C2C second-hand fashion applications become a prevalent part of the Western European fashion industry?

## **1.3 Academic & Managerial Relevance**

There is vast research on the fast fashion industry and the topic of sustainable fashion is widely discussed, due to the impact of the industry across various domains. Many solutions have been proposed to explore ways fast fashion companies can be more sustainable in their production processes, supply chains, etc. Also, solutions related to second-hand fashion stores and other upcycling solutions are frequently discussed.

There is no study, however, that specifically examines the impact that multisided C2C second-hand fashion applications can have as part of this solution. Will consumers find this solution desirable, given that there is no third-party intermediary between sellers and buyers? Will this phenomenon become a significant part of consumer behavior? If so, how should fast fashion companies adapt?

## **1.4 Research Methods**

The methodology is qualitative and quantitative data. For primary research, a survey was conducted to collect insights on the customer side related to habits, usage, and intentions regarding fast fashion, 'traditional' second-hand fashion, and second-hand platforms/applications. For the supplier side, industry experts were interviewed to further qualitative insights on the topic.

As for secondary research, a substantial part consisted of the literature review using academic articles, books, reports, and other relevant documents. The goal was to better understand the fast fashion and second-hand markets from the consumer side and the supplier side, learn what

expertise large players in the industry already have regarding the second-hand fashion market, and map existing second-hand fashion apps, C2C and B2C, in western Europe.

## **2. LITERATURE REVIEW**

The first section of the literature review outlines the current fast fashion industry in western Europe, and the main trends affecting it. The second emphasizes the dynamics of second-hand clothing and retail practices: the most common points of sale, key players, etc. The final section explores the business model behind multisided platforms and examples of retail applications and discusses relevant management theory.

### **2.1 Fast Fashion Industry in Western Europe**

#### **2.1.1. Context**

The fashion industry is one of the largest industries in the world, generating trillions in global annual revenues (McKinsey, 2018). Even though the global fashion sector has been continuously growing up until 2020, the apparel market took a hit when Covid-19 heavily impacted the retail sector as a whole (Statista, 2022b), between 2019-20. The industry saw a 20% decline in revenues (McKinsey, 2021).

The last few years are associated with uncertainty and upheaval but, nevertheless, in 2022 the global fashion industry completely recovered to pre-pandemic levels. Businesses are adjusting to the new consumer demands/priorities, and digital is supplying a domain for growth (McKinsey, 2021). Apparel and footwear retail sales amounted to over 1.5 trillion U.S. dollars worldwide, in 2021, and by 2026 this number is forecasted to increase to nearly 2 trillion U.S. dollars (Statista, 2022b).

The fashion/apparel market can be divided into sub-segments: womenswear and kidswear for instance, and different categories of products such as accessories, bags, and shoes. Numerous companies are servicing industry segments and categories, with different styles and price point strategies available to consumers. These include luxury fashion, midmarket, and discount/fast fashion. With margins dropping, fast-fashion and luxury continue to surpass the general market in 2020, while the midmarket continued to be under pressure (McKinsey, 2021).

Before the fast fashion boom, shopping for clothes was a mere necessity for most people. Consumers would save up to buy new clothes at certain times of the year with not many options within their reach (HAYES, 2022). The advent of fast fashion made stylish/trendy clothing accessible to everyone at low prices representing a democratization of fashion. This helped the masses to feel as if they were wearing the latest fashion creations thereby providing instant

gratification. The fast fashion concept seeks to quickly produce cost-efficient products in response to (or anticipation of) fast-shifting consumer demands. Quantity is privileged over quality and clothes are not intended to be worn for years. For this, time to market is crucial and a pull approach allows retailers to respond to market preferences in weeks rather than months (Santos, 2019).

As the largest segment of the fashion industry in terms of revenue, global fast fashion is forecasted to grow from 91.23 billion U.S. dollars in 2021 to 99.23 billion in 2022, reaching 133.43 billion U.S. dollars in 2026 (Statista, 2022a). Western Europe was the largest region in the fast fashion market in 2021 (The Business Research Company, 2022).

Fast fashion has been shown to produce negative impacts on society (Ruan et al., 2022) (Chinasamy, 2019), mainly in terms of environmental impact and labor practices. The public has begun to question whether the industry brings more harm than good, as well as reject fast fashions underlying "throwaway" consumer culture (Wren, 2022). Fashion produced 2.1 billion metric tons of GHG emissions in 2018, about 4% of the global total (Berg et al., 2020) with fast fashion accounting for roughly half the industry's emissions. For instance, a polyester t-shirt emits more than double in kgs of CO<sub>2</sub> than an organic cotton t-shirt ("The Price of Fast Fashion," 2018). Additionally, overproduction means that around 60% of all clothing produced annually is disposed of in that same year (N. Remy et al., 2016). Currently, most brands have introduced some form of corporate social responsibility (CSR) with sustainability initiatives and began making more information public (Wren, 2022). Despite companies' efforts, policies currently in place are not sufficient to address the urgent climate crisis (McKinsey, 2020).

Many scandals have also shocked the world over the years, such as the Rana Plaza disaster (Gee, 2018), and contributed to continued questioning about fair labor practices and workplace safety standards, including child labor and inhumane working conditions (McKinsey, 2018). Fast fashion's bad reputation has prompted new regulations in the industry and a new larger group of customers has come into being who demand greater transparency and better practices across the whole supply chain (Wren, 2022). These attitudes are more prevalent in developed countries where social and environmental awareness is greater.

### **2.1.2. Trends**

This section explores trends shaping the future of the fast fashion industry in western Europe and that will have an impact on how clothing/ shopping for clothing is perceived in the future. Three trends are considered: (1) Sustainability; (2) E-Commerce and (3) Fashion Technology.

#### ***Sustainability***

Sustainability discussions started in the early 1990s as “green issues”, have made their way into fashion publications and consumer consciousness. Companies like Patagonia focusing on the impact of raw materials are a case in point and now sustainability in fashion is a “megatrend” (Mittelstaedt et al., 2014). Key concerns include product life span, sourcing of raw materials, packaging, circular economy, pollution generated, product production, transportation, points of sale, respect for workers’ rights and health, and supply chain transparency (Henninger et al., 2016).

The Covid-19 pandemic has been a further catalyst for consumers to value sustainability practices. Sustainability is critical for favorable consumer perceptions and by extension to business survival (Vătămănescu et al., 2021). A study conducted by McKinsey shows that sustainability will offer fashion its biggest opportunities for growth in 2022 (McKinsey, 2021). Brands are starting to take advantage of this with initiatives that are more “tangible to the consumer”. For example, H&M with their conscious line is promoting sustainable products as a collection.

This trend also represents one of the biggest challenges ahead (McKinsey, 2021). First, a holistic approach to sustainability can be hard and costly to achieve. For instance, transparency in the supply chain may not always be feasible. Second, there is the attitude-behavior gap of consumers who ideally want to purchase sustainable fashion (Henninger et al., 2016). Third, sustainability can come at a higher price which fast fashion consumers may not be willing to pay. A study shows that only 5% of consumers see sustainability as the key factor in brand selection, whereas quality or affordability are still more valued attributes (McKinsey, 2021). Lastly, with more companies engaging in greenwashing (Delmas & Burbano, 2011), companies advertising sustainability may raise suspicions and be more scrutinized by the public.

### ***E-commerce***

The pandemic provided a boost for full-on E-commerce. Customers are now more predisposed towards and have greater confidence in online shopping and in hybrid online/offline stores, E-commerce became a critical success factor (Bilińska-Reformat & Dewalska-Opitek, 2021). Looking at Inditex, online sales grew 75% January-October 2020, compared with the same period last year. Online sales represented 14% of total sales in 2019, and in two years is expected to be 25% (Harbott, 2021). The company is now investing more heavily in its online channels (Chaudhari, 2020). Fashion consumers now analyze multiple brand channels before making a purchase (McKinsey, 2020). And in response brands have developed an omnichannel business model, integrating both offline and online sales to reach a seamless shopping experience (Lorenzo-Romero et al., 2020). For instance, companies provide online purchases with in-store delivery, real-time store stock online, or the exact location of an item within a specific store. It will soon be possible to reserve a changing room or self-check-out using QR codes (Bilińska-Reformat & Dewalska-Opitek, 2021). However, there are high added costs for operating an online store successfully and customers still have concerns about privacy and security. Also, merchandise returns can be a problem, compromising agility since controlling this variable is harder online.

### ***Fashion Technology***

In 2021, fashion companies invested between 1.6 and 1.8 percent of their revenues in technology. Millennials and Gen Zers, expect technological touch points throughout the shopping process. Because of this, investments are expected to double by 2030 (Amed et al., 2022). Key areas for digital investments are personalization, store technologies, and end-to-end value chain management. For instance, digital updates can facilitate selection of clothing sizes, by virtually "trying on" the clothes (Istook, 2008). While E-commerce is more consumer-focused, fashion technology tends towards a back-end approach, still prioritizing users, but ultimately promoting efficiency.

## **2.2 Second-hand Fashion Market**

### **2.2.1. Context**

As mentioned above, the fashion industry has been criticized for its lack of environmental and social sustainability. This, and other trends, contribute to favoring second-hand business models. The second-hand economy extends the lifespan of used clothing through redistribution of ownership (Ritter & Schanz, 2019).

By 2025, the European resale second-hand fashion market is foreseen to double its current size, reaching 34 billion euro, and expected to grow eleven times faster than the border retail sector (Cross-Border Commerce Europe, 2021). Ninety million shoppers have tried reselling for the first time in 2021, compared to 16 million in 2020 while 76% of first-time buyers would increase their spending in the next five years. By 2030 the resale market is projected to be twice as big as the fast fashion market (Cross-Border Commerce Europe, 2021).

Consumers buying used goods from each other is not a new concept *per se* (Belk et al., 1988; Sherry Jr., 1990). But now technology has enhanced the second-hand economy through online channels (Yrjölä et al., 2021). Second-hand business models can operate through a wide variety of offline/online channels. Offline came first with flea markets and later goodwill, thrift, and retail stores. Through technology, online options grew with e-commerce websites, applications, and platforms.

Over the last few years, the concept of trading used products online has become a popular and accepted consumer behavior. Consumers' environmental awareness is a driver of sustainable consumption and the circular economy (Yrjölä et al., 2021). In 2017, in the United States, 65% of consumers reported using online marketplaces to buy second-hand products (Statista, 2018b). More than 20% of Europeans bought or sold used goods online in Europe in 2016 (Statista, 2018a). Moreover, 45% of online shoppers have already bought a circular product in some form, 7% refurbished, 3% recycled, 11% customized, and 66% second-hand resale goods (Cross-Border Commerce Europe, 2021). And with Covid-19 online marketplaces registered a growth of 37.5%, reaching a sales volume of 115.5 billion euros. The largest demand on average in Europe is forecast to come from younger generations and online channels (Research and Markets, 2021). As a result, marketplaces represent an important share of online consumer goods cross-border B2C and C2C purchases in Europe, about 50% (Cross-Border Commerce Europe, 2021).

The impact of the second-hand fashion market is still not completely clear. However, when talking about it being the solution to the fast fashion sustainability problem, rebound effects must be considered. These include additional transportation, and incentives to use more clothes when they are cheaper and easier to access and dispose of (Iran & Schrader, 2017).

### **2.2.2. Key Online Players in Europe**

Below are major players in the “rE-commerce”, second-hand E-commerce, (Kumar et al., 2018) market in Europe, all with a customer base well above 10 million across available markets (Research and Markets, 2021).

#### ***Vinted***

Lithuanian Vinted, considered the number one player in the market in Europe, has grown its customer base in the last few years to more than 50 million members across 15 countries (Vinted, 2022). Founded in 2008, following the motto “Don’t wear? Sell it!”, Vinted is an online marketplace providing second-hand fashion products. The company's mobile-first community is a peer-to-peer marketplace to buy and sell clothes, accessories, and lifestyle items directly, with the possibility to resource to an online chat feature, enabling users to shop with ease.

#### ***Depop***

Depop is a UK-based social e-commerce platform where users can buy and resell products and discover their style, Depop aids users to find stylists, designers, artists, shops, collectors, vintage sellers, and wardrobe hoarders. There are 21 million users, of which, 90% are under the age of 26 (Depop, 2022). Most items sold are either used, vintage, or repurposed. The interface is modeled after Instagram and users can sell by posting pictures to their profiles, along with descriptions, hashtags, and prices.

#### ***REBELLE***

REBELLE is a German online marketplace for women’s second-hand designer fashion with a managed marketplace business model. Unlike digital peer-to-peer marketplaces, the company handles every sold product, ensuring authenticity and quality. Sellers can either sell their products and then ship them to REBELLE for distribution and check, or REBELLE can oversee the whole sale process through the company's concierge service. With over a million users, REBELLE’S customer base is 95% female, ages 25-65 (Rebelle, 2022).

#### ***Vestiaire Collective***

French Vestiaire Collective is a global marketplace platform to buy, sell, and share pre-owned luxury and designer fashion. The company's platform offers sellers the opportunity to sell products on their own or with the company’s concierge service. The company provides buyers

with an authenticated shipping option for a fee. Vestiaire Collective already counts a community of over 15 million users (Vestiaire Collective, 2022).

### ***eBay***

Founded in 1995 in the US, eBay was an “innovative auction website” and today operates one of the largest e-commerce marketplaces in the world. It is the sixth-largest global e-commerce mass merchant, as opposed to the previously mentioned companies that operate solely with fashion apparel. eBay connects millions of sellers and buyers in more than 190 markets, empowering sellers, through its technology, to sell second-hand goods or to build and nurture small businesses. eBay generates revenue from listing fees, advertising, revenue-sharing arrangements with service providers, and managing payments. Its largest markets outside the U.S. are the U.K., Germany, and Australia (eBay, 2022).

## **2.3 Multisided Platforms: C2C Business Model**

Expansion of the second-hand economy has led to various approaches, practices, and business models used by companies entering the market (Yrjölä et al., 2021). Due to rapid shifts, research on the second-hand economy is still growing. Relevant studies from a business perspective include Shin and Park’s (2009) work on auction based C2C businesses, and Hvass (2015) and Beh et al. (2016) who focus on the role of pricing and reverse logistics.

A business model helps us better understand a firm’s value creation and value capture (Richardson, 2008). Business models are strategic tools for innovation and differentiation, allowing managers to exploit market opportunities (Doganova & Eyquem-Renault, 2009; Yrjölä et al., 2021) by pairing external opportunities with internal strengths (Teece, 2010). Second-hand eCommerce platforms, most commonly take a C2C (consumer-to-consumer) or a B2C (business-to-consumer) business model. Key players mentioned previously, follow a C2C business model, except eBay, where both models coexist.

### **2.3.1. Economics of Multisided Platforms**

Multisided or two-sided markets (for expositional simplicity, since insights from two-sided platforms apply to multisided ones (Rochet & Tirole, 2006)) are platforms/markets that facilitate interactions between end-users. Typically, both buyers and sellers meet to trade a product or service, simultaneously creating opportunities to buy and sell (KAGAN, 2022). As intermediaries, these markets can simplify and accelerate transactions, adding value and

lowering costs for users. As the network grows and the platform scales, this adds even more value and willingness to pay for access to the platform's network effects (KAGAN, 2022). In multisided platforms, peers can add value as buyers, sellers, or even microentrepreneurs (Frenken & Schor, 2017), and the same user can assume both demand and supply roles. As a result, on C2C platforms (Parente et al., 2018), the distinction between suppliers and customers blurs (Richter et al., 2017).

The literature points to concrete factors for a market to be two-sided: 1-The platform establishes transaction costs, bilaterally, between end users (supply and demand); 2-The platform can impose constraints on product/service pricing; and 3- The platform can introduce membership fixed fees (Rochet & Tirole, 2006). Although two-sidedness may exist in various markets, it is not always quantitatively important (Rysman, 2009). This means that the mere suggestion of two-sidedness is not enough to consider a market two-(or multi) sided. The term relates to the importance the intermediary pays to both sides of users when making pricing/commercial decisions and the recognition of two different sets of consumers in the company's strategy (Niels & Ralston, 2021). At times, the literature on two-sided markets seems to be a derivative of literature on network effects. But the former zooms in on the actions of the market intermediary, particularly pricing, while the latter focuses on user adoption and optimal network size (Rysman, 2009).

The business model literature has created various categories based on revenue/value creation models, helping managers validate whether revenue streams came from direct or indirect sources (Ritter & Schanz, 2019; Yrjölä et al., 2021). Direct revenues occur from purchases made from the main business, while indirect revenues are drawn from third parties, such as advertisers. Hence, indirect revenue models imply multisided platforms (Ritter & Schanz, 2019). In addition, business models can use different pricing strategies for demand and supply. Usually, the intermediary only charges fees to the less price-sensitive side of the market, commonly the sellers (Ritter & Schanz, 2019).

There are practical examples illustrating multisided markets in various industries. The yellow pages telephone directory which serves consumers and advertisers is such an instance. Credit card companies act as intermediaries between consumers and merchants (KAGAN, 2022). Also, as previously mentioned, there are second-hand marketplaces that connect sellers and buyers.

### **2.3.2. Multisided Platforms: In Retail and Second-hand Fashion**

Multisided digital platforms represent business model innovation in retail. This model allows retailer intermediates to grow business transactions while shifting inventory risk from the retailer to the supplier (Hänninen et al., 2018). In this sense, multisided markets in online retail can be compared to shopping centers since both serve as marketplaces where suppliers and consumers meet, and where the intermediary earns a return by making this interaction possible (Teller et al., 2016). Consumers are the main assets for these retail companies as these firms usually they do not have any physical capital such as real estate or inventory. Companies must be able to ensure convenience, vast selection, the best platform technology, and an optimal ecosystem of suppliers and consumers. These are important characteristics for consumers to prevent them engaging in direct transactions between end users or switching to platform competitors (Gawer & Cusumano, 2014).

Various examples of multisided platforms specialized in second-hand fashion have been mentioned throughout this literature review such as Vinted and Depop. For instance, retailers such as Amazon.com (hybrid multisided) and Alibaba Group (pure multisided) are growing exponentially (Gawer & Cusumano, 2014). Gawer and Cusumano (2014) concluded that multisided digital platforms pose a threat to traditional retail business models and will push changes in the traditional models as we know them to keep up with consumer demand.

As a result of the multisided business model for second-hand clothing, the business is thriving, even though success is not assured and still entails some practical downsides and uncertainties for users (Charnley et al., 2022). Silva (2021) identified three sets of barriers to consumer engagement -- functional, psychological, and social. Of these, three factors proved more relevant: Lack of channel familiarity where consumers still have difficulty having easy access to the right channels for second-hand clothing consumption; Social embarrassment when purchasing second-hand clothing is still associated with the lower classes and may cause discomfort with peers; and Hygiene of products where concerns about product cleanliness represent a significant obstacle, especially for first-time consumers.

### **3. METHODOLOGY**

The following section outlines the methodology for this dissertation.

#### **3.1 Research Approach**

Different sources of data were used to explore the multisided C2C second-hand fashion phenomenon and answer the research questions. Both qualitative and quantitative approaches were employed to collect primary and secondary data.

Before collecting primary data, through a survey and semi-structured interviews, the existing literature was studied. To answer RQ1 results from a consumer survey and interviews with industry experts were analyzed to assess the impact of MCSFAs in the industry and how disruptive they are. To answer RQ2, which deals with the future of the fast fashion industry, survey and interview results formed the basis for scenario analysis. Using Schoemaker's (1995) strategic scenario framework, three hypothetical future scenarios were constructed to mirror how the fast fashion industry would evolve, assuming MCSFAs become a prevalent element of Western European fashion.

#### **3.2. Data Collection**

##### **3.2.1. Primary Data Collection: Expert Interviews**

Qualitative insights were obtained in the form of expert interviews. Semi-structured interviews allow the interviewer to guide the interview through relevant topics, without taking away flexibility to broach new subjects as they arise. Open-ended questions can lead to 'extra' findings not directly related to the question (Galletta, 2013).

Criteria for interviewee selection were their field of expertise, in this case the fashion field. It was crucial to have different types of backgrounds – luxury and premium, midmarket, fast fashion, sustainable fashion, and second-hand fashion – to receive different perspectives on the topic. Through personal contacts and LinkedIn networks, 8 interviews were conducted in English and Portuguese that lasted on average 35 minutes. Experts were given anonymity. Table 1 organizes interviewees by number, and identifies their roles, company industry and type, and company revenue range.

ID	Role	Industry	Company Type	Revenue Range
1	Head of Design Woman & Girl	Apparel and Accessories Retail	Midmarket Fashion	>30 million EUR
2	International Sales Representative	Jeans Fashion	Premium Fashion	5 – 10 million EUR
3	District Manager	Apparel and Accessories Retail	Fast Fashion Group	> 2.5 billion EUR
4	Product Manager	Apparel and Accessories Retail	Fast Fashion	N/A
5	Head of Digital Product & CRM	Jeans Fashion	Premium Fashion	5 – 10 million EUR
6	Trade Marketing Specialist	Accessories Retail	Fast Fashion	>60 million EUR
7	Business & Innovation Consultant	Consultancy/ Fashion	Sustainable/ Second-hand Fashion	N/A
8	Project Manager	Apparel and Accessories Retail	Fast Fashion	N/A

*Table 1: Interviewees' Identification*

Interview outputs were organized and analyzed using the “qualitative content analysis” (QCA), technique to examine interviews and draw conclusions. Categories for analysis were created using an inductive approach, where they are extracted from the qualitative data to avoid researcher bias (Mayring, 2015). A summary of the expert interviews can be found in the Appendix.

### **3.2.2. Primary Data Collection: Survey**

There were 127 survey respondents with 6 excluded due to incomplete answers leaving a sample size of 121. Participants were all from Western European countries, the regional focus of the study. The target audience was possible using Amazon Mechanical Turk to distribute the survey.

The survey consisted of 25 questions and was divided into 4 main sections designed to collect customer insights about habits, usage, and intentions regarding fast fashion, 'traditional' second-hand fashion, and MCSFAs. There were screening questions to identify whether respondents were not fast or second-hand fashion consumers, which excluded them from answering sections about consumer behavior. However, all respondents were eligible to answer the MCSFAs section since it related to their intentions towards MCSFAs and acceptance. Survey results were analyzed using IBM SPSS.

### **3.2.3. Secondary Data Collection**

The substantial part of secondary data collection was chapter 2 of this dissertation, the literature review, using academic articles, books, reports, and other relevant documents. The purpose was to understand the fashion industry's context, the second-hand market from the consumer and supplier sides, and relevant management business models. Secondary data supplemented the primary data sources, providing support for understanding insights from survey results and expert interviews.

## 4. RESULTS AND DISCUSSION

### 4.1 Results

#### 4.1.2 Expert Interviews

Interview findings were clustered by inductive categorization into the following categories: evolution and impact of the second-hand fashion market, MCSFAs strengths and advantages, MCSFAs challenges and disadvantages, sustainability in MCSFAs, the impact of MCSFAs on the fashion market, and the future of fast fashion with MCSFAs. The last category was analyzed later together with scenario planning. A summary of all expert interviews can be found in Appendix 1.

#### *Evolution and impact of the second-hand fashion market*

The second-hand fashion market is undergoing fast-paced growth and evolution, as underlined throughout this dissertation. All industry experts interviewed reinforced this fact and pointed to main reasons for this. Sustainability was primarily mentioned by all experts based on the growing awareness of the fashion industry's pollution problem due to more studies and information available to the public, spread by social media, and even governing entities. Younger generations also play a relevant role because they are more oriented towards sustainability and are gaining purchasing power (Interview 1,2,3,6&8) as a growing consumer demographic. New generations also tend to support and lend relevance to activist movements against fast fashion (Interview 2). Technology has created the possibility for more channels to be available such as online channels that are easy to navigate. This has also led to new players (Interview 1,2,3&5) growing the market both on the demand and supply sides. Another attractive factor mentioned by interviewees is the affordability that second-hand products provide for similar quality, especially as second-hand companies become more “professionalized” (Interview 2,3,7&8). Interviewee 2 also stated that the quantity of second-hand products available to sell has increased in recent years. Second-hand is now viewed as a way to continue to consume with less impact and more affordably, which is important when considering fast fashion consumption patterns. Other trends related to consumption were mentioned. As pointed out by interviewee 1, non-accumulation and capsule wardrobe trends can also be fulfilled by consumers selling their clothes. An interesting trend and change in consumers' mindset mentioned by interviewees 1, 5, and 7 was that used clothes are now considered cool, vintage, and sustainable, and not associated with low-income clients. The

success of second-hand companies in other sectors such as smartphones lends confidence to consumers about buying and selling used goods. Having this positive idea of the concept from other sectors makes it easier for consumers to accept it in fashion (Interview 2&3).

Regarding Covid-19, interviewee 6 stated that the “pandemic also brought awareness of the fragility of our existence and focused people on what we have vs what we need, rethinking way of consumption”. This is in line with a more sustainable mindset, for instance buying second-hand fashion.

With the expansion of second-hand fashion, primary fashion retailers are being impacted in a variety of ways. Most experts agreed that until now the impact on sales has been minimal (Interview 1,2,3,4,7&8). Interviewee 2 even added that second-hand will not be a direct competitor for sales. However expert 6 believed that traditional retailers are indeed already “losing sales from regular consumers who find similar brand items at lower prices, or models that are no longer available in the current season”. Interviewee 4, stated there are segments more affected, such as infants/children, due to product rotations, and luxury, due to price points.

Although the financial impact is not huge yet, in terms of trends, marketing, and customer demands it is already possible to feel the impact of the second-hand market (Interview 1,2,3,5&7). Brands seek initiatives to “keep up with clients and trends, more in a marketing sense, not to change the core business or because they think they found a very profitable untapped market, especially in fast fashion” (Interview 1). Brands that are leaders and pioneers are already coming up with solutions, for instance, ZARA’s new service in the UK, allows customers to donate, repair, and resell clothes.

With second-hand growing as predicted, some experts think the impact will be a threat for primary retailers in the future (Interview 4,5,6,7&8). Brands will have to see this as an opportunity to explore new business models (Interview 5). Finally, interviewee 8 interestingly underlined that the second-hand market could even promote growth of fast fashion, since it gives a mechanism for people to sell what they have, make a profit, and then buy more.

<b>Insights</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Ratio</b>
Sustainability trends are one of the main reasons for growth	X	X	X	X	X	X	X	X	8/8

Rise of new generations (Gen Zs and late millennials) is one of the main reasons for growth	X	X	X			X		X	5/8
Digitalization and technology evolution sponsors growth	X	X	X		X				4/8
Affordability moves consumers		X	X				X	X	4/8
More second-hand products available (extreme fast fashion consumption)		X							1/8
Non-accumulation and capsule wardrobe trends	X								1/8
Used clothes are now considered cool/vintage (loss of low-income association)	X				X		X		3/8
Success of second-hand companies in other sectors (smartphones)		X	X						2/8
Covid-19: Rethink consumption						X			1/8
Minimal financial impact in terms of sales	X	X	X	X			X	X	6/8
Traditional retailers are already losing sales						X			1/8
The impact is already felt in trends, marketing, and customer demands (Pioneer and leader brands are already reacting)	X	X	X		X		X		5/8
Second-hand growth can be dangerous for primary retailers in the near future				X	X	X	X	X	5/8
Growth of second-hand can potentiate fast fashion								X	1/8

*Table 2: Evolution and impact of the second-hand fashion market interview insights*

### ***MCSFAs strengths and advantages***

MCSFAs business model presents advantages when compared to other online/offline second-hand models, demystifying the concept of buying/selling second-hand items and making them more desirable (Interview 4&7). According to experts, this is mostly supported by the user-to-user relationship and their online nature. MCSFAs give agility to platform users, since the direct buy-sell process it facilitates makes rapid transactions easier for consumers. It is thus very user-friendly, as all experts agreed. Interviewees 1, 3, and 8 also stated it is more profitable both for buyers and sellers. Five out of 8 experts mentioned that key to their success is the wide variety of products and users that these online platforms usually attract. As pointed by interviewees 1, 2, and 7, MCSFAs are valuable to consumers based on their having a wide, diverse, and high quality user base. Further, this business model gets rid of sales intermediaries with little or no opportunity costs for consumers (Interview 2,3&5).

Online apps give users considerable flexibility since they combine a variety of products not possible in a physical setting, allowing potential buyers to find more styles and sizes (Interview

1,3&4) while allowing for a narrower and more personalized product search (Interview 6). MCSFAs can allow for international trades (Interview 6). Sometimes, clients of these apps target pieces they were not able to get for new items, and this is only viable online (Interview 1). Lastly, MCSFAs integrate buy and sell options (whole lifecycle) making it more efficient for consumers to separate actions or to have third parties taking over (Interview 5).

<b>Insights</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Ratio</b>
MCSFAs demystifying the concept of buying/selling second-hand and making it sexier				X			X		2/8
MCSFAs provide an online user-to-user relationship	X	X	X	X	X	X	X	X	8/8
The direct buy-sell process gives agility to users, making it easier, more rapid and very user-friendly	X	X	X	X	X	X	X	X	8/8
MCSFAs are more profitable for users	X		X					X	3/8
Wide pool of products and users	X		X	X		X	X		5/8
MCSFAs give elasticity to clients by combining various products in different styles and sizes	X		X	X					3/8
MCSFAs allow for a narrower and more personalized product search	X					X			2/8
MCSFAs allow for international exchanges						X			1/8
MCSFAs value is equal to the size and quality of their user base	X	X					X		3/8
MCSFAs lose all constraints of third-party involvement in sales		X	X		X				3/8
MCSFAs integrate buy and sell options (whole lifecycle) making it more efficient for consumers					X				1/8

*Table 3: MCSFAs strengths and advantages interview insights*

### ***MCSFAs challenges and disadvantages***

MCSFAs also have challenges and disadvantages. Expert 1 pointed out that external factors like transport/gas prices and the Ukrainian war are threats. Other dangers are frauds, hackers, phishing, and all schemes that can compromise the integrity of platforms. Breaking client confidence and scandals can ruin a brand’s reputation as trust is crucial for survival, and platforms are difficult and expensive to build (Interview 2,4&6). Another point mentioned before, is these platforms live of their user base and are as good as the size of their network, which again implicates being expensive to build and market (Interview 2). Still regarding marketing and reputation, interviewee 7 viewed MCSFAs as not sustainable as they tend to be portrayed. This is going to be obvious in the next few years and they will lose market share. As for new competition, experts 4 and 5 mentioned the probability of more “original brands”

creating resell solutions and clients considering them more trustworthy, gaining a piece of the market quickly. Different from ‘original brands’, resell platforms focus on product, and fashion is more than just product. Acting as a marketplace only is harder to create trust, emotional attachments, brand identification (Interview 8).

As for disadvantages, 3 out of 8 experts mentioned returns, as complex to manage. Half the experts stated that lack of physical contact can be considered very important for some clients, especially in used products. Size problems and quality issues can lead to client frustration. Interviewee 7 stated two additional disadvantages: Hygiene concerns and too much user dependence upon sales (ability to take quality pictures, ability to set reasonable prices, ect).

<b>Insights</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Ratio</b>
External factors: Transport prices; War in Ukraine	X								1/8
Frauds, hackers, phishing, ect (lack of trust)		X		X		X			3/8
User base hard and expensive to build		X							1/8
MCSFAs are not as sustainable as they advertise, and it will become obvious in the future							X		1/8
“Original brands” competition (similar programs)				X	X				2/8
Harder for MCSFAs to create trust, emotional relationship, and brand identification								X	1/8
Product returns	X		X		X				3/8
Hygiene concerns with products							X		1/8
User dependence to sell							X		1/8

*Table 4: MCSFAs challenges and disadvantages interview insights*

### ***Sustainability in MCSFAs***

As previously stated, the experts pointed out sustainability as one of the main reasons for growth of the second-hand fashion market over the past few years. They also acknowledged multisided C2C second-hand fashion applications as being a catalyst for second-hand fashion market growth. Experts agreed that MCSFAs can be quite sustainable, considering they promote circularity of fashion items and increase product lifecycle, in theory reducing production and waste (Interview 1,2,3,4,5,6&7). However, other concerns arise when talking about sustainability. Sustainability is hard to measure and a confusing concept in the minds of consumers (Interview 1&2). MCSFAs implicates transporting products from consumer to consumer, it is not being optimized in a warehouse, and since distribution plays a large role in the product’s footprint, this is a downside of these business models (Interview 1,2&3). On the

other hand, MCSFAs offer second-hand solutions with cheap prices and ready access, which can help control fast fashion consumption (Interview 2).

Some experts believed that most consumers come to these apps to buy more affordably or to make money with sales so as to buy more, not to be more sustainable or to specifically buy second-hand (Interview 2,3&7). A large part of these clients are fast fashion clients who want their usual products at a lower price. In the end, consumer behavior is what makes solutions sustainable. MCSFAs used in a controlled manner seems good, but experts said these apps are still promoting the fast fashion mindset and the extreme consumption disposal mentality, incentivizing people to buy more because they know items are easy to sell to make some money back. This induces extreme consumption of second-hand fashion (Interview 2,3,7&8) and worse. Experts 3, 4, and 7 went as far as saying it induces irresponsible consumption of fast fashion. All in all, experts did not believe MCSFAs are a perfect or definitive solution to the environmental problem, only buying less is a sustainable solution, since production is the real problem (Interview 4,6&7).

<b>Insights</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Ratio</b>
MCSFAs promote product circularity, increase product lifecycle, and reduce production and waste	X	X	X	X	X	X	X		7/8
Sustainability is hard to measure	X	X							2/8
Product distribution is not optimized	X	X	X						3/8
MCSFAs can help control fast fashion consumption		X							1/8
Consumers use MCSFAs to sell and buy more, promoting extreme consumption and disposal mentality		X	X				X	X	4/8
MCSFAs can induce irresponsible consumption of fast fashion			X	X			X		3/8

*Table 5: Sustainability in MCSFAs interview insights*

### ***The impact of MCSFAs on the second-hand fashion market***

Multisided C2C second-hand fashion applications have been gaining relevance in the second-hand fashion market and were identified as a catalyst for the rapid growth of the market by all interviewed experts. They are becoming a growing part of consumer behavior in Western Europe and in the world. Interviewee 5 even pointed out as an example the success achieved by Vinted, which in just a few years became one of the main marketplaces for selling clothing in Europe. As expert 6 mentioned “The trend of mobile shopping is irreversible”, the trend of

digitalization and eCommerce align with MCSFAs and drive sales in fashion in general and second-hand is no different (Interview 1,2,5,6&8). The user-friendliness and the easy user experience these apps provide solve client pain points (Interview 1,2,3,4,5,7&8) and provide access to a wider pool of products (Interview 1&3). All the strengths and advantages mentioned by experts build the case for MCSFAs being a catalyst for growth. MCSFAs align with trends in the industry and until now represent the most complete option for clients.

MCSFAs business model was identified by almost all experts as the business model of the future for second-hand fashion (Interview 1,2,3,4,5,6&7), again due to all advantages mentioned. Experts 2, 3, 4, and 6 argued that MCSFAs already have high consumer adoption. For instance, interviewee 4 mentioned a decrease already in physical second-hand stores, attributing it to more online options. Business models that only allow buying or only allow selling, are at a disadvantage. The same is true for business models that, while allowing users to take both buyer and seller roles, have a third-party mediating interactions. These will always be less efficient than an MCSFAs business model (Interview 5). MCSFAs give a better and more personalized experience (Interview 6). Experts 1 and 7, although recognizing the success of the MCSFAs business model in the future, still outlined the importance of physical stores that while decreasing are not going to disappear completely. When talking of second-hand fast fashion pieces, online is easier since quality and price are lower and there is no necessity to see the pieces beforehand because items are inexpensive (Interview 7). An interesting point was made by expert 3 regarding the boom in second-hand smartphones. Although second-hand smartphones were already traded on non-specialized platforms like OLX (also like second-hand fashion), when specialized online companies appeared success scaled. In the case of smartphones, companies also lent confidence to a high investment purchase. The same can be applied to the MCSFAs business model. This model also seems to be more profitable than others, since it cuts the costs of processing items and getting them ready for sale. For cheap pieces, no involvement in the product is important because margins are low (Interview 7).

Finally, only expert 8 did not agree that the MCSFAs business model represents the future of second-hand fashion. Expert 8 instead suggested that business models where 'regular brands' create their own second-hand fashion initiatives will be stronger in the future than independent apps due to client confidence in the brand.

Insights	1	2	3	4	5	6	7	8	Ratio
MCSFAs are a catalyst for growth	X	X	X	X	X	X	X	X	8/8
MCSFAs support digitalization and eCommerce/mobile shopping trends that are irreversible	X	X			X	X		X	5/8
MCSFAs bring user-friendliness to the market	X	X	X	X	X		X	X	7/8
Provide access to a wider pool of products	X		X						2/8
MCSFAs is the business model of the future for the second-hand market	X	X	X	X	X	X	X		7/8
MCSFAs are already the present of second-hand		X	X	X		X			4/8
MCSFAs are more efficient for client's vs other online models					X				1/8
MCSFAs give a better and more personalized experience						X			1/8
Physical stores are decreasing but are not going to disappear completely	X			X			X		3/8
Business models where 'regular brands' create their own second-hand will be stronger than MCSFAs								X	1/8

*Table 6: The impact of MCSFAs on the second-hand fashion market interview insights*

#### 4.1.2 Survey

The survey sample had 121 respondents of which 60.3% were male and 39.7% female. Most respondents were millennials (about 81.8%) with the vast majority (62%) being 'late' millennials with ages between 25-35 years old. Gen Z's were much less represented, amounting only to 6.6% of respondents. Regarding the level of education and employment status of the respondents, 80.1% of the sample had a bachelor's degree or a higher educational level, and 84.3% were full-time employed. As for income, this variable was recoded to group low, medium, or high earners (based on Western European standards) to facilitate analysis. Low earners ("Less than 1.000€" + "1.000€ - 1.999€") are 29.8%, Medium earners ("2.000 - 3.999€" + "4.000€ - 5.999€") are 57% and High earners ("6.000 - 7.999€" + "More than 8.000€") were 13.2%. All SPSS outputs can be found in Appendix 2.1.



*Figure 1: Sample characterization*

It is important to comprehend the level of familiarity of the consumers surveyed with fast and second-hand fashion. This was to validate if the desired target sample was being reached. 87.6% of respondents were fast fashion consumers, and 81% had bought second-hand clothes (Appendix 2.2), this means a great part of the sample answered about their fast fashion behavior and/or second-hand consumption. All respondents gave their opinion on the MCSFAs section, where 96.7% of the sample was fashion-driven, either fast fashion, second-hand fashion, or both (Appendix 2.2). It is positive to have had a very high number of respondents (117 of out 121) involved in fashion, making answers more insightful, and reliable and therefore enriching the study.

Concerning fast fashion consumers, 42.5% were heavy consumers buying weekly or once every two weeks, and most consumers (45.3%) were still very regular, buying monthly. Buying online was the most used channel, with 43.4% of consumers buying 51-75% of their basket and 44.3% buying 26-50%. When asked about the number one reason to buy fast fashion, “Staying in style”

was the most common answer with 31.1% of respondents, followed by “Quality” with 19.8% of respondents. Surprisingly, “Affordability” only appeared in fourth place (with 15.1% of respondents) after “Accessibility” (Appendix 2.3).

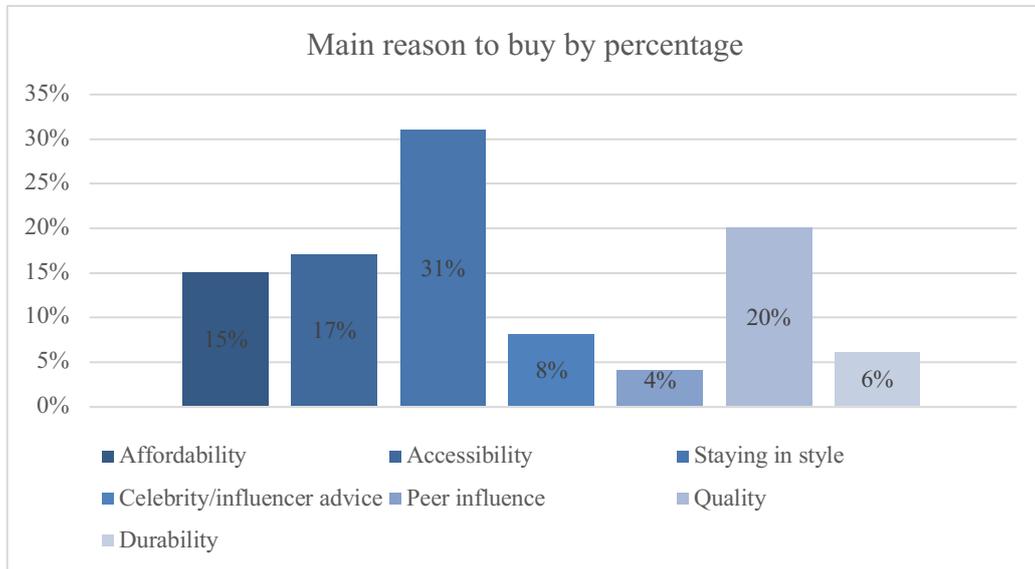


Figure 2: Main reasons to buy fast fashion

Regarding second-hand fashion consumers, most were regular consumers (52%) buying monthly or quarterly, and 28.5% were heavy consumers, buying weekly or once every two weeks. Still, second-hand consumers showed less frequency than fast fashion ones. In terms of online interactions, only 18.4% never resorted to this channel. Most respondents (44.9%) had only been buyers in the process of selling/buying second-hand clothes online. The top 5 most used platforms for this interaction were Facebook Marketplace, Instagram, eBay, Vinted, and Micolet. From this only Vinted and Micolet specialize in fashion, and only Micolet positions the company as an intermediary in the transactions. Vinted is the most accurate representation of the MCSFAs in the top 5. When asked about the main reason to buy second-hand fashion, “Affordability” was the most common answer with 30.6% of respondents, with quite some distance from the second place “Affordability-Sustainability” with 18.4%. Affordability is the most valued for second-hand buyers, even when given the possibility to combine it with sustainability. Notably, “Sustainability” only appeared in fifth place, chosen as the most important reason for buying only by 11.2% of respondents, staying behind “Staying in style” and “Quality” (Appendix 2.4).

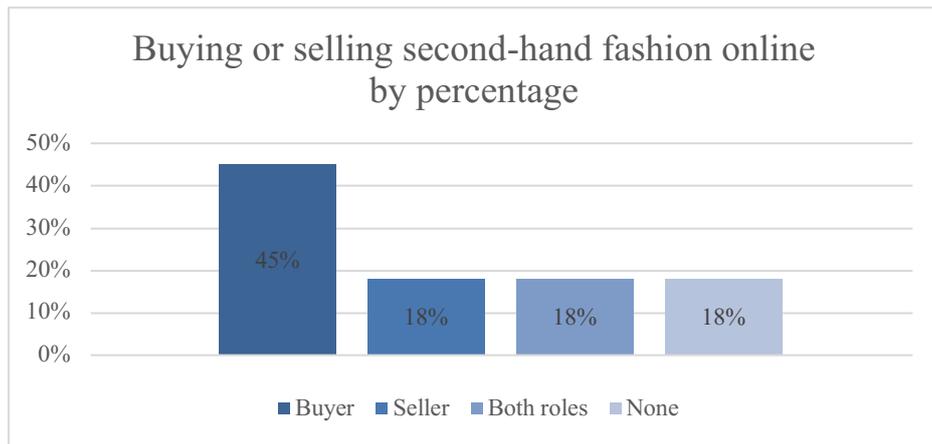


Figure 3: Buying or selling second-hand online

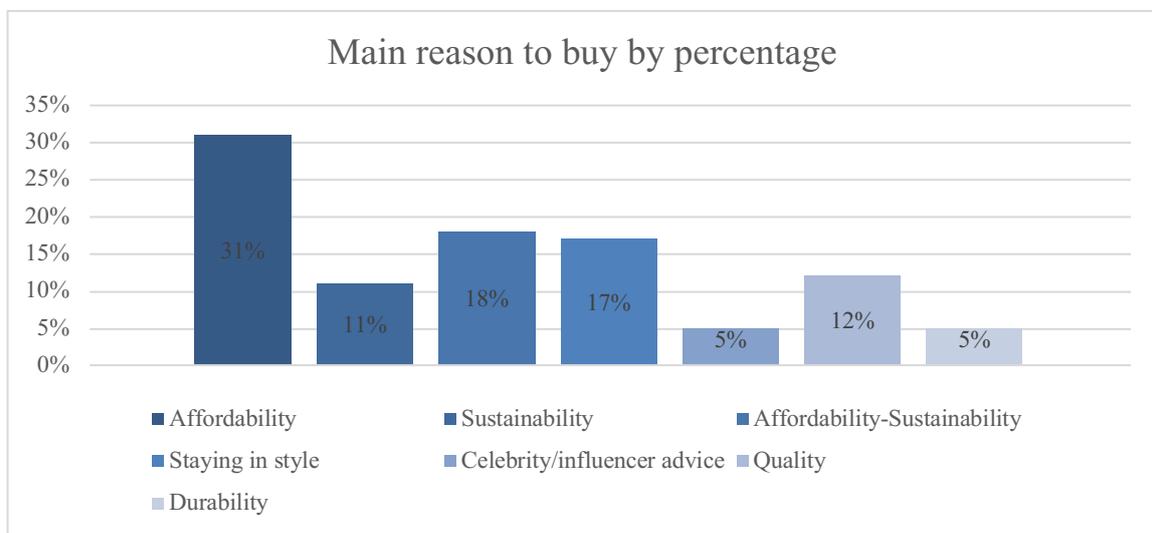


Figure 4: Main reasons to buy second-hand fashion

A Likert scale assuming values between 1 and 5 (where 1 is “Strongly disagree” and 5 is “Strongly agree”) was used to describe customers' level of agreement with statements related to attitudes/feelings toward second-hand fashion. Regarding social embarrassment and product hygiene, on average respondents “Neither agree nor disagree” with these being concerns when buying second-hand clothing, with means of 3.27 and 3.41 respectively. Problems that earlier on had great importance for the market, now seem to be mitigated, however, they are still relevant. In terms of lack of channel access, on average respondents “Agree” (3.58) it is a barrier to purchase. Respondents agreed with the statement “I buy second-hand clothing because I am concerned about the environment” (3.65). This can be misleading since when asked to choose between sustainability and other drivers, the former placed fifth with little relevance. This can suggest sustainability for most consumers occurs more as a plus (Appendix 2.4).

After an explanation of what multisided applications are, 47.9% of respondents said they would likely be buyers in this kind of application and 37.2% said they would be sellers. While buyer continued to be the prevalent role when looking at what roles these consumers have played before these percentages got closer. This business model might be more prompt for sellers than the ones respondents are using, possibly bringing more equilibrium in terms of supply vs demand. Oddly enough, only 14.9% of respondents said they would easily play both roles (Appendix 2.5). A Likert scale assuming values between 1 and 5 (where 1 is “Strongly disagree” and 5 is “Strongly agree”) was used to describe customers' level of agreement with statements related to attitudes/feelings toward MCSFAs. Respondents on average “Agree” (3.71) that MCSFAs make staying in style cheaper with similar quality and “Agree” (3.79) that MCSFAs allow them to continue having ‘new’ stylish clothes and keeping up with trends while being more environmentally conscious. This is positive for MCSFAs, since affordability was the most valued attribute when buying second-hand. Respondents also “Agree” that MCSFAs are safe to buy/sell clothes (3.97), and that MCSFAs make the selling process easier (3.73) and more profitable (3.93) for not having a third-party direct involvement in the sale (Appendix 2.5).

When asked about the likelihood of buying more second-hand clothing, with MCSFAs, where 1 is “Not at all likely” and 5 is “Extremely likely”, the mean was 3.86 “Very likely”. 66.9% of respondents answered either “Very likely” or “Extremely likely”, making it possible to conclude that respondents think MCSFAs could increase their second-hand clothing consumption (Appendix 2.5).

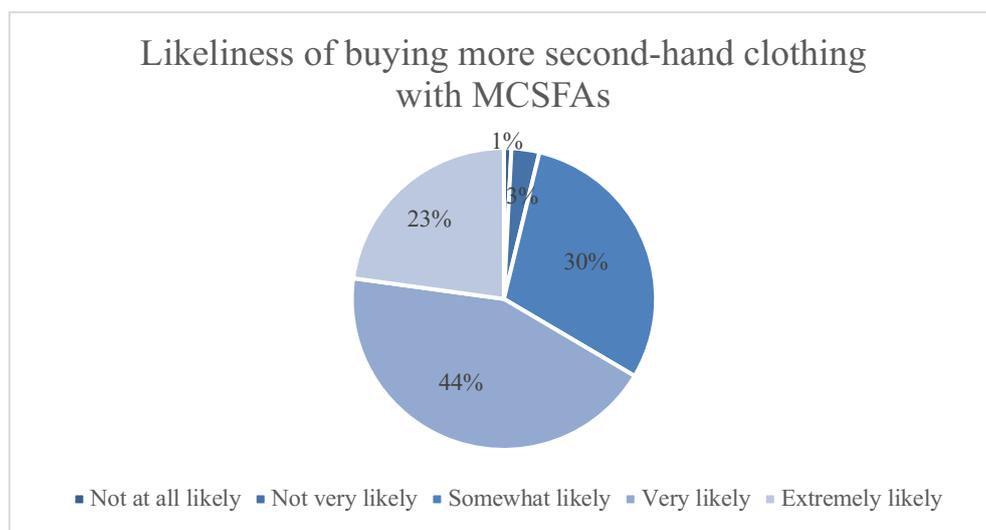


Figure 5: Likeliness of buying more second-hand clothing with MCSFAs

With the goal of analyzing the effect of gender, age, and level of income on the likelihood of buying more second-hand clothing, with MCSFAs, a first regression model was run (Appendix 2.6.1). However, gender was revealed not to be a statistically significant variable, having no significant effect on the dependent variable. As a result, this variable was taken out of the model to increase model precision. A second regression model was run to analyze the effect of age and income level on the likelihood of buying more second-hand clothing, with MCSFAs. All the interpretations below are based on the SPSS outputs in Appendix 2.6.2. This model was used because the dependent variable is metric (likelihood of buying more second-hand clothing), and the independent variables are all metric because they were transformed into dummy variables. Regarding correlations, looking into Pearson correlation, none of the results indicated a collinearity problem. After checking ANOVA for the significance of the model, I concluded the model has explanatory power ( $p < 0.05$ ), therefore makes sense to analyze the effects of the independent variables further. Regarding age, the variable was coded to divide respondents into two groups “ $\geq 35$ ” and “ $> 35$ ”. Age is a statistically significant variable ( $p < 0.05$ ), having a significant negative effect on the dependent variable, where if age increases by one standard deviation, it will decrease the likelihood of buying more second-hand clothing, with MCSFAs by 0.405, if everything else stays constant. Regarding the level of income, the variable was coded to divide respondents into two groups “Low to Medium Income” and “Medium-high to High Income”. Income is a statistically significant variable ( $p < 0.05$ ), having a significant positive effect on the dependent variable, where if income increases by one standard deviation, it will increase the likelihood of buying more second-hand clothing, with MCSFAs by 0.356, if everything else stays constant. These effects stated above explain 10.6% of the variance of the likelihood of buying more second-hand clothing, with MCSFAs (dependent variable). By analyzing the Collinearity Statistics and the Collinearity Diagnostics, I concluded that there is no Multicollinearity Problem.

## **4.2 Discussion**

### **4.2.1 Impact of Multisided C2C Second-hand Fashion Applications**

The first research question of this dissertation was to find out whether multisided C2C second-hand fashion applications are impacting the fashion industry in Western Europe and what is that impact. For this, eight interviews with fashion industry experts were conducted and a survey was published to receive information from western European consumers.

As explored in the literature review part of this dissertation, the second-hand fashion market is a part of the fashion industry that is not new at all but has gained a lot of relevance in the last few years and is promised to gain eleven times more in the next years to come. Experts also acknowledge that the industry has evolved, and this will continue. It is also possible to identify through the survey that a big part of consumers is already consuming second-hand fashion and with some regularity, but still not as regularly as they consume fast fashion. Thus, it is possible to conclude that the second-hand fashion market already has a presence in the fashion industry as a whole and that this expression will continue to grow exponentially.

The main reasons for this growth are sustainability and affordability, the younger generations' increase in purchasing power, generations that are more open to second-hand and searching for more sustainable solutions in fashion, and, finally, technology that creates new online channels that are easy to use and reach by users. The factor that seemed to be most important in the literature and the experts was sustainability. However, after surveying consumers, affordability was the reason for second-hand consumption with sustainability only placing 5<sup>th</sup>, showing much less importance than anticipated. Affordability was also mentioned by some experts when talking about MCSFAs. Many believed that the motivations behind these apps are different than for second-hand in general and it has to do with cleaning out a closet and earning money to buy more either second-hand or from primary retailers. Consumers surveyed also confirmed they believed they can use MCSFAs to buy cheaper items of similar quality. This is also why some experts saw the success of these apps in low-value pieces, that require little monetary investment. This way client trust does not need to be high. For higher-value pieces that require more money, B2C models are pointed to as more appropriate.

MCSFAs are the predominant business model for the future of second-hand as held by industry experts. MCSFAs follow industry trends and thrive on advantages like an easy and user-friendly direct buy-sell online process, more agility and profitability for buyers and sellers, and a wide pool of products and therefore users. These were mentioned by experts and consumers surveyed and contribute to business model strength. Business models that only allow buying or only selling are at a disadvantage, as are those that have third-party mediating interactions (B2C). They will always be less efficient than MCSFAs, experts and surveyed consumers agreed. Profit-wise, MCSFAs are better for companies than other models since they cut down on all

costs of processing items for sale. This is particularly relevant for low-value items because margins are slim.

Consumers further agreed that MCSFAs are the future business model to adopt, responding that they are very likely to buy more second-hand clothing in the future with MCSFAs. When in an online setting, most consumers are already using apps that allow them to trade clothes C2C. The most common online platforms are Facebook marketplace and Instagram, indicating acceptance of the MCSFA business model. Information collected with the experts and in the literature review about new generations being more likely to use MCSFAs to buy more second-hand was explored with surveyed consumers and verified. However, consumers with lower purchasing power are not more likely to use MCSFAs, in fact, the opposite was true.

All things considered, MCSFAs impact the second-hand fashion market positively by promoting market growth, growing existing clients, and reaching clients who did not have prior solutions for their needs. Thus, the second-hand fashion market impacts the fashion industry more and more. Therefore, we can conclude that MCSFAs already are impacting the fashion industry and growing it. This promises to continue. Some experts believed the strong growth of MCSFAs could even cannibalize other branches of the fashion industry, for instance, fast fashion. If this happens, since second-hand products are cheaper, margins and profits in the industry could suffer. Nevertheless, most experts did not believe there was significant overlap in sales with fast fashion. With the survey, we can see that, at least for now, fast fashion consumers continue in large numbers and are heavy consumers.

The first research question was: What is the impact of multisided C2C second-hand fashion applications for the fashion industry in Western Europe? The impact of MCSFAs in Western Europe is already present and growing. These applications are a catalyst for the second-hand fashion market, the sector that is predicted to grow over the next few years and it may be the segment that will grow the fashion industry the most.

Also, MCSFAs are changing second-hand fashion as we know it and making it a part of most fashion industry consumer behavior. With MCSFAs, consumers can now buy second-hand and other fashion segments simultaneously, not treating second-hand as a different industry with different clients as consumers. MCSFAs came to “liberalize” the segment changing consumer behavior along the industry.

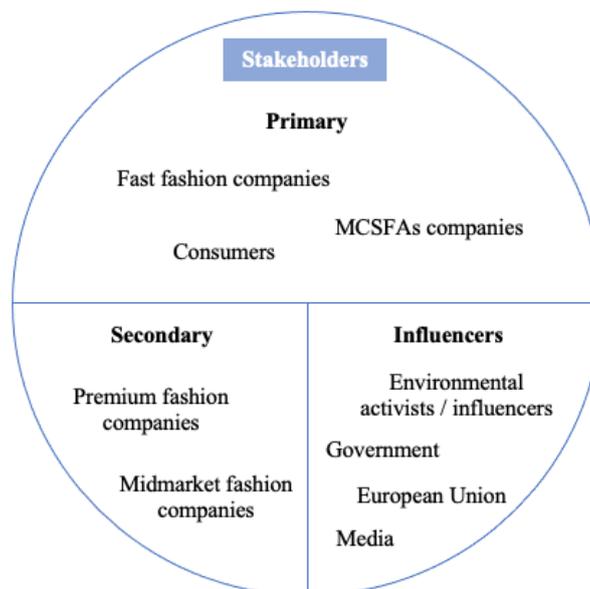
## 4.2.2 The Future of Fast Fashion

### 4.2.2.1 Scenario Definition

This section outlines the future of the fast fashion industry if multisided C2C second-hand fashion applications become a prevalent part of the Western European fashion industry. Schoemaker (1995) strategic scenario planning tool was used to answer RQ2. As an output, this planning tool will give three distinct scenarios. A conservative, base case, and optimistic scenario, all assume different levels of importance of MCSFAs and therefore different responses from fast fashion.

#### *Major stakeholders*

For Schoemaker's (1995) scenario planning, identifying major stakeholders is essential. The primary stakeholders are MCSFAs companies, fast fashion companies, and consumers, their actions shape the adoption of MCSFAs and ultimately determine their success. The secondary stakeholders are premium fashion companies and midmarket fashion companies. They do not directly influence the market direction or disruptor acceptance, but rather react to it. The influencers are environmental activists/influencers, governments, the European Union, and the media. Through their actions, they influence the speed and direction of acceptance of the disruption (Figure 6).



*Figure 6: Stakeholders*

#### *Basic trends*

The next step is identifying basic trends that affect the fast fashion industry and MCSFAs. Firstly, sustainability is a strong trend, particularly in an industry considered one of the most

polluting in the world (Berg et al., 2020). Sustainability will offer fashion its biggest opportunities for growth, but also represents one of the hardest challenges ahead (McKinsey, 2021), as a holistic and real approach to sustainability can be hard and costly to achieve. Various fast fashion brands have “sustainable” collections or sustainable initiatives in some form, but almost all are still short in accompanying this trend. This concern is a trend, coming along with increasing environmental regulations, and continuing growth of environmental interest groups. Secondly, E-commerce became a critical success factor (Bilińska-Reformat & Dewalska-Opitek, 2021), driving sales growth. Consumers have become used to this channel very rapidly mostly due to the pandemic. The challenge ahead for companies is optimizing online and offline processes associated with E-commerce for both clients and businesses. Lastly, there is the fashion technology trend. Clients, especially younger generations, demand technology in everything, and fashion is no different. In 2021, fashion companies invested between 1.6 and 1.8 percent of their revenues in technology. Because of this, investments are expected to double by 2030 (Amed et al., 2022). The key areas for digital investments are personalization, store technologies, and end-to-end value chain management. While E-commerce is more consumer-focused, fashion technology tends to be a back-end approach, still prioritizing the users, but promoting efficiency.

### ***Key uncertainties***

The next step is to identify key uncertainties. The fast fashion industry that is extremely competitive and in constant rapid development, and uncertainties are very present. The main uncertainty regarding the effect of MCSFAs in the fast fashion industry is how will these applications affect the future. Will consumer adoption of MCSFAs be so high that it will pose a threat to fast fashion? Or will it not affect fast fashion operations? Furthermore, will fast fashion companies have to adopt some kind of second-hand fashion into their brands to keep up with client resell demands? What kind of solutions will there be?

This dissertation is not attempting to predict the future, but rather build 3 hypothetical scenarios to evaluate how MCSFAs, as a disruptor, may influence the fast fashion industry. After looking at expert interviews and survey results, it is clear that MCSFAs have relevance in the industry and will have more in the future. The question is what will be felt by fast fashion companies and how will they deal with the disruptor and possible competitor?

Scenarios presented below start with a likelihood of one-third for each scenario, which will be recalculated after its analysis according to findings from research done in this thesis (expert interviews- 80% and survey results- 20%).

### ***1<sup>st</sup> scenario - Optimistic scenario***

In this scenario, MCSFAs will be adopted and become the main business model for buying and selling second-hand fashion worldwide. Resell will become a trend. In Western Europe, adoption will follow, with new companies in the market arising from this business model and having great success. Physical options and other online models will lose relevance.

Fast fashion will strongly react to the impact on sales of this new competitor and to increasing sustainability pressures arising from influencers such as media, country governments, European Union, and activists. Fast fashion companies will create dynamics involving their brand's second-hand clothing like resell programs where brands can retake used clothes from clients, and then sell them in a second-hand section of the store. These would differ from the C2C business model of the disruptor since experts mentioned the advantage of brands giving customers confidence in the quality of items. Otherwise, using the C2C model would not have advantages for consumers. This scenario is unlikely to be adopted by fast fashion companies, due to the low profitability and high complexity this would add to their already established business models.

Clients would adapt well to this as they will be able to shop old collections items at reduced prices, but with the security that the original brand offers. However, companies must be able to have competitive prices in relation to MCSFAs since, as confirmed with surveys, affordability is the most valued attribute when buying second-hand.

Concluding, only 2 experts out of 8 (25%) stated that this scenario would be possible, but it is very dependent on the future popularity MCSFAs will have. 66,9% of surveyed consumers stated they are very or extremely likely to buy more second-hand clothing as they are now with MCSFAs. Therefore, the probability for this scenario occurring is 33% (See table 7).

### ***2<sup>nd</sup> scenario – Base case scenario***

In this scenario, MCSFAs will be adopted but more moderately. In Western Europe, adoption will follow, with some new MCSFAs companies having success, following already established

market leaders. The market remains somewhat below its full potential. This can be due to some of the disadvantages and threats of this business model, for instance, frauds and scandals in these apps that take away trust. Physical options and other online models will have less relevance but will still have a presence.

Fast fashion companies will moderately react to the moderate impact on sales the disruptor will produce. And pressures will continue from influencers such as media, country governments, European Union, and activists. Fast fashion brands will have some form of resell or retake but indirectly or with much less relevance. Four experts thought fast fashion brands will create retake programs for their items, where users can bring clothes at the end of their useful life, and brands will recycle them or transform them into new items. Experts believed this initiative must bring some advantage for consumers, for instance store credit or points to accumulate for a discount. Experts and consumers surveyed confirmed that financial incentives are crucial in second-hand fashion. This scenario is very likely to be adopted by fast fashion companies to respond to MCSFAs. Some of them already tried these initiatives, due to the low investment needed, potentially high impact on consumers, and possibility of making a profit.

Clients respond well to this solution. It is a way to get a discount on purchases, making their favorite stores more affordable. Also, it is easier and more direct, since customers would receive compensation upon delivery, while not having to go through a sales process. With MCSFAs, the profit made from sales is probably higher, which is important for customers. However, it is not as certain, quick, and easy. For this reason, some consumers may prefer retake solutions.

Four out of 8 (50%) experts believe that MCSFAs will continue to grow at a steady pace. Fast fashion brands have a moderate need to respond with retake solutions allowing consumers to have discounts on new items. 29,8% of consumers surveyed stated they are somewhat likely to buy more second-hand clothing with MCSFAs. Therefore, the probability for this scenario is 46% (See table 7).

### ***3<sup>rd</sup> scenario – Conservative scenario***

Second-hand fashion is not as popular as predicted and MCSFAs grow below expectations. MCSFAs are not considered as sustainable and lost this marketing angle. Reselling will not become a trend, even though sustainability will still be important. In Western Europe, environmental solutions to fast fashion will continue to arise but MCSFAs are not seen as one

of them. This seems unlikely because as already concluded from the literature, experts, and surveys, second-hand fashion is growing and MCSFAs deliver clear advantages for the market.

Fast fashion sales will not be impacted by MCSFAs, nor in terms of marketing. Nevertheless, sustainable trends for the industry will persist. The main threat comes from governing bodies imposing more legal parameters in the European Union and country-specific legislation growing, particularly in Western Europe. Therefore, fast fashion companies will continue to explore and implement environmental solutions and policies as they have been doing, due to legal and marketing pressures. Measures include using sustainable materials, recycling collections, reducing unsustainable production practices E.g., cutting down on water usage, and eventually reducing the number of items produced in some collections. But this will not directly change the premises of fast fashion.

Customers find MCSFAs not to be as affordable due to external factors like transportation costs. Also, they are revealed to be not as sustainable as alleged. There will not be mass adoption of MCSFAs. Clients will continue consuming fast fashion with business as usual.

Only 2 experts (25%) stated that this is the most likely scenario. 3.3% of surveyed consumers stated they are not at all or not very likely to buy more second-hand clothing with MCSFAs. Therefore, this scenario has a probability of 21% (See table 7).

	<b>Optimistic Scenario</b>	<b>Base Scenario</b>	<b>Conservative Scenario</b>
Experts 80%	25%	50%	25%
Survey 20%	66,9%	29,8%	3,3%
<b>Total</b>	<b>33%</b>	<b>46%</b>	<b>21%</b>

*Table 7: Scenario Probabilities*

#### **4.2.2.2 Fast Fashion Evolution with MCSFAs Prevalence**

After outlining the future scenarios, it is possible to answer the second research question: How will fast fashion evolve if multisided C2C second-hand fashion applications become a prevalent part of the Western European fashion industry?

Multisided C2C second-hand fashion applications will become the most common and successful business model for the second-hand market and are therefore relevant for the future of fashion. With thriving of MCSFAs, fast fashion companies will maintain their core business model but will adopt solutions to fight this competitor. Not being profitable to just replicate the MCSFAs business model, brands will create retake programs with discount/cash rewards for clients. This will facilitate consumer adoption since initiatives with promoting affordability are identified as a critical success factor.

All in all, the second scenario, the “base case scenario”, is most likely to represent the evolution of the fast fashion industry given that MCSFAs have a positive moderate prevalence in the Western European fashion industry.

## **5. CONCLUSIONS AND LIMITATIONS**

### **5.1 Main Findings & Conclusions**

This dissertation answered two research questions concerning the benefits and limitations of multisided C2C second-hand fashion applications. The first question analyzed the impact of MCSFAs on the fashion industry in Western Europe. Expert interviews revealed that MCSFAs are already impacting the second-hand fashion market catalyzing its growth. Experts believed this will continue in the future and intensify. The second-hand market is predicted to increase exponentially, and experts proposed that MCSFAs is the business model of the future. This expansion of MCSFAs is supported by industry trends such as sustainability and eCommerce, and business model advantages like an easy and user-friendly direct buy-sell online process, more agility and profitability for buyers and sellers, and a wide pool of products and users. Also, business model efficiency is higher in MCSFAs versus physical or online B2B models which is key for MCSFAs' expansion. Most customers surveyed were already regular second-hand fashion consumers and had brought or sold online with MCSFAs. They cited MCSFAs as a catalyst for market growth mentioning they would very likely buy more second-hand clothes with MCSFAs. A rising second-hand fashion market implies an increase for the fashion industry as a whole. Some experts believed that the intense growth of MCSFAs could even affect sales from other parts of the fashion industry, for instance, fast fashion. If this were to occur, since second-hand products are of lower value, this would decrease the value of the industry as a whole. Nevertheless, most experts did not believe that the overlap in sales with fast fashion would be significant, at least not soon.

The second research question prompted scenario analysis about the future of the fast fashion industry with prevalent MCSFAs. Three scenarios were constructed: optimistic, base case, and conservative. These were analyzed regarding their likelihood of happening, taking into consideration expert interview insights and survey outputs. The base case scenario received the highest likelihood. In this scenario, MCSFAs will become the most common and successful business model for the second-hand market. Fast fashion will respond by creating retake programs for consumers' old items in exchange for discounts or store credits. It might take some time for customers to fully understand and adopt these programs, but fast fashion consumers and MCSFAs users have demonstrated themselves to be cost-driven. So in-brand solutions where the return is more secure and which make consumption more affordable and easier, will gain more traction.

## **5.2 Limitations and Future Research**

While providing contributions to the field of study, this dissertation has limitations with regard to its research approach, data collection process, and time constraints.

Regarding quantitative research, sampling, the segment representing generation Z “16-24 years old” only had 8 respondents. Since this generation is mentioned as one of the keenest on digitalization and environmental concerns by experts and the literature reviewed, it would have been useful to have had more respondents from this segment. Also, none of the respondents were students, a large target group for MCSFAs. This did not allow for comparisons between students and workers. Moreover, most respondents were male (60%) and usually women are earlier adopters of fashion trends so results in terms of usage of MCSFAs could be different if gender were more balanced.

Only eight experts were interviewed, and most, while working in international companies, were Portuguese which may have introduced a location bias. Only one expert worked for second-hand/sustainable fashion brands as a consultant, and the other experts worked in fast/midmarket/premium fashion. While three have worked on sustainability projects within their company, in general, they are not as experienced in second-hand/ sustainable fashion companies and may underestimate the impact of those in the fashion industry.

Future research could further investigate why and to what extent fast fashion consumers would trade a bigger part of their fashion consumption for second-hand fashion. Also, it could be interesting to analyze the impact of MCSFAs in the luxury market, since second-hand has recorded impressive growth in this segment due to interesting discounts on high-end items with little wear.

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## APPENDICES

### Appendix 1: Summary of interviews

#### Interview 1

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- A shift in the mentality of younger generations (gen Z, late millennials) who are more prompt for sustainability.
- Social media development brought awareness of the fashion problem and the possibilities to do second-hand online.
- Minimalism and non-accumulation are a trend.
- Buying and selling second-hand is becoming “cool”.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Brands in general don't feel an impact on sales.
- Brands that are pioneers and want always to be ahead are thinking about this and coming up with solutions. Ex: Inditex with new ZARA service in partnership with Recurate Inc: donating, repairing, and reselling Zara clothes, or Farfetch second life, in the luxury segment.
- These brands don't want to lose sales and seek these initiatives to keep up with clients and trends, more in a marketing sense, not to change the core business or because they think they found a very profitable untapped market, especially in fast fashion.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Most studies indicate a huge growth potential in the second-hand fashion market in the next few years.
- The MCSFAs are here to stay, will become more and more popular, and are a catalyst for this market for sure.
- These apps will thrive not only because second-hand will but also due to their service that is digital and provides easier access to products.
- I believe MCSFAs will be more profitable for high-end pieces than for fast fashion/cheaper pieces, however, there is also space for them.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- MCSFAs give a wide pool of products to buy and clients to sell to. These apps' value to their consumers is linked to how many users and therefore variety they have.
- MCSFAs give agility to the process of putting items for sale.
- These apps give clients a lot of elasticity since they combine a variety of products not possible in a physical setting. Possible to find more styles and sizes.
- Buying online is more and more a trend and a part of consumer behavior, especially for the younger generation.
- Selling directly to the client is made easier and more profitable.
- Sometimes, clients of these apps target pieces they were not able to get new, and that is online viable to do online.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- External factors such as transport prices and the war in Ukraine may alter pricing policies in terms of transportation increasing overall product prices very obviously to the client.
- Returns may not be easy and not a straightforward process for clients.
- Lack of physical contact with the products, which can be considered very important for some clients, especially in used products.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- These apps promote product circularity and the increase in the product lifecycle, which is good for the environment and reduces waste.
- However, the transportation of the products is not optimized and is still a big part of the product footprint.
- Sustainability is difficult to measure, and the positive impact of these applications is also very much linked to the premise that buying there replaces a purchase in fast fashion, therefore stimulating less production in the future, but this behavior is never certain.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- Yes, there is a great potential for growth and ease to scale in this business model, I see it as a big part of new second-hand stores that will help fulfill all the potential growth predicted for the market.

- I also see the business model adapt in some ways to grow even further, for example collaborating with big brands to sell their “slow” stocks or very old collections. But this would be a step further.
- In parallel physical experiences will still have value, second-hand fashion physical markets are also gaining more relevance, but will not grow to the same scale as MCSFAs.

*Q8: If so, how will this change how traditional fast fashion operates?*

- MCSFAs will moderately impact fast fashion and companies will have to come up with solutions.
- As I mentioned solutions with collaborations between MCSFAs with original brands to sell slow stock.
- Or retake programs within the companies in exchange for store credit or discounts.

## **Interview 2**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- Environmental awareness of the population in general due to climate change and more information/studies spread.
- Young generations are more aware of the fashion industry's impact, and some movements against fast fashion with late millennials or gen Zs start to gain relevance.
- Quality-price relation in second-hand fashion is much better than before since it's been years of extreme consumption (more products available to sell).
- Much more available channels to buy and sell second-hand fashion offline and online, and easier to navigate.
- Much growth and proven success of second-hand products in other sectors, smartphones for instance. This gives confidence to consumers to try it in other sectors.
- Also, big players in fashion are doing it spreading the concept even more.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Brands in general don't feel a significant impact yet.
- Our competition is not the second-hand market and I doubt that someday it will be.
- I see the second-hand market as being a complement to the primary retailer in the future, not direct competition.

- I don't believe we will ever have a significant loss in sales because of second-hand, but with this market growing we might have to adjust to stay updated and keep up with clients' needs.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, these applications will sponsor the rapid growth of the market.
- Everything on our phones is the future, we don't live without them and the easy access they are providing us to a variety of services.
- Consumers see these apps to make money and space in their closets to buy more.
- Consumers were already showing an interest in selling clothes but didn't know how to or didn't want to have too much trouble. These apps came to solve this.
- Buying second-hand is also facilitated and more in trend. A lot of consumers start by selling and end up as buyers also.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- Yes, the business model allows direct interchanges between users, losing all constraints of third-party involvement.
- The process is easier, more rapid, and more profitable both for buyers and sellers.
- The trade of having an 'extra' guarantee by the third party is not enough valued.
- This is for fast fashion or medium because, in luxury where there is a need for authentication, third-party involvement is essential.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Frauds, hackers, phishing, and all schemes that can compromise the integrity of the platforms are a big threat. Breaking client confidence and scandals can ruin a brand's reputation.
- These platforms live of trust which is hard to build.
- These platforms live of their user base and are as good as the size of their network, which again can be hard and expensive to build.
- Lack of physical contact with the products, which can be considered very important for some clients, especially in used products.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- I don't believe sustainable is the right word, but it does help control the extreme consumption of fast fashion.
- Transportation pollution is a big issue.

- These apps promote extreme consumption, which is never sustainable, even if it's for circular products.
- Most clients go to these applications to buy more affordably or to sell to buy more, not to be more sustainable or to specifically buy second-hand.
- A big part of these clients are fast fashion clients that want their usual products at a lower price.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- Yes, this business model will be the future for second-hand, but I can argue it is already the present.
- Aligns with every trend in the industry and until now is the most complete option for clients.
- A growing part of consumer behavior in Western Europe and in the world.

*Q8: If so, how will this change how traditional fast fashion operates?*

- MCSFAs will eventually moderately impact fast fashion if the market grows as much as predicted.
- Even if not by losing a lot of clients initially for marketing.
- Other sustainable trends already impact the brands, for example, my company is reducing water in production by 60%.
- If the MCSFAs concept prevails, I think brands are going to create new ways around “the system of second-hand fashion”. I think the most common will be the containers to leave your clothes in exchange for store credit.

### **Interview 3**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- Bigger environmental awareness of the population in general due to social media, and government policies nationally and internationally.
- People are more educated on planet resources, and on the effect fashion produces.
- More information on how buying and selling second-hand works.
- More channels to buy and sell.
- Advances in technology also sponsor this growth.
- The success of second-hand in other markets (i.e: smartphones), makes clients more used to/open to the concept.
- Second-hand is now viewed as a way to continue to consume a lot but with less impact and more affordably.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Brands in general don't feel a significant impact yet.
- Changes being made in the sustainability of brands are boosted by trends and clients' demands.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, these applications are a catalyst for the second-hand fashion market growth.
- Clients see this app as a solution to have some profit and continue to buy more.
- These apps will cause the second-hand fashion market to have as much success as second-hand smartphones had when specialized companies appeared.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- Direct interchanges between users, losing all constraints of third-party involvement.
- User-friendly experience in general, especially in shipping.
- Wide pool of users and products.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Returns may not be easy and not a straightforward process for clients.
- Lack of physical contact with the products, it's a general ecommerce problem.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.
- Product transportation is very polluting.
- Can incentivize people to buy more because they know that is easy to sell and have some money back. Buy more second-hand but also fast fashion.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- Yes, this business model will be the future for second-hand but are already the present.
- These apps are a specialized marketplace for fashion, easy to use, to access and gather a wide variety of users and products.

*Q8: If so, how will this change how traditional fast fashion operates?*

- I think having second-hand sold in “original brand” stores is not the first solution.
- Retake programs in exchange for store credit for clients, and then used items would be used by the company to create new pieces is a possible response from fast fashion.
- I was involved in a retake temporary campaign my company did and the results were not huge but showed potential, particularly marketing-wise.
- We took those teachings for the future to perfectly calibrate similar campaigns.

#### **Interview 4**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- Sustainability problems and trends related to the fashion industry mainly with fast fashion.
- The growth of second-hand is happening and will continue.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Brands in general don't feel a significant impact yet.
- The infant/children segment however is feeling the impact more due to product high rotativity.
- The luxury segment also feels this more due to the price point.
- In fast fashion due to price, this impact will be harder to come.
- However second-hand is becoming a huge trend, and this can be dangerous for primary retailers in all segments.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, these applications are a catalyst for second-hand fashion market growth.
- Demystify the concept and make it sexier.
- Less stigma and makes the whole selling-buying process easier.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- MCSFAs online nature is opens a lot of doors. Much wider customer base and products.
- MCSFAs make the buying/selling process easier, user-friendly, and more accessible.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Retake/ Resell solutions original brands can create and clients considering them more trustworthy.
- Frauds and scandals can quickly ruin a brand's reputation and the nature of MCSFAs exposes them quite some to this risk.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.
- Can incentivize people to buy more because they know that is easy to sell and have some money back.
- Only buying less is a sustainable solution.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- Yes, this business model will be the future, it is consistent with future trends for the industry and consistent with clients' demands.
- I think is already the present, I have seen a decrease in physical vintage stores for example, that I think is due to more online options.

*Q8: If so, how will this change how traditional fast fashion operates?*

- Second-hand will grow a lot as I already mentioned, but I do not think this growth will have a different effect on fast fashion operations as growing sustainable trends will have.
- For marketing, and most as a form of greenwashing, fast fashion companies will intensify the kind of solutions they already adopted like additional sustainable collections, use of biodegradable materials or less harmful chemicals for the environment, ect.

### **Interview 5**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- The growing importance of sustainability and the focus on fast fashion as being one of the more polluting.

- Inversion of mindset with second-hand, now considered cool/vintage and sustainable and not associated with low-income clients and hygiene concerns.
- Entry of new players (online and offline) that facilitate the buy and sell process.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Brands will have to react and work in both areas (core business and second-hand).
- Brands will have to see this as an opportunity to explore new business models.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- No doubt. And we can see this in the success achieved by Vinted, which in just a few years became one of the main marketplaces for selling clothing in Europe.
- These digital formats, with very user-friendly navigation and usage experiences, have accelerated and will continue to stimulate the adoption of this type of service.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- With MCSFAs the process is easier, more rapid, and user-friendly in both buying and selling.
- MCSFAs integrate buy and sell options (whole lifecycle) making it more efficient for consumers than having to separate actions or to have third parties mediating.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Retake/ Resell solutions original brands can create and clients considering them more trustworthy.
- Returns may not be easy and not a straightforward process for clients.
- Client trust is key in this kind of online platforms hard to build and expensive.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- Yes, this business model will be the future.

- Models that only allow to buy or sell or models that have a third party mediating the interactions will always be less efficient.

*Q8: If so, how will this change how traditional fast fashion operates?*

- I believe that all major brands, sooner or later, will have to have in their business structure something related to the circularity component of their articles.
- Most solutions we are seeing today are with cycled materials from old products.
- Solutions I see deriving from this success are the original brands retaking used items and selling them second-hand or donating a part.
- The advantage of these models that can be developed by the brands themselves vs MCSFAs is the issue of confidence and security in the purchase. I believe that consumers will always be more receptive to buying used items if the brand itself sells than buying from private individuals.

### **Interview 6**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- The growth of Gen Z and their purchasing power - as they are a generation that theoretically searches for a more socially and environmentally responsible consumption.
- Trend in fashion that makes wearing vintage and buying second hand cool.
- Covid-19 pandemic also brought awareness to the fragility of our existence and to what we have vs what we need, to rethink our way of consumption.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Traditional retailers are affected by the second-hand market, losing sales from regular consumers who find similar brand items at lower prices, or models that are no longer available in the current season.
- This is a change in consumer behavior, particularly with new generations that are starting their consumer journey with already this additional option.
- Traditional retailers are not prepared for this.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, they will be a catalyst for growth.
- Are essential and will continue to be, due to the increase in online consumption, and customer digitalization.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- The process is easier, more rapid, and user-friendly in both buying and selling.
- Allows for a narrower and more personalized product search.
- Wide variety of products available and pool of users to buy and sell.
- “Opens borders” for international second-hand consumption.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Fraud control, content is 100% uploaded by users.
- It is important users trust the app and scandals with fraud can break trust.
- Client trust is key in this kind of online platforms hard to build and expensive.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.
- Not a definitive solution to the environmental problem.
- Only buying less is a sustainable solution.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- The trend of mobile shopping is irreversible, and I think the future is the evolution of these to provide the final customer with a better and more personalized shopping experience. The future of second-hand fashion will be no different.
- And those who haven't thought about doing it yet, whether on their own platforms, on marketplaces, or in partnerships, will be left behind.

*Q8: If so, how will this change how traditional fast fashion operates?*

- I think second-hand in some form is already a solution, today some of the big retail brands already use retake, resale, repair, or donation practices, to fight trends.
- And those who haven't thought about doing it yet, whether on their own platforms, on marketplaces, or in partnerships, will be left behind.
- From my experience, the most likely form of second-hand fast fashion companies will adopt to fight solutions like MCSFAs is retake programs, to then use old items in the production of new ones.
- This would have to come at a cost of giving benefits to users like store credit but still feels like a cheap way for brands to hop on the trend and not complicate their core operations too much, within possible.

## Interview 7

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- People want to be cause-driven and clothes are more and more statements of who you are. Second-hand allows for an exclusive feeling while being affordable.
- Consumers are also more aware of the fashion industry's environmental problems.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- Very minimal impact in terms of sales. A majority of consumers are still always looking for the latest new products.
- The number of brands who are doing something with their used products is increasing.
- Impact as an opportunity while it is still not much of a threat.
- Closing the cycle is good greenwashing. Is not expensive and if they resell or reuse items it can be good for business.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, they will be a catalyst for growth.
- Facilitated the process a lot for consumers, so consumers will adhere more.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- The process is easier, more rapid, and user-friendly in both buying and selling.
- Wide variety of products available and pool of users to buy and sell.
- These apps are as valuable to their users as wide is their user network.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Buying in MCSFAs is not as sustainable as companies advertise and clients think. That is going to be obvious in the next few years and they will lose a big marketing angle.
- Hygiene concerns in clients and lack of user understanding if prices are fair.
- These applications are too much dependent on users to sell (ability to take quality pictures, ability to set reasonable prices, ect).
- Lack of physical contact with items, sizes problems and quality perception can lead to client disappointment and frustration.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.
- Increasing the cycle is not as much of a solution as it seems, it helps but it seems to become a way to dispose and buy more.
- Not a definitive solution to the environmental problem.
- Production is the real problem.
- Only buying less is a sustainable solution.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- The business model is good and seems to follow future trends.
- However, physical stores are not going to disappear completely, especially for more quality pieces.
- For fast fashion second-hand pieces online is easier since quality and price are lower and the necessity to see the pieces beforehand is lower because of this low investment.
- MCSFAs business model also seems to be more profitable for the platform since is cutting all costs in terms of processing the clothes. For cheap pieces, this model where the company is not involved in the product is very important because margins are lower.

*Q8: If so, how will this change how traditional fast fashion operates?*

- I do not think MCSFAs will impact how fast fashion works more than already existing sustainability trends do.
- Companies will maintain the type of measures they have already been doing, using recycled materials, having “sustainable” collections, and making production more efficient, and will intensify these kinds of measures as consumers will demand them more.
- These solutions are for marketing reasons, that do not impact companies' operations too much more than it would be required eventually by regulations.
- Without losing too much money, these initiatives will never be seen as profit makers in fast fashion.

## **Interview 8**

*Q1: In your view, what are the main reasons for the growth of the second-hand fashion market over the past few years?*

- Sustainability is in vogue, and the second-hand industry comes in time to grow with this trend.
- New generations who are keener and more informed about the impact of fashion, start to have more purchasing power.

*Q2: What would you say is the impact of the second-hand fashion market on primary retailers?*

- There is space for both to exist simultaneously.
- The impact on primary retailers is still not huge but will grow along with the expected growth we have for the second-hand industry.
- Second-hand is also more affordable and that can impact sales in primary retail as second-hand becomes more 'professionalized' with new companies emerging.
- The growth of second-hand in a way can even potentiate the growth of fast fashion since it gives a solution for people to sell what they have, make a profit, and then buy more.

*Q3: Will multisided C2C second-hand fashion applications be a catalyst for second-hand fashion market growth in the next few years?*

- Yes, with no doubt a good catalyst for growth. Easy and affordable for users.
- Digitalization is present in all industries, and this will drive sales like in any other eCommerce.

*Q4: Do multisided C2C second-hand fashion applications provide competitive advantages for customers compared to 'regular' second-hand fashion online and offline?*

- The process is easier, more rapid, and user-friendly in both buying and selling.
- More profitable for consumers to sell directly to each other.
- Wide variety of products available and pool of users to buy and sell.

*Q5: What are the biggest threats and disadvantages to the future development of multisided C2C second-hand fashion applications?*

- Usually these companies focus on product, and fashion is more than just product. Act as a marketplace only. It is harder for them to create an emotional relationship between the brand and the consumer, brand identification and to have storytelling.

*Q6: Given the sustainability issues of the fast fashion industry, how do you view the multisided second-hand business in terms of sustainability?*

- Promote circularity of items.
- Increase product lifecycle.
- Can incentivize people to buy more because they know that is easy to sell and have some money back. Buy more second-hand but also fast fashion.

*Q7: Do you think multisided applications will become the future business model for the second-hand fashion market?*

- ‘Regular brands’ already started to create their own second-hand fashion initiatives due to the rise of sustainability trends and these new models.
- In the future, I see second-hand within brands being stronger than independent apps due to client confidence in the brand.

*Q8: If so, how will this change how traditional fast fashion operates?*

- Brands already have basic sustainable measures, e.g.: water reduction, recycled materials in some products, etc.
- The spread of these applications will influence brands to make their own version of this, which I believe would be a service (within the brand) to buy used items from clients and sell them to other clients (B2C).
- Not directly replicating the user-to-user model that would be too complex and risky for brand image.
- Brands that will not adopt measures to fight this new competitor in the future will lose clients.

## Appendix 2: Survey results

Appendix 2.1:

### What gender do you identify as?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Male	73	60,3	60,3	60,3
	Female	48	39,7	39,7	100,0
	Total	121	100,0	100,0	

### How old are you?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	16-24 years old	8	6,6	6,6	6,6
	25-35 years old	75	62,0	62,0	68,6
	36-44 years old	24	19,8	19,8	88,4
	45-54 years old	10	8,3	8,3	96,7
	55-64 years old	4	3,3	3,3	100,0
	Total	121	100,0	100,0	

### What is the highest degree or level of school you have completed?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	No schooling completed	1	,8	,8	,8
	High school	23	19,0	19,0	19,8
	Bachelor's degree	86	71,1	71,1	90,9
	Master's degree	11	9,1	9,1	100,0
	Total	121	100,0	100,0	

### What is your current employment status?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Full-time employment	102	84,3	84,3	84,3
	Part-time employment	3	2,5	2,5	86,8
	Unemployed	2	1,7	1,7	88,4
	Self-employed	14	11,6	11,6	100,0
	Total	121	100,0	100,0	

### What is the combined monthly gross income of your household?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Less than 1.000€	19	15,7	15,7	15,7
	1.000€ – 1.999€	17	14,0	14,0	29,8
	2.000€ – 3.999€	40	33,1	33,1	62,8
	4.000€ – 5.999€	29	24,0	24,0	86,8
	6.000€ – 7.999€	10	8,3	8,3	95,0
	More than 8.000€	6	5,0	5,0	100,0
	Total	121	100,0	100,0	

### Income Recoded

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Low Earners	36	29,8	29,8	29,8
	Medium Earners	69	57,0	57,0	86,8
	High Earners	16	13,2	13,2	100,0
	Total	121	100,0	100,0	

## Appendix 2.2:

### Are you a fast fashion consumer?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Yes	106	87,6	87,6	87,6
	No	15	12,4	12,4	100,0
	Total	121	100,0	100,0	

### Have you ever bought second-hand clothes?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Yes	98	81,0	81,0	81,0
	No	23	19,0	19,0	100,0
	Total	121	100,0	100,0	

**Resumo de processamento de casos**

	Válido		Casos Omisso		Total	
	N	Porcentagem	N	Porcentagem	N	Porcentagem
Are you a fast fashion consumer? * Have you ever bought second-hand clothes?	121	100,0%	0	0,0%	121	100,0%

**Tabulação cruzada Are you a fast fashion consumer? \* Have you ever bought second-hand clothes?**

		Have you ever bought second-hand clothes?		Total	
		Yes	No		
Are you a fast fashion consumer?	Yes	Contagem	87	19	106
		% em Have you ever bought second-hand clothes?	88,8%	82,6%	87,6%
	No	Contagem	11	4	15
		% em Have you ever bought second-hand clothes?	11,2%	17,4%	12,4%
Total	Contagem		98	23	121
	% em Have you ever bought second-hand clothes?		100,0%	100,0%	100,0%

**Testes qui-quadrado**

	Valor	df	Significância Assintótica (Bilateral)	Sig exata (2 lados)	Sig exata (1 lado)
Qui-quadrado de Pearson	,652 <sup>a</sup>	1	,419		
Correção de continuidade <sup>b</sup>	,208	1	,648		
Razão de verossimilhança	,605	1	,437		
Teste Exato de Fisher				,482	,309
Associação Linear por Linear	,647	1	,421		
N de Casos Válidos	121				

a. 1 células (25,0%) esperavam uma contagem menor que 5. A contagem mínima esperada é 2,85.

b. Computado apenas para uma tabela 2x2

Appendix 2.3:

**How frequently do you buy fast fashion?**

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Weekly	24	19,8	22,6	22,6
	Once every 2 weeks	21	17,4	19,8	42,5
	Monthly	48	39,7	45,3	87,7
	Quarterly	9	7,4	8,5	96,2
	Yearly	4	3,3	3,8	100,0
	Total	106	87,6	100,0	
Omisso	Sistema	15	12,4		
Total		121	100,0		

Estatísticas		
How frequently do you buy fas		
N	Válido	106
	Omisso	15

### What percentage of your purchases are made online?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	0-25%	7	5,8	6,6	6,6
	26-50%	47	38,8	44,3	50,9
	51-75%	46	38,0	43,4	94,3
	76-100%	6	5,0	5,7	100,0
	Total	106	87,6	100,0	
Omisso	Sistema	15	12,4		
Total		121	100,0		

### What is the main reason you buy fast fashion? (Select one)

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Affordability	16	13,2	15,1	15,1
	Accessibility	18	14,9	17,0	32,1
	Staying in style	33	27,3	31,1	63,2
	Celebrity/influencer advice	8	6,6	7,5	70,8
	Peer influence	4	3,3	3,8	74,5
	Quality	21	17,4	19,8	94,3
	Durability	6	5,0	5,7	100,0
	Total	106	87,6	100,0	
Omisso	Sistema	15	12,4		
Total		121	100,0		

Appendix 2.4:

### How frequently do you buy second-hand fashion?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Weekly	12	9,9	12,2	12,2
	Once every 2 weeks	16	13,2	16,3	28,6
	Monthly	26	21,5	26,5	55,1
	Quarterly	25	20,7	25,5	80,6
	Yearly	12	9,9	12,2	92,9
	Less than once a year	7	5,8	7,1	100,0
	Total	98	81,0	100,0	
Omisso	Sistema	23	19,0		
Total		121	100,0		

#### Estatísticas

How frequently do you buy sec

N	Válido	98
	Omisso	23

### Have you ever bought/sold second-hand clothes online?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Yes, I have bought	44	36,4	44,9	44,9
	Yes, I have sold	18	14,9	18,4	63,3
	Yes, I have done both	18	14,9	18,4	81,6
	No	18	14,9	18,4	100,0
	Total	98	81,0	100,0	
Omisso	Sistema	23	19,0		
Total		121	100,0		

### Estadísticas Descriptivas

	N	Mínimo	Máximo	Média	Desvio padrão
Which of these platforms/applications have you used to buy or sell? - Selected Choice Vinted	30	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? - Selected Choice Facebook marketplace	36	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? - Selected Choice Instagram	41	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? - Selected Choice eBay	31	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? - Selected Choice Depop	2	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? - Selected Choice Micolet	11	1	1	1,00	,000
Which of these platforms/applications	6	1	1	1,00	,000

Which of these platforms/applications have you used to buy or sell? – Selected Choice REBELLE	6	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Vestiaire Collective	4	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Wallapop	6	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Flyp	1	1	1	1,00	.
Which of these platforms/applications have you used to buy or sell? – Selected Choice Swap	3	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Poshmark	4	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice thredUP	3	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Thrilling	3	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Etsy	5	1	1	1,00	,000
Which of these platforms/applications have you used to buy or sell? – Selected Choice Galaxy	1	1	1	1,00	.
Which of these platforms/applications have you used to buy or sell? – Selected Choice Stylecrush	1	1	1	1,00	.
Which of these platforms/applications have you used to buy or sell? – Selected Choice Other	1	1	1	1,00	.
N válido (de lista)	0				

### What is the main reason you buy second-hand fashion? (Select one)

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Affordability	30	24,8	30,6	30,6
	Sustainability	11	9,1	11,2	41,8
	Affordability-Sustainability	18	14,9	18,4	60,2
	Staying in style	17	14,0	17,3	77,6
	Celebrity/influencer advice	5	4,1	5,1	82,7
	Quality	12	9,9	12,2	94,9
	Durability	5	4,1	5,1	100,0
	Total	98	81,0	100,0	
Omisso	Sistema	23	19,0		
Total		121	100,0		

### Estatísticas Descritivas

	N	Mínimo	Máximo	Média	Desvio padrão
Please indicate your level of agreement or disagreement with the following sentences: - I would buy more second-hand fashion if it were easier to access.	98	1	5	3,58	,824
Please indicate your level of agreement or disagreement with the following sentences: - I buy second-hand clothing because is cheaper than new clothing.	98	1	5	4,04	1,004
Please indicate your level of agreement or disagreement with the following sentences: - I buy second-hand clothing because I am concerned about the environment.	98	1	5	3,65	,996
Please indicate your level of agreement or disagreement with the following sentences: - I do not like people knowing I am buying second-hand clothing.	98	1	5	3,27	1,171
Please indicate your level of agreement or disagreement with the following sentences: - Sometimes I am afraid to buy second-hand clothing for hygiene reasons.	98	1	5	3,41	1,165
N válido (de lista)	98				

### Appendix 2.5:

#### Estatísticas

On this type of application, I w

N	Válido	121
	Omisso	0

#### On this type of application, I would be more likely to be a...

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Seller	45	37,2	37,2	37,2
	Buyer	58	47,9	47,9	85,1
	I would easily play both roles	18	14,9	14,9	100,0
	Total	121	100,0	100,0	

### Estatísticas Descritivas

	N	Mínimo	Máximo	Média	Desvio padrão
Please indicate your level of agreement or disagreement with the following sentences: - This sort of multisided application, makes staying in style and having 'new' clothes, cheaper for me with similar quality.	121	2	5	3,71	,612
Please indicate your level of agreement or disagreement with the following sentences: - It is easier for me to sell clothes online directly to the buyer, rather than to an intermediate company.	121	1	5	3,73	,966
Please indicate your level of agreement or disagreement with the following sentences: - It is more profitable for me to sell clothes online directly to the buyer, rather than to an intermediate company.	121	2	5	3,93	,766
Please indicate your level of agreement or disagreement with the following sentences: - I would feel safe selling/ buying clothes online through these applications.	121	2	5	3,97	,752
Please indicate your level of agreement or disagreement with the following sentences: - I see this type of application as means to continue having 'new' stylish clothes and keeping up with trends while being more environmentally conscious.	121	1	5	3,79	,805
N válido (de lista)	121				

### Estatísticas Descritivas

	N	Mínimo	Máximo	Média	Desvio padrão
With multisided applications, how likely are you to buy more second-hand clothing?	121	1	5	3,86	,830
N válido (de lista)	121				

### With multisided applications, how likely are you to buy more second-hand clothing?

		Frequência	Porcentagem	Porcentagem válida	Porcentagem acumulativa
Válido	Not at all likely	1	,8	,8	,8
	Not very likely	3	2,5	2,5	3,3
	Somewhat likely	36	29,8	29,8	33,1
	Very likely	53	43,8	43,8	76,9
	Extremely likely	28	23,1	23,1	100,0
Total		121	100,0	100,0	

## Appendix 2.6:

### Appendix 2.6.1: Regression 1

#### Estatística Descritiva

	Média	Erro Desvio	N
With multisided applications, how likely are you to buy more second-hand clothing?	3,86	,830	121
IncomeRecoded2	,3719	,48532	121
AgeRecoded	,3140	,46607	121
Gender	,3967	,49125	121

#### Correlações

		With multisided applications, how likely are you to buy more second-hand clothing?	IncomeRecoded2	AgeRecoded	Gender
Correlação de Pearson	With multisided applications, how likely are you to buy more second-hand clothing?	1,000	,234	-,251	-,128
	IncomeRecoded2	,234	1,000	-,115	-,065
	AgeRecoded	-,251	-,115	1,000	,106
	Gender	-,128	-,065	,106	1,000
Sig. (1 extremidade)	With multisided applications, how likely are you to buy more second-hand clothing?	.	,005	,003	,081
	IncomeRecoded2	,005	.	,104	,240
	AgeRecoded	,003	,104	.	,123
	Gender	,081	,240	,123	.
N	With multisided applications, how likely are you to buy more second-hand clothing?	121	121	121	121
	IncomeRecoded2	121	121	121	121
	AgeRecoded	121	121	121	121
	Gender	121	121	121	121

#### Variáveis Inseridas/Removidas<sup>a</sup>

Modelo	Variáveis inseridas	Variáveis removidas	Método
1	Gender, IncomeRecoded2, AgeRecoded <sup>b</sup>	.	Inserir

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

b. Todas as variáveis solicitadas inseridas.

### Resumo do modelo

Modelo	R	R quadrado	R quadrado ajustado	Erro padrão da estimativa
1	,338 <sup>a</sup>	,114	,091	,791

a. Preditores: (Constante), Gender, IncomeRecoded2, AgeRecoded

### ANOVA<sup>a</sup>

Modelo		Soma dos Quadrados	df	Quadrado Médio	Z	Sig.
1	Regressão	9,429	3	3,143	5,025	,003 <sup>b</sup>
	Resíduo	73,183	117	,625		
	Total	82,612	120			

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

b. Preditores: (Constante), Gender, IncomeRecoded2, AgeRecoded

### Coefficientes<sup>a</sup>

Modelo		Coefficients não padronizados		Coefficients padronizados Beta	t	Sig.	Estatísticas de colinearidade	
		B	Erro Erro				Tolerância	VIF
1	(Constante)	3,914	,121		32,476	<,001		
	IncomeRecoded2	,347	,150	,203	2,317	,022	,984	1,016
	AgeRecoded	-,388	,157	-,218	-2,477	,015	,977	1,024
	Gender	-,155	,148	-,092	-1,044	,298	,986	1,014

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

### Diagnóstico de colinearidade<sup>a</sup>

Modelo	Dimensão	Autovalor	Índice de condição	Proporções de variância			
				(Constante)	IncomeRecoded2	AgeRecoded	Gender
1	1	2,441	1,000	,05	,05	,06	,06
	2	,750	1,804	,00	,47	,33	,04
	3	,565	2,079	,00	,07	,42	,62
	4	,245	3,158	,95	,41	,20	,28

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

## Appendix 2.6.2: Regression 2

### Estadística Descritiva

	Média	Erro Desvio	N
With multisided applications, how likely are you to buy more second-hand clothing?	3,86	,830	121
IncomeRecorded2	,3719	,48532	121
AgeRecorded	,3140	,46607	121

### Correlações

		With multisided applications, how likely are you to buy more second-hand clothing?	IncomeRecorded2	AgeRecorded
Correlação de Pearson	With multisided applications, how likely are you to buy more second-hand clothing?	1,000	,234	-,251
	IncomeRecorded2	,234	1,000	-,115
	AgeRecorded	-,251	-,115	1,000
Sig. (1 extremidade)	With multisided applications, how likely are you to buy more second-hand clothing?	.	,005	,003
	IncomeRecorded2	,005	.	,104
	AgeRecorded	,003	,104	.
N	With multisided applications, how likely are you to buy more second-hand clothing?	121	121	121
	IncomeRecorded2	121	121	121
	AgeRecorded	121	121	121

### Variáveis Inseridas/Removidas<sup>a</sup>

Modelo	Variáveis inseridas	Variáveis removidas	Método
1	AgeRecorded, IncomeRecorded2 <sup>b</sup>	.	Inserir

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

b. Todas as variáveis solicitadas inseridas.

### Resumo do modelo

Modelo	R	R quadrado	R quadrado ajustado	Erro padrão da estimativa
1	,325 <sup>a</sup>	,106	,091	,791

a. Preditores: (Constante), AgeRecorded, IncomeRecorded2

### ANOVA<sup>a</sup>

Modelo		Soma dos Quadrados	df	Quadrado Médio	Z	Sig.
1	Regressão	8,746	2	4,373	6,986	,001 <sup>b</sup>
	Resíduo	73,865	118	,626		
	Total	82,612	120			

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

b. Preditores: (Constante), AgeRecoded, IncomeRecoded2

### Coeficientes<sup>a</sup>

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.	Estatísticas de colinearidade	
		B	Erro Erro	Beta			Tolerância	VIF
1	(Constante)	3,854	,106		36,244	<,001		
	IncomeRecoded2	,356	,150	,208	2,374	,019	,987	1,013
	AgeRecoded	-,405	,156	-,227	-2,594	,011	,987	1,013

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?

### Diagnóstico de colinearidade<sup>a</sup>

Modelo	Dimensão	Autovalor	Índice de condição	Proporções de variância		
				(Constante)	IncomeRecoded2	AgeRecoded
1	1	1,972	1,000	,10	,10	,09
	2	,735	1,638	,00	,38	,51
	3	,293	2,593	,90	,53	,40

a. Variável Dependente: With multisided applications, how likely are you to buy more second-hand clothing?