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Collaborative Fashion Consumption in Sweden and Spain

Market, environmental and behavioural insights

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Collaborative Fashion Consumption in Sweden and Spain

Market, environmental and behavioural insights

May 2020



**Sharing
Cities
Sweden**

A NATIONAL PROGRAM
FOR THE **SHARING**
ECONOMY IN CITIES

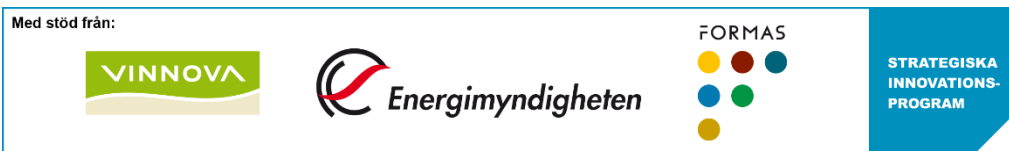


**Sharing
Cities
Sweden**

Sharing Cities Sweden is a national program for the sharing economy in cities. The program aims to put Sweden on the map as a country that actively and critically works with the sharing economy in cities. The objectives of the program are to develop world-leading test-beds for the sharing economy in Stockholm, Gothenburg, Malmö and Umeå, and to develop a national node in order to significantly improve national and international cooperation and promote an exchange of experience on sharing cities.

Title: Collaborative Fashion Consumption in Sweden and Spain:
Environmental and Behavioural insights

Authors¹: Joseph Anthony L. Reyes, Rocío Román-Collado, Teresa Sanz-Díaz and Luis Mundaca



ViableCitiesTM
Smart, sustainable and attractive.

Sharing Cities Sweden is carried out within Viable Cities, a Swedish Innovation Programme for smart sustainable cities, jointly funded by the Swedish Innovation Agency (VINNOVA), the Swedish Energy Agency and the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS).

¹ The Behavioural Economics to Advance Sustainable Urban Sharing-Economy initiatives (BE-USE) project partners are The International Institute for Industrial Environmental Economics at Lund University (Joseph Anthony L. Reyes and Luis Mundaca) and University of Seville (Rocío Román-Collado and Teresa Sanz-Díaz). The authors gratefully acknowledge valuable comments and suggestions from the project's reference group.

Executive Summary

Within the context of a sharing economy, the BE-USE project² aims to develop behavioural economics experiments that test, examine and generate policy recommendations to advance sustainable urban initiatives. It aims to increase the understanding of cognitive, motivational and contextual factors affecting decision-making processes and choices in urban sharing initiatives.

This report is developed under Phase 1 of the BE-USE project and aims to provide an understanding of Collaborative Fashion Consumption (CFC), which is one of the chosen case studies for the experimental phase. The report builds upon existing knowledge on the fashion industry and consumption-related issues in Sweden and Spain. These countries define the geographical scope of the project. The report pays particular attention to environmental and behavioural issues and is guided, for example, by the following research questions: What are the main factors underlying (unsustainable) fashion consumer behaviour? What can be said about the development of CFC initiatives in Sweden and Spain? What are the main motivating or hindering factors affecting the adoption of CFC in these countries? This report presents salient issues and extant research concerning the clothing consumption; including motivations, barriers, and uncertainties affecting the adoption of CFC initiatives.

The findings confirm environmental concerns about the rise of fast fashion and growth of the clothing industry. Trends also confirm unsustainable patterns in the production and consumption of fashion. From a behavioural point view, several anomalies and cognitive biases (e.g. sunk cost effect, loss aversion) are identified as potential drivers of unsustainable consumption. We identify various CFC initiatives being implemented in Sweden and Spain that address these concerns. Different business models arise and show potential for market uptake. From a consumer perspective, motivating factors playing a role in the adoption of CFC include economic reasons, convenience, pro-environmental behaviour, conformity towards emerging social norms, and innovative business platforms and experience. On the contrary, hindering factors include practical challenges in transportation and cleaning of garments, a lack of accessibility to the product, and uncertain participation of CFC members in the long term.

It is concluded that there is a need for further understand the motivations and barriers that affect the adoption of CFC initiatives. Knowledge is just emerging. The analysis of the factors underlying CFC adoption behaviour (let alone unsustainable clothing consumption in general) provides critical knowledge for the design of behavioural-oriented measures that can promote CFC adoption. The testing and analysis of potential behavioural-oriented policy interventions (e.g. via social norms) can increase our understanding of (potential) CFC adopters and provide policy avenues to promote and advance sustainable solutions in the fashion industry.

² For details visit [project website](#)

Table of Contents

Executive Summary	3
1 Introduction.....	5
2 Methodology	9
3 Fashion consumption industry: A snapshot	11
3.1 Environmental aspects	11
3.2 Fashion industry in Sweden: Market trends.....	13
3.3 Fashion industry in Spain: Market trends.....	16
3.4 Consumer behaviour and potential anomalies and biases	18
4 Collaborative Fashion Consumption.....	23
4.1 CFC initiatives in Sweden.....	23
4.2 CFC initiatives in Spain.....	25
4.3 General market developments.....	29
4.3.1 Sweden	29
4.3.2 Spain	32
4.4 Motivating factors playing a role in the adoption of CFC.....	34
4.4.1 Sweden	34
4.4.2 Spain	36
4.5 Hindering factors and potential barriers in the adoption of CFC.....	37
4.5.1 Sweden	37
4.5.2 Spain	39
4.6 Environmental aspects	39
5 Conclusions.....	42
References.....	44
Appendices	49

1 Introduction

Sharing economy initiatives are being implemented worldwide with the prospects of offering sustainable solutions to cities (McCormick & Leire, 2019). Examples include programs that promote sharing services in the utilization of spaces (premises, housing, green infrastructure, shared public space); goods and services (clothes, toys, handicrafts, tools); and transport and mobility (shared cars and bicycles). The sharing economy has emerged as a phenomenon widely described as promoting more sustainable practices such as access over ownership (Curtis & Lehner, 2019). It is touted to provide economic opportunities, more sustainable forms of consumption, and a pathway to a decentralised, equitable and sustainable economy (Martin, 2016).

Among the most popular terms associated with the phenomenon include, 'collaborative consumption', 'peer-to-peer economy', 'product-service systems' and 'circular economy' are often highlighted in the literature (Cheng, 2016; Curtis & Lehner, 2019; Mont, 2002, 2019; Stål & Jansson, 2017). They prioritize utilization and accessibility over ownership (Curtis & Lehner, 2019). It is argued that the sharing economy allows individuals, communities and organizations to re-think the way they live, grow, connect and sustain (Cheng, 2016). Over time, it is argued that the sharing economy can foster structural change towards low-carbon (Mi & Coffman, 2019) and resource efficient economies. In order for such change to happen, policy makers should work with pro-social solutions innovators by offering local government support in exchange for their efforts in mitigating costs associated with structural change (Mi & Coffman, 2019). Further, to secure the viability and resilience of sharing firms, the availability of capital should be carefully considered over the long-term (Mi & Coffman, 2019).

Although there are definitional challenges which stem from the word sharing (Martin, 2016), it is possible to identify a number of relevant semantic elements that are part of its formulation. This includes ICT mediation, motivation for ownership, temporary access, and rivalrous and tangible goods (Curtis & Lehner, 2019). As such, the sharing economy is usually defined as a peer-to-peer based sharing of access to goods and services (Mi & Coffman, 2019), facilitated by a community-based online platform that focus on the sharing of underutilised assets in ways which improve efficiency, sustainability and community (Mi & Coffman, 2019).

Within this context, the BE-USE project³ aims to develop behavioural economics experiments that test, examine and generate policy recommendations to advance sustainable urban sharing economy initiatives. With a strong focus on users and city-contexts, the project aims to increase the understanding of cognitive, motivational and contextual factors affecting decision-making processes and choices in urban sharing initiatives. Behavioural interventions (e.g. via social norms, choice settings, goal commitment) targeting the adoption of sustainable urban sharing initiatives will be tested and impacts analysed. Building upon a multi-

³ For details visit [project website](#)

disciplinary team of researchers, the project aims to provide policy recommendations for improvements and scaling of sustainable urban sharing initiatives.

To that end, under Phase I, the project seeks to identify sustainable urban sharing initiatives already implemented in Sweden and Spain with the potential for market uptake or market expansion.⁴ This phase seeks to better understand consumer behaviour(s) that need(s) to be changed in order to advance environmentally sound urban sharing initiatives in these two countries. Therefore, this project report aims to provide a brief understanding of one of the chosen case studies: Collaborative Fashion Consumption (CFC). It presents salient issues and extant research concerning the fashion consumption industry in Sweden and Spain; including motivations, barriers, and uncertainties affecting the adoption of CFC initiatives. In turn, the report aims to provide important consumer-related building blocks (e.g. consumer behaviour[s]) for the design and analysis of behavioural economics interventions to be deployed under Phase II. On this basis, the report aims to answer the following research questions:

- What are the main environmental features of the fashion industry?
- What are the main factors underlying (unsustainable) consumer behaviour?
- What can be said about the development of CFC initiatives in Sweden and Spain?
- What are the main motivating or hindering factors affecting the adoption of CFC in these countries?

Before we address these questions, there are some relevant aspects about CFC (and related conceptual elements) that need to be mentioned⁵. First, the rise of collaborative consumption has initiated new business models in various industries and more recently in the retail sector (Perlacia et al., 2017), leading to the emergence of fashion-sharing models differentiated by: their value proposition (i.e., items being sold, rented, or swapped) and the role of the retailer facilitating the exchange as a distributor or as a broker in the transaction. CFC as it is known in the literature, is a consumption model in which “consumers, instead of buying new fashion products, have access to already existing garments either through alternative opportunities to acquire individual ownership (gifting, swapping, or second hand), or through usage options for fashion products owned by others (sharing, lending, renting or leasing)” (Iran & Schrader, 2017, p. 472).

Second, CFC initiatives can be categorized by forms of compensation (none, non-monetary, monetary) received for participation and acquisition (Iran & Schrader, 2017). Although CFC can be incorporated under the term of collaborative consumption, some definitions such as that of Belk (2014, p. 1597), wherein “collaborative consumption is people coordinating the acquisition and distribution of a resource for a fee or other compensation”, can exclude some activities such as gifting or Couchsurfing where no compensation is

⁴ These two countries are part of the BE-USE project consortium. The project partners are Lund University (Sweden) and University of Seville (Spain).

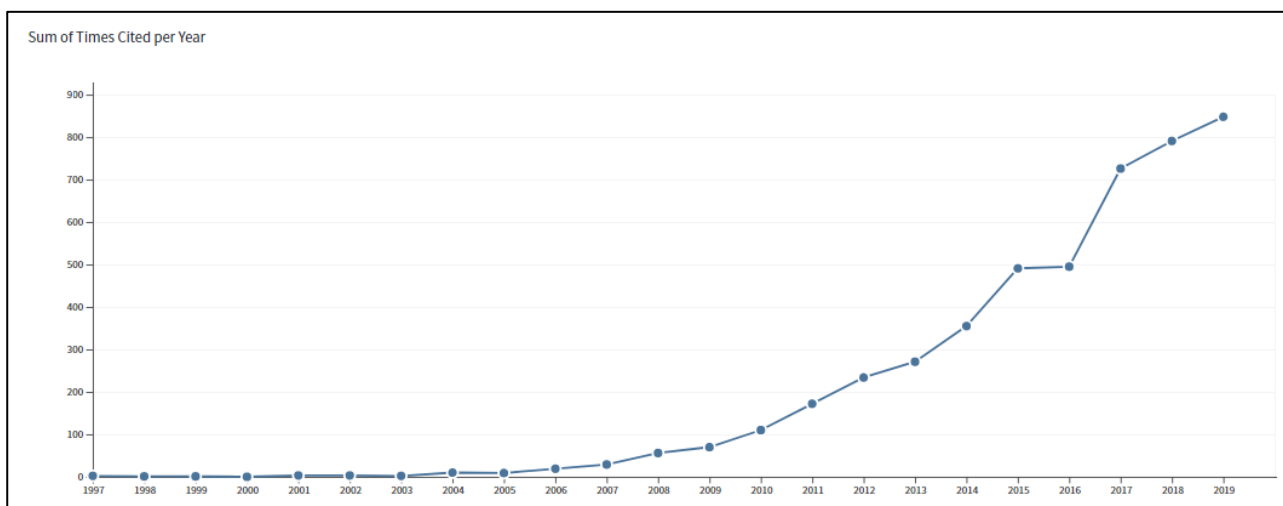
⁵ The present study focuses primarily on the sharing of clothes and does not encompass a detailed discussion on other fashion accessories (i.e. jewellery, sunglasses, watches).

received. Thus, in addition to considerations of monetary and non-monetary compensation during giving and receiving for activities such as bartering, trading, and swapping - a useful typology of CFC should also take into account activities that do not involve any compensation such as peer-to-peer (P2P) gifting organized by peers and companies (Iran & Schrader, 2017, p. 473).

Third, the different forms of ownership acquisition and usage options for CFC can be broadly categorized into two types of party configurations or business models: peer-to-peer and business-to-consumer, with both types having variations in acceptance and practice by consumers (Becker-leifhold & Iran, 2018). With recent advancements of digital platform technologies, peer-to-peer collaborative consumption (P2P-CC) have been observed to become very popular for fashion products in the sharing economy (Choi & He, 2019). P2P-CC is also purported to provide benefits such as pleasurable and monetary gains to consumers as well as to the fashion brand (i.e. the firm), with the fashion product's value seeming to be larger with P2P-CC than without (Choi & He, 2019, pp. 60-61).

Fourth, promising trends have been observed in recent years in both scientific and public policy interest towards sustainable fashion and clothing. In terms of scientific publications on the topics relevant to sustainable fashion, sustainable clothing, and collaborative fashion consumption, results from the Web of Science (WoS) for the years 1997 to 2019 globally, indicate an overall increase in both publication by year and number of citations (see Figure 1).

Figure 1 Number of scientific publications about CFC found on the Web of Science for the period of 1997 to 2019



Source: Authors own dataset compiled from WoS citation report

Research on what enables or prevents CFC from becoming mainstream revealed several insights. First, CFC is still a niche concept - with the most salient problems from the consumer's perspective being hygiene and health concerns, lack of trust and information, lack of ownership, and consumption habits (Becker-leifhold & Iran, 2018, pp. 195-196,202). Second, and despite being a niche, a variety of business opportunities to

companies has opened up within the emerging areas of CFC and the post-retail responsibility in the fashion industry (Becker-leifhold & Iran, 2018, p. 202). Third, promising results were found in relation to sustainability, with CFC contributing mainly towards sustainability by de-valuing material consumption and altering traditional consumption patterns (Becker-leifhold & Iran, 2018, p. 202). However, fourth, attitudes and action towards CFC also need to be highlighted. In fact, it must be noted that although people may have positive perception of activities in collaborative consumption and show willingness to engage with them, this positive attitude does not necessary translate automatically into action (Hamari et al., 2016, p. 2047,2055)

With due limitations, this project report contributes toward an understanding of CFC by presenting salient issues and extant research concerning the fashion industry and consumer behaviour. Section 2 briefly describes the methodology. Section 3 provides a brief overview of the fashion industry, and pays particular attention to environmental and behavioural issues. Section 4 identifies and describes CFC initiatives currently operating in Sweden and Spain. The section also provides a discussion of insights garnered from stakeholder interviews about barriers, uncertainties and obstacles hindering CFC adoption. This provides foundations for consumer-related aspects for the design and application of behavioural economics interventions in next phase of the project.

2 Methodology

Overall, the methodology we applied for this report is simple. First, a literature review about fashion consumption was carried out. To the possible extent, aspects for Sweden and Spain are explicitly highlighted whenever available data or information exist. Given the orientation of our project, attention is given to behavioural and environmental aspects.

Second, we identify behavioural issues pertinent to the consumption of fashion based on the reviewed material. For this purpose, the identification of (potential) behavioural anomalies and cognitive biases affecting consumers in the fashion industry is carried out. Behavioural anomalies (or 'irrationalities') are often defined as deviations that explain why individuals do not behave as the rational theory model, which dominates neoclassical economics, would predict (Shogren & Taylor, 2008). When behavioural anomalies (e.g. heuristics, loss aversion) generate systematic differences between decision utility (i.e. utility expected or intended at the time of choice) and experienced utility (i.e. utility experienced after the choice), they are labelled as behavioural failures (Gillingham & Palmer, 2014).

Third, we identify CFC initiatives currently operating in both countries and provide the latest market developments. To support this exercise, stakeholder interviews were conducted with key personnel from the Swedish CFC initiatives (see Interview Protocol in Annex 1). The interview instrument was adapted from similar research on sustainable fashion in Sweden (Sweet et al., 2019; Sweet & Wu, 2019) with items adjusted accordingly for the scope and objectives of the present study. For Sweden, a total of 15 rental companies, fashion libraries, retail chains, and non-profit organizations were approached in February 2020 for interviews, resulting in 6 positive responses (see List of Interviewees in Annex 2). The majority of interviewees (5) were co-founders of their respective organizations. Three participants were CEOs of rental companies. Three of the participants work for non-Profit organizations, one for a volunteer organization, while two work together in a collaboration between the city government and waste management companies. Despite the limited sample, we believe this provides a good mix of representation of perspectives in terms of business models that encompass collaborative consumption: buying second-hand, renting, sharing and swapping (McNeill & Venter, 2019), and geographical locations in Sweden (Stockholm, Malmö, Åre, Linköping).

Fourth, and based on the identification of behavioural anomalies and various environmental issues, the final part of our methodology aims to draw potential behavioural interventions that can target the anomalies we identify. To guide the identification, we apply the taxonomy of choice architecture techniques developed by Münscher et al. (2016), namely a) decision information – a choice architecture that addresses the presentation of decision-relevant information, e.g. social norms); b) decision structure – a choice architecture that addresses the arrangement of options and corresponding decision-making format, e.g. defaults; and c) decision assistance – a choice architecture that addresses self-regulation so that decision-makers can materialise their intentions, e.g. via goal commitments).

That said, limitations of this study need to be acknowledged. We note that this is not an in-depth review about the environmental and behavioural issues pertaining to both the fashion industry and CFC initiatives. On the contrary, we aim to highlight only those aspects that we deem to be of importance from a behavioural perspective that can support policy experimentation (i.e. Phase II of BE-USE project). In addition, the available (peer reviewed) literature naturally de-limits the treatment of these issues. For the specific case of CFC, it is also relevant to highlight that the literature about CFC initiatives in Sweden and Spain is rather limited, and little is known about (potential) CFC adopters (e.g. psychographics). In fact, and to the best of our knowledge, CFC initiatives in both Spain and Sweden have not been yet studied in detail so this report should be seen as first step towards a more comprehensive generation of policy-relevant knowledge. The number of interviews is also limited and only for the case of Sweden. For Spain, interviews were not possible to conduct due to the COVID-19 pandemic. Nevertheless, and with these limitations, this report can serve as a departure point and inspiration towards a better understanding of specific behavioural and environmental challenges and potentials relating to CFC initiatives and behavioural interventions that can further promote their adoption.

3 Fashion consumption industry: A snapshot

3.1 Environmental aspects

The fashion industry contributes with 1.3 trillion USD to the world economy and employs 300 million people worldwide (Ellen MacArthur Foundation, 2017).⁶ At current rates worldwide, clothing sales are expected to grow and reach 160 million tons by 2050, tripling from its present level (Ellen MacArthur Foundation, 2017). In order to promote sustainability, the need to slow down both the production and consumption within the industry and improve its environmental performance have been recognized (Niinimäki & Hassi, 2011). Given its scale, the environmental impact of fashion is substantial. This impact can be categorized into two aspects: first, the environmental impact stemming from production and usage, and another from waste disposal (Ellen MacArthur Foundation, 2017).

When it comes to the production of garments, the fashion industry uses a significant amount of natural and non-renewable resources, amounting to around 98 million tons per year (Ellen MacArthur Foundation, 2017). Approximately 30% of all textile fiber consumption uses cotton, which is grown using a lot of water, pesticides and fertilizer (Remy et al., 2016). A single t-shirt, for example, needs 2,700 litres of water to grow the cotton (WWF, 2013). Furthermore, by 2030 it is projected that 35% more land would be required for fiber production (Lacy et al., 2020, p. 185).

Often, countries where the apparel industry is a significant player are also those that rely mainly on fossil fuels for energy production, thus contributing further towards the negative environmental impacts. It is estimated that 1 kilogram of fabric generates on average 23 kilograms of greenhouse gases (Remy et al., 2016). Annually, textile production accounts for 1.2 billion tons of the total greenhouse gas emission – more than all international flights and maritime shipping combined (Ellen MacArthur Foundation, 2017). As such, considering that clothing represents more than 60% of total textiles used, fashion is expected to use up 25% of the world's carbon budget by 2050, using the 2°C Paris Climate target as benchmark (Ellen MacArthur Foundation, 2017). Further, the dyeing and treatment of textiles is responsible for 20% of industrial water pollution (Ellen MacArthur Foundation, 2017).

Binet et al. notes several concurrent environmental issues that fast fashion brands need to squarely address. This includes projections that the industry's water consumption will grow by 50% to 118 billion cubic meters by 2030, its carbon footprint will increase by 2,791 tons, and the amount of waste will reach 148 tons (2019, p. 31).

⁶ Previous comprehensive studies on the environmental aspects of the fashion industry along with in-depth analysis can be found in the works on fashion consumption by Roos et al. (2015), Iran and Schrader (2017), Sandin and Peters (2017), Stål and Jansson (2017), Zamani et al. (2017), and, Sandin and Peters (2018).

Fashion's environmental impact does not stop at the production phase. Moving to the use phase, over its entire life cycle, the washing and drying of 1 kilogram of clothing is responsible for 11 kilograms of greenhouse gases (Ellen MacArthur Foundation, 2017). During washing, plastic microfibers are released by some garments into water streams which contributes to water pollution, amounting to half a million tons each year or 35% of the global microfibers in the ocean (Ellen MacArthur Foundation, 2017). At the same time as production has more than doubled, clothing utilization has decreased (Ellen MacArthur Foundation, 2017). In fact, it is estimated that the average number of times a garment is worn has declined 36% since 2000 (Braithwaite, 2018). The economic impact is estimated to be 500 billion USD every year from clothing underutilization and a lack of recycling (Ellen MacArthur Foundation, 2017).

Consumers are acknowledging their unsustainable behaviour. A survey from Greenpeace found that 60% of German and Chinese citizens own more clothes than they need (Wahnbaeck & Roloff, 2017). Around half of the surveyed consumers still have brand new clothes with hangtags in their closets, never worn. A major contributor to this is the business model of *Fast Fashion*, cheap and trendy clothing that relies on lowering the price of garments to take the risk and remorse out of impulse-buying (Wahnbaeck & Roloff, 2017). In some case, prices are set so low that the products cannot be sold online as the shipment cost would exceed the revenue (Wahnbaeck & Roloff, 2017). As a result, in comparison to national consumer price index (CPI) growth, the rise in clothing prices has been much slower (Remy et al., 2016). It has also been recognized that merchandising and marketing techniques of clothing companies can act as barriers preventing abstention by consumers to purchase (Armstrong et al., 2016).

Consequently, there are growing environmental concerns about fast fashion. It is estimated that 50% of fast fashion items are disposed of within a year (Remy et al., 2016) and approximately one rubbish truck of textile is burnt or sent to landfill every second globally (Ellen MacArthur Foundation, 2017). To address the issue of disposal, some efforts have gone towards a circular economy model of consumption. For example, in Germany around three-quarters of all used clothing are collected for reuse and recycle. In other countries such as the US and China, collection rates are far lower, at 15 and 10% respectively (Ellen MacArthur Foundation, 2017).

However, even in countries with high rates of reuse and recycling, much of collected clothing are being exported to countries with no waste collection infrastructure (Ellen MacArthur Foundation, 2017). Furthermore, for the remaining unwanted apparel, the industry has yet to establish a sustainable method for disposal, currently relying on methods such as shredding or chemical digestion (Remy et al., 2016). Such widespread disposal methods carry high environmental burden as synthetic materials do not decompose, while natural fibers, although decomposable, produce the highly potent greenhouse gas methane (Gwozdz et al., 2017). Moreover, there are no markets large enough to absorb the volume of material from these

recycling methods (Remy et al., 2016). In the end, circular economy and recycling are energy-intensive methods that still do not address the problem of overconsumption.

Clothing's societal and cultural significance has been altered with the rise and prominence of fast fashion and corresponding disposal (Gwozdz et al., 2017). With this, the clothing life cycle is drastically shortened with new styles quickly replacing and outmoding the old (Gwozdz et al., 2017). For instance, several fast fashion brands introduce new merchandise rapidly within a season and deliberately manipulate the supply to create "must have" items (Gwozdz et al., 2017). New products are intended primarily at young consumers, and also tend to have a short lifespan, and thus be more quickly disposed.⁷ In relation to taxonomies and typologies towards understanding consumers and their behaviours, Laitala (2014) proposes a conceptual disposition decision taxonomy (from Jacoby et al. 1977) wherein, consumers have three general choices for discarding a product: 1) to keep it, 2) dispose of it permanently, or 3) dispose of it temporarily. Additionally, Gabrielli and Codeluppi (2011) also propose a taxonomy that expands upon consumer's description of the act of consumption. Herein, they purport 1) Consuming as experience; 2) Consuming as integration, 3) Consuming as play and 4) Consuming as classification - how consumers "live" fast fashion and integrate these products in their consumption practices.

At the time of this writing, recent developments pertaining to fast fashion and COVID-19 must be noted. International brands such as Gap, H&M, and Zara have slowly been reopening their stores but the pandemic has had a devastating financial impact; as well as short-to-medium term consumer demand for fashion projected to be fairly diminished due to a strong reduction of disposable income, as well as great difficulty in keeping the pleasure and social aspect of shopping for fashion with social distancing measures in place (Garcellano, 2020). However, the crisis has also fuelled a shift towards online sales as retailers enjoyed a lockdown boom attributed to interest from new consumer groups such as the baby boomer generation— with giant retailers such as Inditex, spending billions of euros on its online operations and premium stores in order to adapt to the post-pandemic future (Garcellano, 2020; Ziady, 2020).

3.2 Fashion industry in Sweden: Market trends

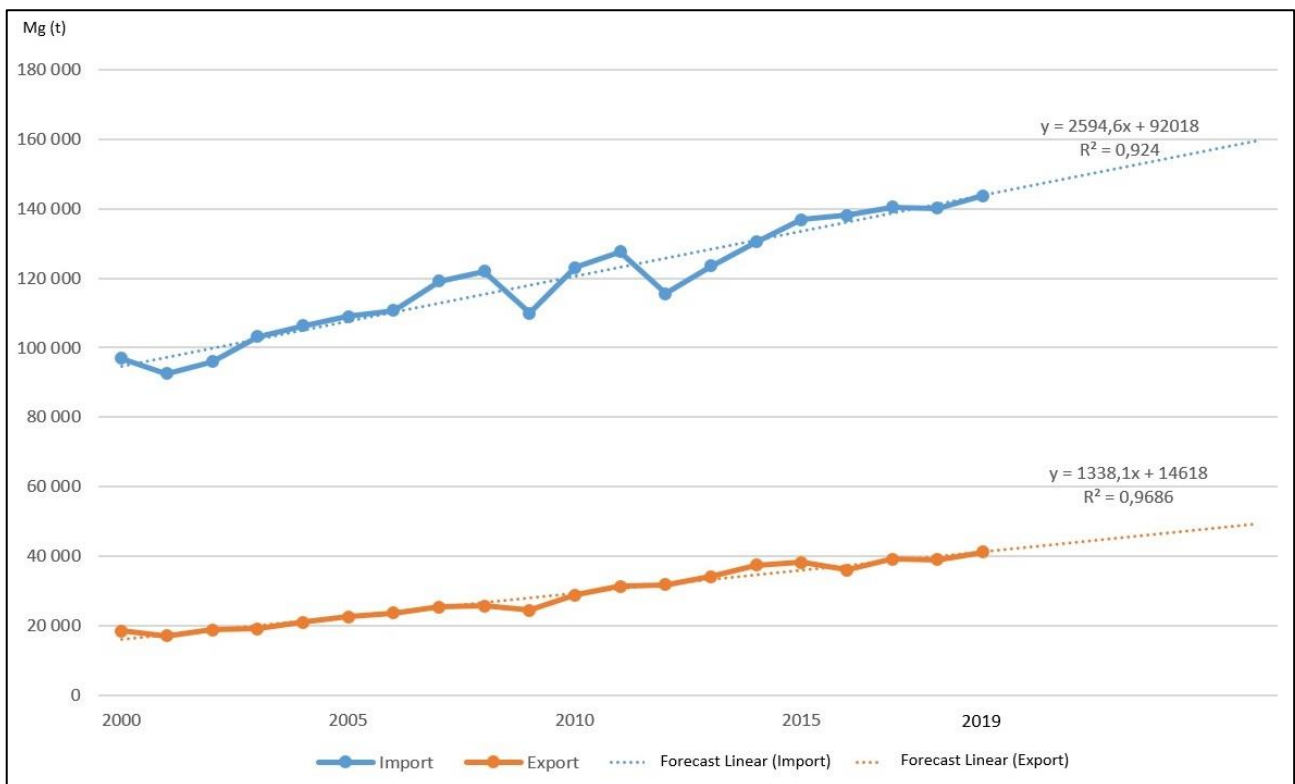
Sweden plays a considerable role in the production and consumption of fashion internationally (Ljungqvist et al., 2018; Roos et al., 2015, 2017; Strand, 2015). Though only a small portion of garments consumed in Sweden are produced within the country, some famous Swedish apparel retail companies known worldwide include H&M, Lindex, RNB(Brothers/Sisters/JC/POP), Kappahl, MQ, Gina Tricot, Boomerang, Åhlens, Stadium, Intersport, Hemtex, IKEA, and Indiska (Shenxun, 2012, p. 14). In Sweden, fashion consumption is also

⁷ Interestingly, the fast fashion model is differentiated from the traditional fashion retail model due to the lack of personality association from a single designer to the consumer, which makes them part of a global (celebrity) culture - with the largest fast fashion companies such as H & M and Zara originating from countries that have no tradition of ready-to-wear clothing or pre-t-a-porter that mainly caters to local tastes (Buzzo & Abreu, 2019).

experiencing a steady increase, growing by almost 40% between 2000 and 2009 (Ekström & Salomonson, 2014).⁸

By 2018, the total number of companies in the clothing and textile sector at 15,711 - with the largest number (2,008) being in the e-trade clothing subsector and the majority (10,916) of companies having no paid employees, such as a single self-employed person or a partnership of owners (Bahr et al., 2019). In 2019 imports of articles of apparel and clothing accessories was at 143,682 tonnes while exports was at 41,280 tonnes (SCB, 2020), based on historical data obtained from SCB with Combined Nomenclature (CN) 61 and 62 - future trends for both imports and exports of Articles of Clothing and Accessories indicate a steady increase.

Figure 2: Import and Export of Articles of Clothing and Accessories in Sweden 2000-2019 (Source: SCB, 2020)

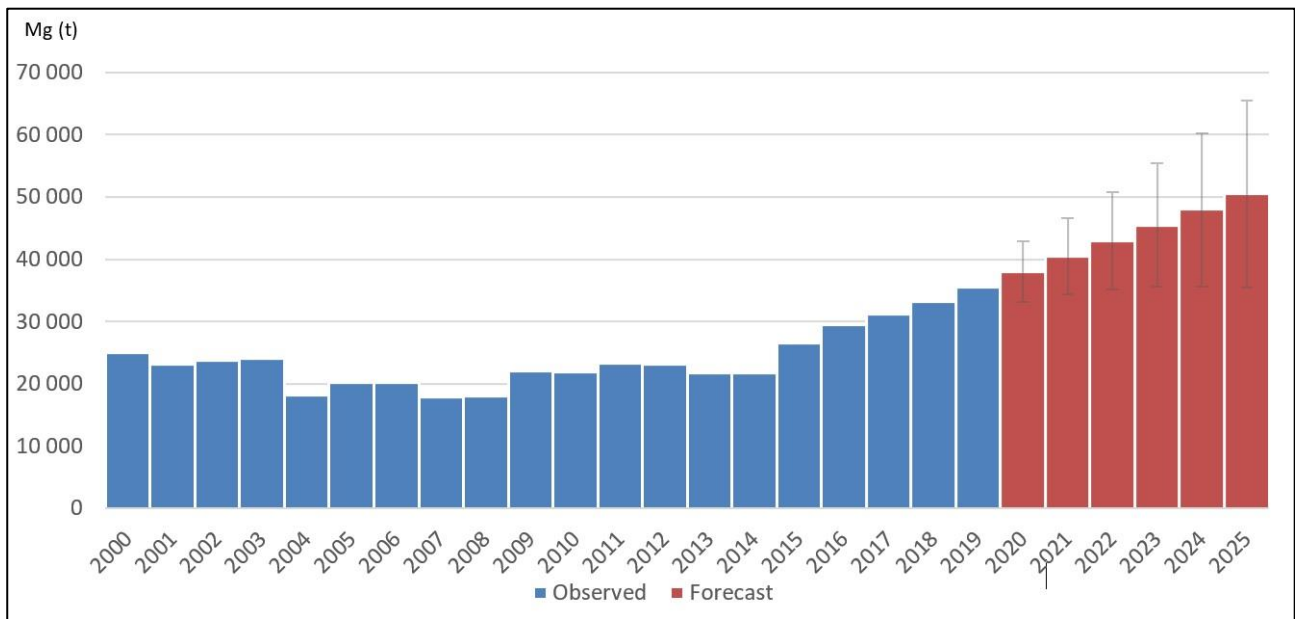


Exports of used clothing and other used articles (CN 630900) collected in Sweden reached 35,496 tons in 2019, by utilizing a linear forecast function based on available historical data for the past 20 years at 95% confidence interval. Figure 3 shows overall an increase for predicted figures in the next six years⁹.

⁸ Note that Sweden's greenhouse gas emissions from the clothing industry in 2014 was around 2.3 million tonnes carbon dioxide equivalents per year (Roos et al., 2017, p. 12). In turn, this meant that the carbon footprint from clothing consumption was around 0.25 tonnes CO₂ equivalents per capita and year (Roos et al., 2017).

⁹ Computations using data for year 2000 up to 2019 obtained from <http://www.statistikdatabasen.scb.se/>

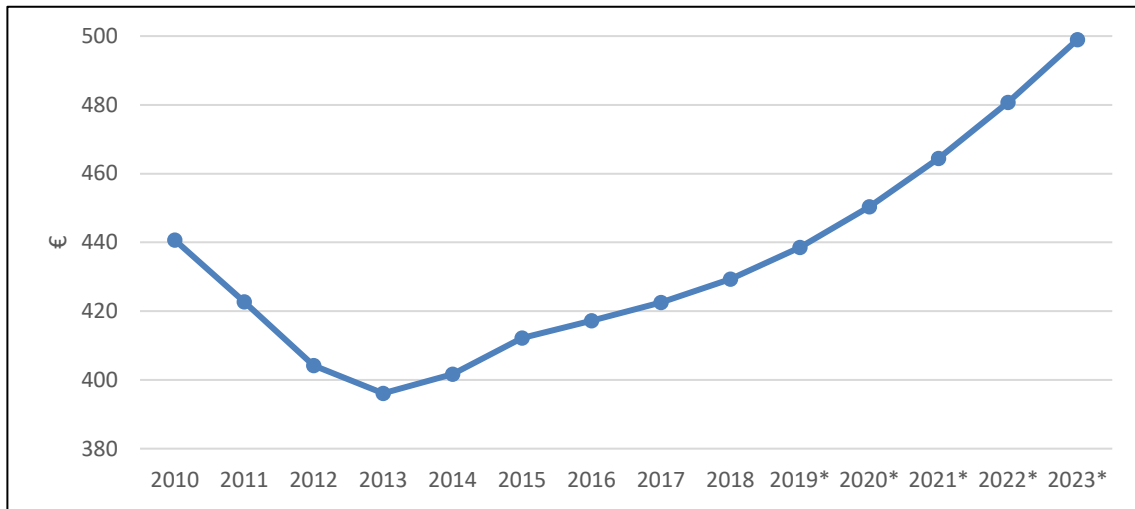
Figure 3: Exports of used clothing and other used articles collected in Sweden 2000-2019 (adjusted for non-response) in metric tonnes for category CN 630900 (Source: SCB, 2020)



3.3 Fashion industry in Spain: Market trends

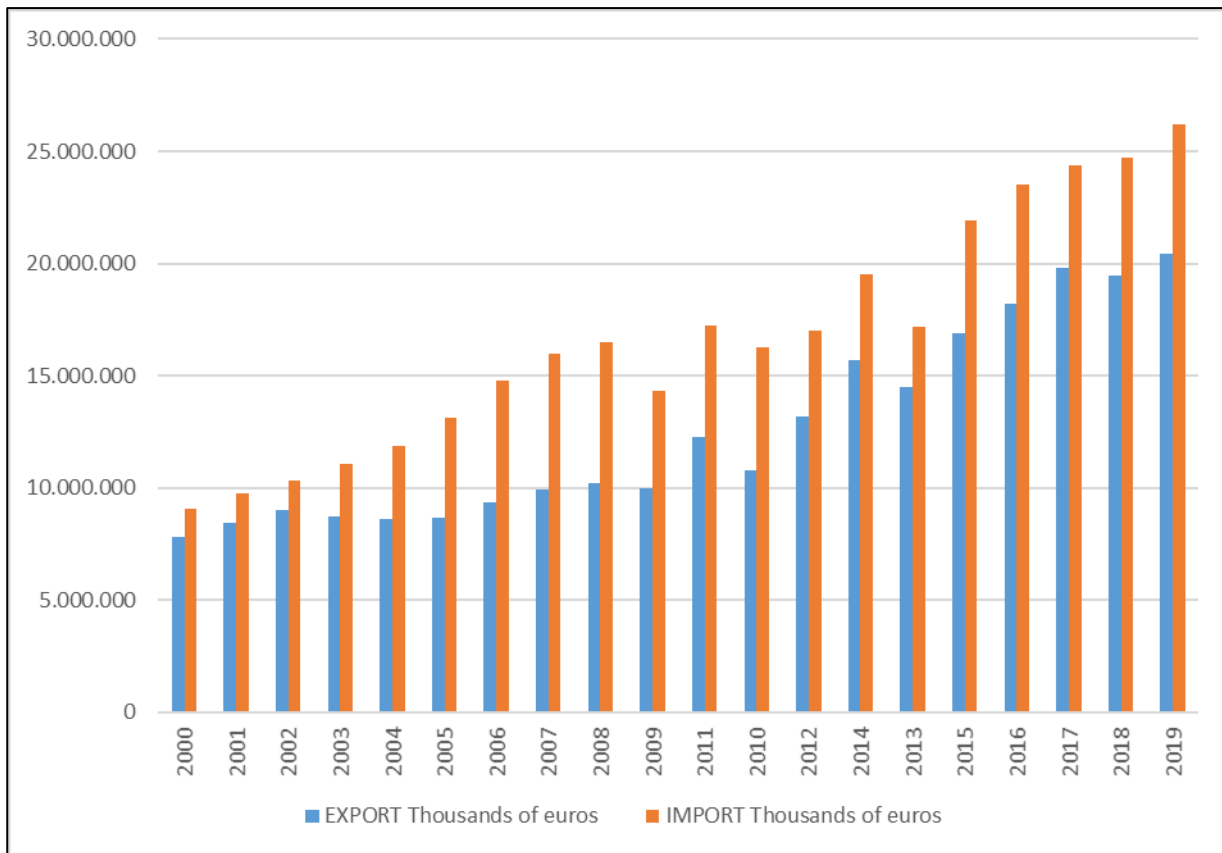
The fashion industry is a key sector in Spain. In fact, the world’s leading fast fashion retailer was born in the country, the giant Zara (Blázquez et al., 2020). The retailer’s contribution to the Spanish GDP was about 2.9% in 2018. If we expand the field of vision and include the retail sector, the clothing and textile sectors represented 13.2% of GDP in 2018. Also, the expenditure on fashion clothes of Spanish people has increased in the last decade and it is expected to increase in the next years. The employment in the clothing and textile sector has also reached 115,400 at the end of 2019, being the 0.6% of the total Spanish employment (INE, 2020). Regarding the size of the companies, small firms with less than 20 employees predominate (8,408 in 2014), whereas there are only 388 firms with more than 20 employees (INE, 2020).

Figure 4. Spending on fashion in euros per capita in Spain 2010-2023 (* Forecast) (Source: CESCE, 2020)



The importance of this sector is also revealed in the export market, which account for 8.8% of the total in 2018, behind other European countries such as Germany, France, Italy and United Kingdom. In the case of imports, Spain is positioned in sixth place, behind Germany, Italy, Netherlands, Belgium and France, with more than 12,000 million of euros in EU (CESCE, 2019). As the Figure 5 shows imports and exports show a growing trend, but the trade balance is negative during the whole 2000-2019 period: by 2019, the imports were about €22,000 million and the exports were around €17,500 million.

Figure 5. Import and export volume of textiles and clothing production in Spain 2000-2019 (Source: Ministerio de Industria, Comercio y Turismo,(2020))



Consistent with the international scenario, one of the main challenges in this sector is the environmental footprint. Some firms are making progress along of the circular economy, but there are several important drawbacks already identified in the Spanish fashion industry, like new textiles with serious difficulties for recycling (e.g. garments with mixed materials) (CESCE, 2019). On the contrary, carbon emissions from the domestic fashion industry have decreased by 32.6% since 2009 until 2019 (Juarez, 2019). On an annual basis, for example, emission have been reduced by 7.7% in 2014, 12.1% in 2015 and 2.3% in 2017 (Juarez, 2019).

3.4 Consumer behaviour and potential anomalies and biases

Although much of the environmental degradation can be attributed to the clothing industry, one can argue that an equal part of the responsibility is borne by consumers. Rather than being mindless market actors with no control over clothing’s environmental impact, consumers decide the number, frequency, and type of clothing items purchased. Consumers are also instrumental in determining how these items are used and maintained and the means of disposal once items are worn out or no longer wanted. All these consumer-related aspects as well as potential anomalies and biases that influence their decisions have implications for clothing’s impact on the environment.

Assessment of consumer behaviour and its implications to environmental sustainability can be approached within each of the above mentioned aspects—with particular attention to current clothing consumption patterns through the purchase, use and maintenance, and discard phases (Gwozdz et al., 2017).

First, consumer behaviour during the purchase phase encompass people's preferences and decisions in terms of when new clothing items are needed and respective quantity. In addition, and depending on their purchasing power, consumers also have the volitional capacity to select products made of more environmentally friendly and higher quality materials (Gwozdz et al., 2017). However, a major point to consider then is the unsustainable demand driving fast fashion, and how giant retailers cater to customers' requests for the latest trends and short-lived outfits that they are willing to obtain more of at affordable prices (Binet et al., 2019). In the pursuit for sustainable consumption systems, consumer behaviour in such case then becomes problematic as it favours a process of rapidly produced high quantities of clothes at lower costs (Binet et al., 2019). Furthermore, the quality of the garment inherently influences maintenance and eventual necessity for disposal, with the immense volume of items produced and sold having important implications for clothing's environmental impact, and thus sending strong signals upstream in the supply chain and creating interactions between the purchase phase with other life cycle phases (Gwozdz et al., 2017).

In the second phase, consumption behaviour pertain to use and maintenance, which also includes activities such as repair, updates/upgrades, help desk, training and consultancy for clothing (Stål & Jansson, 2017). From both monetary and environmental perspectives, maintenance of clothes can be costly as most practices are strongly influenced by social norms of high level hygiene and cleanliness (Gwozdz et al., 2017). In addition to energy use and resulting carbon emissions, interventions in laundry habits that reduce damage to garment fibres have been touted as having the potential to increase garment lifespans (Roos et al., 2015). Moreover, in addition to the environmental burden of energy, water, and detergent use towards adhering to social norms of cleanliness - the frequency of washing clothes and laundering contribute to wear and tear which impacts product life and relates to disposal phase of the life cycle (Gwozdz et al., 2017).

When it comes to the discard phase, consumer behaviours includes activities such as reselling, recycling, donating to charity, passing on to family members, binning and using unwanted clothes as rags (Gwozdz et al., 2017). Within the clothing context, the greatest savings in energy and carbon emissions are achieved by increasing clothing longevity and direct reuse, and the next greatest by reuse through charity donation and material recycling (Gwozdz et al., 2017). Reasons for consumers discarding clothes are of particular interest, for instance estimates in the UK indicate that around 30% of clothes in the average wardrobe had not been worn for at least a year (WRAP, 2012), and show that 42% of clothing are disposed because these no longer fit (Ellen MacArthur Foundation, 2017, pp. 78–79).

Much of the fashion industry's current output is directed towards short-lived fast fashion and so much clothing is being discarded before the end of its lifespan. For consumer behaviour, it is purported that factors such as modes of transportation to and from the store and laundry practices mattered as well, and that prolonged practical lifespan was found to be a more effective way for consumers to reduce the impact of consumers' clothing consumption (Roos et al., 2015).

Consumer behaviour can be influenced by various forms of anomalies and cognitive biases (Kahneman et al., 1991; Shogren & Taylor, 2008). Below we identify behavioural explanations of unsustainable fashion consumption. We use behavioural economics (BE) to frame the discussion. In simple terms, BE draws insights from psychology and other social sciences to increase the explanatory power of economics (Camerer et al., 2003; Lehner et al., 2016; Pollitt & Shaorshadze, 2013). BE pays particular attention to the analysis of behavioural anomalies (or failures) and contextual factors affecting decision-making processes and choices (Camerer et al., 2003; Frederiks et al., 2015; Kahneman et al., 1991). This is done in order to better understand consumer decision-making, related choices and support the development of consumer policy.

Recent studies in the fields of BE and psychology indicate that a main factor underlying unsustainable behaviour in general among consumers can be attributed to cognitive biases and behavioural anomalies (Frederiks et al., 2015; Kahneman et al., 1991; Pollitt & Shaorshadze, 2013). Broad research demonstrates that even where cost-benefit calculations presents more materially advantageous choices, people persist in apparently making 'irrational', yet predictable tendencies – that may seem incongruous from neoclassical economics but explainable from a BE perspective (Sunstein, 2015). In changing consumer behaviours, studies in BE also reveal that non-pecuniary interventions compare favourably to monetary interventions in changing consumer behaviour (Pollitt & Shaorshadze, 2013).

Consumer behaviour is purported as a priority for the fashion industry to concentrate upon, as most consumers shop for pleasure, and these hedonic pleasures are already being used by companies to make sales grow (Buzzo & Abreu, 2019). Useful insights for fast fashion can be derived through an understanding of BE and cognitive biases, such as how the innovation of faster novelty may be welfare-reducing (Cooper, 2017). For instance, if consumers have present bias and are time-inconsistent - they would place a low value on future periods of consumption and will choose a product with sub-optimal durability underweighting the benefits of higher durability in the future (Cooper, 2017).

Unsustainable consumption behaviour in the (fast) fashion industry suggests various behavioural anomalies and systematic biases relevant to this sector. As indicated in section 2, behavioural anomalies are often defined as deviations that describe why consumers do not behave as the rational theory model predicts (Shogren & Taylor, 2008). By no means exhaustive, behavioural anomalies and cognitive biases potentially affecting fashion consumers are elaborated as below.

Status quo bias. This is a preference for the current state that biases people causing them to decline decision making or change from the present situation; even if the costs of change are low and the benefits substantial (Kahneman et al., 1991; Sunstein, 2015). In the case fashion, consumers (e.g. fast fashion consumers) may simply follow the trend (e.g. celebrity culture) and buy fashion that has quickly moved from the catwalk to the stores at very low prices. Fast fashion consumption becomes the status quo.

Self-control problems. This relates to idea of bounded willpower (Shogren & Taylor, 2008) and the inability to dominate one's behaviour when confronted with different situations, impulses or temptations (Gul & Pesendorfer, 2001). It can also include individuals failing to implement desired or ideal actions (Camerer et al., 2003). In our case, self-control problems can be identified in compulsive behaviour in fashion shoppers, which leaves them susceptible to temptations (e.g. fast fashion) and potentially shopping addiction. A lack of self-control leads them to overweigh the short-term benefits of indulging their current state of mind (Camerer et al., 2003; O'Donoghue & Rabin, 1999).

Heuristics. Also known as mental shortcuts or rules-of-thumb often used by consumers when making decisions and assessing risks (Pollitt & Shaorshadze, 2013; Sunstein, 2015). In turn, 'satisficing' is a cognitive heuristic that involves searching through available alternatives until an acceptable threshold or decision –not necessarily optimal or purely rational– is reached, such as decisions of consumers that a product is "good enough" (Camerer et al., 2003; Harrison & List, 2004; O'Donoghue & Rabin, 1999; Simon, 1979). For fashion consumers, for example, heuristics is thus a mental shortcut that alleviates the cognitive load of making (difficult) decisions about their fashion consumption (e.g. comparison of overall benefits of one quality garment versus overall benefits of five fast fashion garments). In addition, when fashion consumers are confronted with multiple options (i.e. choice overload), heuristics can drive individuals to choose the easiest or first available option regardless of the environmental and social implications associated with the garment.

Loss aversion. This is basically when individuals put a greater value on relative losses than gains (Kahneman, 2003). Here, the disutility of giving up an object is being perceived as greater than the utility associated with acquiring it. For instance, many fast fashion consumers may tend to buy because of the fear of losing the opportunity to buy limited editions of celebrity fashion or the fear of missing out (F.O.M.O.) in acquiring must-have items; which is also related to 'availability bias' (Camerer et al., 2003; Hahn & Metcalfe, 2016;).

Time-inconsistent preferences. This basically refers to when consumers' decisions vary over time in such a way that his/her preferences become inconsistent at any point in time (O'Donoghue & Rabin, 1999). For fast fashion consumers, this may be perception of items being less valuable or significant the further away in time (i.e. temporal discounting). At the same time, the same consumers can base their decisions on the perception that fashion items can be more valuable or significant the further away in time (Camerer et al., 2003; Cooper, 2017; O'Donoghue & Rabin, 1999). Theoretical experiments with asset pricing have found that time-inconsistent preferences induce over-consumption (Liu et al., 2016).

Sunk cost effect. This is the tendency of people to become irrationally fixated on recovering resources (e.g. time and energy) already invested or wasted, persisting on a course of action regardless of future costs and benefits, as well as the (potential) risks and uncertainty of obtaining a desired result (Crocker, 2013; Frederiks et al., 2015). This may occur among (fast) fashion shoppers upon having spent time at a store and not finding anything they wanted or needed, but eventually still purchase something to justify the time and effort that was already devoted.

Conforming to social norms. Individuals are generally influenced by the attitudes and behaviours of others, tending to follow norms that reflect what is common (descriptive norms) and what is socially approved (injunctive norms) (Cialdini et al., 1990, 1991). For environmental issues and the fashion sector, consumers can be motivated by norms that provide social rewards such as belongingness, conformity, acceptance and admiration among their peers and communities. The power and pervasiveness of normative social influence can be seen in 'herd behaviour' and 'the bandwagon effect' to what is in vogue. Moreover, people also tend to make social comparisons, evaluating their own performance, possessions and wellbeing relative to others rather than absolute terms (Frederiks et al., 2015; Hahn & Metcalfe, 2016).

From a behavioural economics perspective, the reviewed literature reveals that knowledge about the (unsustainable) behaviours to be changed remains fragmented and limited. Overall, there is a need to further understand anomalies and cognitive biases as potential drivers of unsustainable clothing consumption patterns.

4 Collaborative Fashion Consumption

Excessive consumption of clothing items generates an overflow of discarded clothing, a throw-away culture evident in developed economies (Gwozdz et al., 2017). Empirical research on consumers' clothing disposal behaviour during the past 30 years shows that the most common reasons for disposing clothes were wear and tear, poor fit, and fashion boredom (Laitala, 2014). In response, collaborative consumption of fashion has emerged, - with the extension of the life of garments before being discarded being the most obvious result (Binet et al., 2019). Iran and Schrader (2016, p. 6) define collaborative consumption as “the redistribution of used products in which two or more persons (re-)use the same product in a different period of time regardless if the ownership is transferred or if a monetary or non-monetary fee has been applied”.

In reducing the environmental impact caused by the rampant consumption, a noticeable number of initiatives supports the principle of sharing and there is promise in businesses that utilize collaborative models (Binet et al., 2019). A relatively recent alternative method to previously mentioned disposal practices, is clothing rentals and sharing. This is a business model that also aims to address the issue of overconsumption (Iran & Schrader, 2017). It is already established for (primarily men's) occasion wear, but is also, with the growth in internet platforms, gaining popularity (Becker-leifhold & Iran, 2018). Further, this model can be tailored to suit different segments of the clothing market. For clothes being disposed of when owners lose interest in them, a fashion subscription rental model can cater to these consumers' need for new items while reusing older clothes once the owners get bored of them (Ellen MacArthur Foundation, 2017). For consumer segments concerned with clothes no longer fitting, a short-term rental model can work so that the owners can rent clothes only for the anticipated amount of time needed, with maternity wear being a prime example. Similarly, rental for short-term needs can be offered for occasion wear or sportswear (Ellen MacArthur Foundation, 2017).

4.1 CFC initiatives in Sweden

Product-service system practices (PSS) among Swedish fashion firms have been touted towards sustainable consumption and minimize environmental problems (Stål & Jansson, 2017). Value propositions are exemplified by PSS, often described as entailing a sustainable potential being endowed by replacing or relinquishing ownership with access or adding end-of-life or product-extension services (Mont, 2002; Stål & Jansson, 2017). PSSs suggest changes in consumer behaviour throughout the consumption cycle, with PSSs typically extending the firms' value propositions beyond purchase of products, which in turn also affect use and disposal (Stål & Jansson, 2017). Herein, Swedish companies have gone beyond promotion of utilizing sustainable materials through eco-labelling, but have also engaged consumers in measures to address use through washing advice and repair, as well as disposal via their take-backs systems (Stål & Jansson, 2017).

In recent years, Sweden's fashion market has become increasingly sustainable-oriented (Nielsen & Wencke, 2017) and a number of companies have adopted the CFC model throughout the country in various configurations. We identify the following CFC initiatives operating in Sweden:

*Klädoteket*¹⁰ it was founded in 2012. Their business model is one in which the company leases clothes and accessories so that customers can access a wider variety of clothes than they themselves own. Customers can either lease a specific product or choose from several subscription services. Customers order online and can either pick up the package in store or have it sent to them. The leasing period is from 2-4 weeks. After use, the item is sent back in the same package and Klädoteket handles the laundry. If a customer likes an item and would like to keep it, Klädoteket also allows them to purchase at a discount.

*Something Borrowed*¹¹: Something Borrowed was founded in 2016 with the mission to give consumers the opportunity to change their consumption pattern, and thereby change the fashion industry's negative environmental impact. Customers can "maintain a particular lifestyle and continue to expand their everyday style, without having a bad conscience over their consumption". They have a similar business model as Klädoteket and also offer several different subscription services.

*Filippa K*¹²: It is one of Sweden's most well-known fashion labels and have recently started Filippa K Lease, their collections which are available for rent. This is part of their ambition to create fashion inspired by long-lasting simplicity with minimal footprint. Since 2016, customers can lease any product for 4 days at 20% the full retail price, and the company takes care of the cleaning. This service was available at several stores in three Swedish cities as well as a number of overseas locations. At the time of this writing however, the service has been discontinued.

*Sabina and Friends*¹³: It started in 2010 and is aimed towards enabling customers to vary their wardrobe with the latest fashion trends. Customers choose items online for the required dates, use the items and return them to the company who handles the cleaning. The company also has a physical store in Stockholm.

*Curatorz*¹⁴: Out of the examples mentioned here, Curatorz is the only one to explicitly name "Sharing Economy" as their business model. The company was started in 2016 and aims to provide "access without ownership". Similar to Klädoteket, customers also have the option to purchase a borrowed item.

*Swopshop*¹⁵: It markets itself as a way to renew the customer's wardrobe in a simple, sustainable and economical way where customers can buy or swap vintage or modern clothes, accessories and shoes for

¹⁰ <https://kladoteket.se/>

¹¹ <https://www.somethingborrowed.se/>

¹² <https://www.filippa-k.com/se/filippak-world/lease>

¹³ <http://sabinaandfriends.se/>

¹⁴ <https://curatorz.com/>

¹⁵ <https://www.swopshop.se/>

men, women and children. They started in 2013 and aim to promote sustainable consumption and give all, regardless of economic situations, the possibility to access clothes and express their style. It has both a web shop and a physical shop in Malmö.

*Klädbibblan Linköping*¹⁶: It enables clothes-sharing whereby members pay a fee of 200kr per year and can then borrow up to four items each time for a period of up to a month. Clothing for special occasions can be borrowed for a fee of 50kr. A new service offered is clothing curation, for a fee of 70kr per month. They also offer a selection of items for free.

*Mötesplats ReTuren Malmö*¹⁷: It is a local re-use center, the first of its kind in Sweden. Customers can leave things they no longer want, including clothes and textile, and take whatever they need instead. It is run in collaboration with the city municipality.

*Rent-a-Plagg*¹⁸: Based in Åre, Rent-a-plagg rents out clothes and equipment for outdoor activities and skiing, from well-known brands that are considered environmentally friendly. They tailor the products to the customer's needs and deliver these to the customer's home. The company was started to address unnecessary consumption of things that are infrequently used. The company was renamed to "Outdoor Buddies" in February 2020.

*Lånegarderoben*¹⁹: Founded in 2010 and formerly based in Stockholm, Lånegarderoben was among the first to offer a subscription-based fashion library / wardrobe collection rental service. A fee of SEK 400 for six months allowed subscribers to borrow three items maximum at a time from a collection that was sourced from member donations or from fashion items previously used by collaborative brand partners in photo shoots or runway events.

*WOW Closet*²⁰: Based in Stockholm, the WOW Closet is a full dress rental service that cater to special events such as weddings, parties, and galas. Their store also has collections that are owned by members available for rent, with the owner of the dress receiving 20% in commission – while WoW closet handles the whole process covering the costs of the cleaning and repairs.

4.2 CFC initiatives in Spain

Renting clothes has been a regular business in Spain for weddings and similar celebrations. The overall business model for these companies is to offer exclusive fashion garments at an affordable price, allowing the customers to enjoy garments that would have never had the possibility to wear unless it was with a rental

¹⁶ https://www.facebook.com/pg/Kladbiblioteketlinkoping/about/?ref=page_internal

¹⁷ <https://malmo.se/Uppleva-och-gora/Gora/ReTuren.html>

¹⁸ <https://www.rentaplagg.se/>, <https://outdoorbuddiesshop.se/>

¹⁹ <https://lanegarderoben.se/>

²⁰ <https://www.thewowcloset.se/>

service. Even if it is not its main motivation, it is claimed that this business contributes to protect the environment because it increases the number of times a garment is used, thus extending its useful life.

Although the rental of party clothes has been a traditional business in Spain for a long time, the rental service for daily clothes is becoming more popular, expanding the business of rental party clothes companies but also, promoting new start-ups that are looking to fill this gap in the market. Some firms offer the rental of fashion clothes as the only business model, while others sell clothes parallel to its rental services. Additionally, there are also online platforms for second-hand clothes exchange, or for the selling and purchase of clothes that people are not using anymore.

The most relevant CFC initiatives that have been found in Spain are the following. Firstly, the companies that offer the rental service or work as a fashion library are the following:

*OUH LO LÀ*²¹: This company was founded in Valencia in 2019 for fashion renting. Its motto is: "FASHION dresses, not bought. Here your infinity closet". The customer can choose among various options, depending on the number of pieces of clothing (five and twelve) and the period of time (twelve and thirty days). The subscription fee varies from €39 to €89. The purchase of the garment is not an option for customers. The target population are women that want to change their fashion clothes for working, going out, etc. but this company does not provide garments for special events. This company highlights the importance of the method of clothes cleaning using ozone to eliminate bacteria and viruses, disinfect and deodorize all garments. This company operates only in Spain.

*Ecodicta*²²: This a start-up was founded in Spain in 2018. It is a clothing library where customers pay a monthly fee and receive 2-4 clothes every thirty days. They use and return them after this same period. The company offers selected items from a variety of brands that are all environmentally sustainable, so the garments are a surprise for the clients. The target population are women. With its motto, "sharing is caring", this company tries to raise awareness of the negative impact that the fashion industry has on the planet. Additionally, this firm collects important information about consumers' preferences that might contribute to inform the fashion designers and firms. This company delivers in Spain and Portugal.

*Pislow*²³: This startup was founded in Barcelona in 2017. It is a fashion renting business, where customers can pay a monthly subscription between €39 to €109 to get two clothing items and one accessory (e.g. bags, necklace, sunglasses). The subscription tiers depend on the quality of clothing that the customers want to receive, from standard to premium and luxury. The items for renting are chosen by fashion stylists based on the clients' preferences, and is not based on an environmental criterion. The subscription includes an insurance that covers any possible defect of the clothing during the period that it has been rented. The aim

²¹ <https://ouhlola.com/> (last accessed was 4/27/2020)

²² <https://www.ecodicta.com/> (last accessed was 4/27/2020)

²³ <https://www.pislow.com/woman> (last accessed was 4/27/2020)

of this company business is to reduce the budget that women spend on fashion by increasing the variety of clothing that they can (potentially) use and to protect the environment. This company also provides the possibility of buying a gift card for the rental service or renting clothing just for a special occasion. Among other brands, this company offers Versace, Cavalli, Dolce&Gabbana, Fred Perry, Missguided, Intropia o Bimba y Lola. This company delivers in Spain.

*La Mas Mona*²⁴: This company was founded in 2012. The initial business of this company was renting luxury clothes. This firm is specialized in renting party clothes and accessories with a large variety of fashion designers. This company has more 250,000 followers on Instagram. In addition, this company has 6 physical shops in Spain and they offer the possibility of franchise stores. Recently, the company has expanded its business to fashion sharing for daily clothes. The subscription fees are between €49 and €89 depending on the number of garments, from 2 to 4. The possibility of including an insurance is also offered to the customers. The cleaning and transport costs are included in the subscription fee. This company offers their clients the possibility to rent their own clothes as far as they are exclusive and are in perfect conditions. This company operates in Spain.

*Dresseos*²⁵: This company is founded in Galicia in 2013. It is specialised in the clothe renting for special events, such as weddings or celebrations where women are dressed up with long and expensive pieces. The company provides exclusive garments pieces from national and international fashion designers such as Arzuaga, Angel Schlessler, Duyos, Halston Heritage, BCBG or Karen Millen among others. This company has a physical shop in Madrid for those clients that want to try on the clothes before renting. In addition, the company offers styling advice to those clients who request it. The company also runs a parallel business that offers the possibility to purchase some garments.

*Skfk (old Skunkfunk)*²⁶: This is a Spanish company founded in Bilbao in 2019 that sells and rents its own brand fashion clothes for women. The rental service implemented by this company is named as 'circular closet'. They deliver to France, Germany, Spain, Portugal, United Kingdoms, Luxembourg and Netherlands. The company aims for strong environmental credentials. Clothes are made of organic cotton and other low-impact fabrics. Also, this company works on zero waste, fair trade, bio-degradable packaging, low emission transport (e.g. over 95% of their products are being shipped by sea) and renewable power energy. The clients can rent the clothes once or can be subscribed for three months. The rental fee is €49 if you order one look for a single month, and €39 per month if you order 3 looks during three months. Each time the clients receive three pieces that can enjoy for a month. The cleaning and insurance is included in the rental fee. The possibility to purchase the garment is offered to the clients.

²⁴ <https://www.lamasmona.com/> (last accessed was 4/27/2020)

²⁵ <https://dresseos.com/> (last accessed was 4/27/2020)

²⁶ <https://www.skfk-ethical-fashion.com/es> (last accessed was 4/27/2020)

*Lamodateca*²⁷: This is a Spanish company founded in 2018 and it is located in Zaragoza. This company sells but also rents out fashion clothes. They are considered the first fashion library in Spain. There are three subscription fees available for the clients (€25, €35 and €45 per month). Each subscription amounts to a given number of points that customers can then use to rent garments. The clothes are usually collected at the store located in Zaragoza, as they only operate locally. The clothes come from national and international fashion designers such as French, Shiwa, Crisálida or La Casita de Wendy. Clients can donate their old garments that were in good conditions and get compensated by points.

*Me lo prestas*²⁸: This is a Spanish firm located in Vigo, founded in 2019. It is specialised in the rental of party clothes. The clients select the items that they want to rent and they receive them two days before the event and should be returned two days after. The firm also offers the possibility that the clients rent out their own party clothes. In that case, the client earns a 35% off from the final rental price of her/his party clothes. The company operates only in Vigo.

*Rental mode*²⁹: This is a Spanish firm, founded in Seville in 2012. This aim of this company is twofold, renting and selling party clothes. The company has 17 franchises around Spain. The garments are designed and produced in Spain. The rental fee is €60 and includes the total look that the client wants to wear for the event, including cleaning and the stylist advisory. The party clothes must be collected and returned to the physical store. Additionally, the company also offers the possibility to buy some stocks. No environmental issues are among the priorities of this firm.

*Pantala*³⁰: This firm was founded in Seville in 2019 for rental fashion clothes. The main aim is to contribute to reducing fast fashion consumption. Also, this company has limited its catalogue to sustainable brands and Spanish designers, with the aim of promoting the consumption of responsible brands. The subscription fee per month is €69, which includes up to three items of clothing previously selected by the client.

Besides the previous initiatives whose main business is the rental of party or daily clothes, there are other firms that also contribute to enlarge the number of CFC initiatives in Spain. They can mostly be considered as second hand firms or platforms. Some recent initiatives that operate in Spain are:

*Adoptaunaprenda*³¹. This is a Spanish firm founded in Galicia (Vigo) in 2018. This is a second-hand business firm, where clients can also buy recycled and vintage clothes. The aim of this firm is to enlarge the times that the garments are used before discarding them. What distinguished this firm from the competitors is that the second-hand clothes include a tag with the history that is behind them in order to raise awareness among

²⁷ <https://www.lamodateca.com/la-modateca/> (last accessed was 4/27/2020)

²⁸ <https://meloprestas.com/> (last accessed was 4/27/2020)

²⁹ <https://rentalmode.com/shop/> (last accessed was 4/27/2020)

³⁰ <https://pantala.es/> (last accessed was 4/27/2020)

³¹ <http://adoptaunaprenda.com/pages/proyecto> (last accessed was 4/27/2020)

clients. The firm has also the commitment to donate part of the sales revenues to NGOs that collaborate with training actions aiming to improve socio-personal skills and employability of people at risk of social exclusion.

*Milmodelitos*³²: This firm was founded in 2011. The customer can buy clothes, or sell their own clothes, but they have to go to the physical store in Madrid. The selection of garments is limited, as not all brands and sizes are collected. The firm offers the possibility of setting up a franchise with minimum investment.

*Micolet*³³: It was founded in 2015 and it is second-hand online platform online that sells clothes that the company buys from their clients. This company delivers in Spain, Portugal, United Kingdom, France, Italy and Germany. It has 282 followers on twitter and more than 62.000 followers on Instagram.

*Vinted*³⁴. This is a platform online platform was born in Berlin but has expanded to other countries in Europe such as Spain. The platform enables people to exchange not only second hand clothes but also other fashion goods, such as shoes. This time the target population are not only women, men and kids are also included.

*Vibbo*³⁵: This is an online platform that is fully dedicated to the exchange of second hand clothes. They facilitate contact between private sellers, but they do not sell only clothes. It has 3.400 followers on Twitter.

4.3 General market developments

4.3.1 Sweden

Interviewees have observed that collaborative fashion consumption in Sweden has been on the rise in the past years, noting the emergence of several new start-ups and business models in the market with various organizational structures, pricing structures, customers and membership schemes.

Higher demand for rental fashion and used clothes has been forecasted by participants from Rent-a-Plagg and WOW Closet rental services, especially with increased awareness and public acceptance brought about by industry leaders in Sweden such as H&M and Filippa K, as well as well-known players in the international scene such as Rent the Runway and Y-Closet. Issues have also been identified in relation to the size and growth of cities, which means less participation and difficulties in maintaining clothe sharing initiatives in smaller cities such as Linköping, while at the same time there is ever increasing demand for material and circular economies in larger cities such as Malmö, that have more potential participants and available resources towards reuse and recycling initiatives.

For rental services, interviews indicate that most respondents who were co-founders or CEOs had regarded their organization as small-scale or start-ups. Among those interviewed, Swopshop had been the longest that

³² <https://milmodelitos.es/> (last accessed was 4/27/2020)

³³ <https://www.micolet.com/> (last accessed was 4/27/2020)

³⁴ <https://www.vinted.es/> (last accessed was 4/27/2020)

³⁵ <https://www.vibbo.com/> (last accessed was 4/27/2020)

is still currently in operation (7 years). Lånegarderoben was no longer active and Klädbibblan Linköping was noted as undergoing reorganization. Table 1 presents the number of clients, type of organization, business model and pricing structure for each CFC.

For the number of active participants among the types of business models, the city-led collaboration non-profit organization had the most people engaged with 200 to 300 visitors for the Meeting Place and 40 actively engaged clients for the Free Shop in Malmö daily. This is followed by private rental services with about 200 active clients in a year. Based on responses from the interviews, the higher number may be attributable to the fact that these organizations are convenient in terms of physical location and services offered in relation to catering to the needs of clients for particular events or occasions. Although all organizations included in the study had physical establishments, there were marked differences in the online presence that each had. A majority of respondents indicated the importance of personally meeting their customers and the interactions involved.

In terms of quality, respondents from rental services, 2nd hand and swapping stores were very particular of products' quality, opting for durable and high quality premium brands –avoiding fast fashion due to low durability and fashion becoming easily outmoded or unpopular. Interestingly, no particular brand was mentioned, but rather that good quality was usually implied with branded items. Whereas, for the non-profit organization and clothe libraries - the quality of clothes were more mixed in nature due to the fact that most of their items were obtained through donations.

Variation in the pricing structures were reflective of operational costs and funding structures of the organizations. Rental services also based their pricing structure on providing consumers good value proposition for accessing premium items at a fraction of their purchase cost. Having nominally lower fees however did not seem to automatically translate into encouraging more members to become engaged, as in the case of clothe libraries subscription.

Table 1 Summary details of CFC initiatives in Sweden included in the study

Organisation	Service Offered / Business Model	Number of Clients / Members	Pricing Structure
<i>Klädbibblan Linköping</i>	Rental service/ Clothe Library	For year 2019: 400 members 30 to 40 active per month	Subscription fee 400 per year
<i>Rent-a-Plagg (Outdoor Buddies)</i>	Rental service	For year 2019: 2,000 to 2,500 customers (Rental) 200 to 500 customers (Care line)	Rental fee
<i>ReTuren Malmö</i>	Non-profit organization / City led collaboration	Daily: 200 to 300 visitors for Meeting Place 40 engaged clients for the Free Shop	Free
<i>WOW Closet</i>	Rental service	Over 900 customers since April 2018	Rental fee Members can loan their dresses and receive 20% commission
<i>Swapshop</i>	2nd hand store / Swapping	Over 4,000 customers since 2013 (6.5 years), with 400 active members	Unique store currency, fee of 20% approx. value of swapped item
<i>Lånegarderoben</i>	Rental service/ Clothe Library	200 active members during 4 years of operation	Subscription fee 400 per 6 months

When it comes to customer profiles, and with the exception of Rent-a-plagg, most organizations had predominantly female customers/clients. Typical age ranged from 20 to 55, with rental companies observing more seasonal patterns within their demographics. Students, environmentally conscious people, and those who join in for economic reasons or convenience were among the most common identified groupings.

Seasonal variations in the demographic profile and behaviour of customers have been observed by respondents. For example, WoW Closet who works on women exclusively, noted different types of clients throughout the year due to varying events and needs. During spring their clients would mostly be girls for school balls, about 16 years of age. On the beginning of May until the end of September, they would mostly be wedding guests as the main customers. In summer their clients are a somewhat older, around 25-45 years of age and the income profile being a little higher with many clients having leading positions in organizations and businesses. During autumn, from September until the end of December, it would be 40 to 65 years of age, and the events also become different with mostly formal occasions, university graduations, formal dinners at the castle and historic locations. The Nobel Prize Award Ceremonies and Banquets was an

important occasion they cater to at the beginning of December, with different customers with higher income profiles and different behaviour, with clients also having higher variation (15 to 80) years in age.

4.3.2 Spain

The identification of CFCs initiatives operating in Spain suggests that those companies whose business is the rental service of daily fashion clothes are the ones that are inclined to understand the importance of protecting the environment and moderating the consumption of fashion. The firms consider that the rental service and clothe library options allow customers fulfilling the desire of people to enjoy trendy clothing. The advantage is that each clothe item increases the number of times is going to be used before discarding it. So, the CFCs contribute to reduce the fashion fast industry where the clothe item is usually used 2-5 times as an average before discarding it. Some CFCs look for brands that are environmentally friendly and usually, they are high quality clothes.

The characteristics of CFC market in Spain show that there are two main types of business models. One of them is through online platforms that allows customers to rent the clothes. Then, there are local firms that although they have an online platform, they often use a physical store for the exchange of the clothes or for giving the clients the opportunity to try on the clothes before renting. In some cases, instead of renting permanent physical stores, these firms use showrooms that are rented for few days. Within these business models, some firms showcase the important national and international fashion designers that they work with in order to attract more clients. On the other hand, some CFC firms also show that they work with new fashion designers that are committed with a sustainable clothes production.

In relation to the rental of party and daily clothes, when both type of clothes are offered, CFC firms aims to diversify customers and reduce business seasonality. On the one hand, party clothes are mostly rented between April and October, mostly because parties are concentrated around that period. For the party clothes, there is not a subscription fee, as clients just pay for the specific rental service. On the other hand, the rental of 'daily' clothes is expected to be on demand during the whole year. Here, CFC firms aim to engage clients through monthly or annual subscriptions that can be adapted to the consumers according to their fashion preferences and income level.

It has to be noted though that the expansion of the CFC market in Spain also brings new challenges. For example, some CFC firms collect apparel from different brands from around the world. Some of these brands are well-known, but others are new in the fashion market. The expansion of the CFC market allows these new brands to grow and be known. Assuming that these companies are environmentally friendly, this market expansion contributes to the environmental credentials of the CFC sector. However, this may not always be the case. In addition, CFC firms collect information about the customers' preferences. This is valuable information that the expansion of the CFC market also entails and can be sold sell to fashion companies.

Table 2 Summary details of CFCs in Spain included in the study

Organisation	Service Offered / Business Model	Number of Clients / Members	Pricing Structure	Purchase option
<i>Ouh-Lo-là</i>	<ul style="list-style-type: none"> - Rental service/ Clothe Library. - National and International fashion designers 	<p>Up to 2020, 3000 members</p> <p>Aprox. 7200 followers in Instagram</p>	<p>Subscription fee is €89 per month for 10 garments. The permanence period will last 5 months</p> <p>Alternatively, there are subscription fees between €59 and 89 per month for selected boxes.</p>	The purchase of rented garments is forbidden
<i>Ecodicta</i>	<ul style="list-style-type: none"> - Rental service/ Clothe Library. - Sustainable designers and other well known, national and International fashion designers 	<p>For year 2019: more than 200 members</p> <p>Aprox. 4300 followers in Instagram</p>	<p>Subscription fees between €30 to 50 per month, depending on the quality of clothing (selected premium or standard brands).</p> <p>There is no permanence period</p>	The garments rented can be purchased at an advantageous price.
<i>Pislow</i>	<ul style="list-style-type: none"> - Rental service/Clothe library. - National and International fashion designers 	<p>Aprox. 2400 followers in Instagram</p>	<p>Subscription fees between €39 and 109 per month, depending on the quality of clothing (selected premium or standard brands).</p> <p>No permanence period is required.</p>	The garments rented can be purchase with a 15% off final price
<i>La Más Mona</i>	<ul style="list-style-type: none"> - Rental service/Clothe library. - National and International fashion designers 	<p>Aprox. 250,000 followers in Instagram</p>	<p>Rental fees between €49-89 per month depending on the number of garments</p>	Additional garments from new collections are offered for being purchased.
<i>Dresseos</i>	<ul style="list-style-type: none"> - Rental service. - Only exclusive garments from national and international fashion designers and also, has its own brand. 	<p>Aprox. 27,700 followers in Instagram</p>	<p>Rental fees aprox €20-50 per item.</p>	Some old rented garments are offered to the clients for being purchased, twice a year.

<i>Skfk (Skunkfunk)</i>	<ul style="list-style-type: none"> - Rental service and Sells. - Own fashion brand/sustainable clothes. - Deliveries out of Spain. 	Aprox. 27,800 followers in Instagram	Subscription fees are €49 per month/item or €39 per month/item during three months.	Some fashion clothes are available for being purchased.
<i>Lamodateca</i>	<ul style="list-style-type: none"> - Rental Service/Clothe Library 	Aprox. 3,350 followers in Instagram	Subscription fees can be €25, 35 or 45 depending on the number and the quality of items selected.	Rented garments can be purchased at an advantageous price if the clients are interested in.
<i>Me lo prestas</i>	<ul style="list-style-type: none"> - Rental Service. - National and international fashion. designers 	Aprox. 250 followers in Instagram	Rental fees between €25 and 100 per item.	Garments are not offered for being purchased.
<i>Rental mode</i>	<ul style="list-style-type: none"> - Rental Service. 	Aprox. 51,600 followers in Instagram	Rental fee is €60	
<i>Pantala</i>	<ul style="list-style-type: none"> - Rental Service. - National and international fashion. Designers 	Aprox. 4,200 followers in Instagram	Rental fees between €25 and 100 per item.	Garments are not offered for being purchased.

As a whole, CFC firms in Spain target mostly women. The ages vary between 20 and 45 years old. The profile of the firms reveal different features of this specific target group. There are women that simply love fashion and CFC offers a more sustainable consumption choice. Women that are environmentally conscious and are (high) fashion consumers fit this profile. In addition, there are women that have a very important social life, that are usually invited to many events and want to wear special looks with certain exclusivity. The profiles of CFC firms also suggest that women that use large sizes (that are often more expensive than the regular ones) and those that change their size due to maternity are part of the target group. Those women are the ones that change their clothe sizes and do not want to spend a lot buying new cloths that they might not use longer.

4.4 Motivating factors playing a role in the adoption of CFC

4.4.1 Sweden

Where knowledge about motivating factors is just emerging, interviews indicate that the most common motivation for customers to enrol in CFC initiatives are economic reasons. In this case, CFC allows them access to clothes in a more financially viable and pragmatic manner as opposed to purchasing them. Interviewees

also cited environmental reasons among the motivations, particularly for groups that are environmentally aware or active in sustainable practices. The aspect of socialisation and group solidarity between members were particularly common among clothe libraries and the non-profit organization. As for second hand, swapping and rental services, convenience and value proposition featured prominently and is actualised during face to face interaction with personalized service towards their clients was a common motivating factor towards adoption of CFC. In addition to (potential) environmental benefits, positive perceptions of CFC stem from emotional aspects (i.e. the experiential and social features), as well as the ability to meet fashion needs and increased product satisfaction. Negative perception is likely to stem from the lack of trust in the service provider and perceived barriers to ease of use, such as the lack of accessibility to the product.

Findings from rental services in Stockholm and Åre were similar to that in a study made in Finland by Armstrong (2016), which sought to identify the positive and negative perceptions of different types of CFC. Services that accommodate an experiential, innovative and social approach such as renting, swapping and styling service are perceived to be best-suited for younger consumers while older consumers have more demand for product satisfaction (such as redesign, repair/maintenance, customization and consultancy).

Observations from the experiences of the non-profit organization collaboration in Malmö could be understood within through the findings of Braithwaite (2018) and the study by Kim and Su (2017), who identified possible motives for adoption of CFC. Wherein, visitors engaging in the Free Shop within the Meeting Place could be viewed as having a utilitarian motive that is composed of cost-saving, product selection and convenience. Interviews reveal that hedonic motive comes from status-seeking and social and enjoyment values for being an active and contributing member within the community.

Sustainability motive is also considered important, as CFC is perceived to play a role in reducing the development of new products and the consumption of raw materials. Also similar to findings made in a study conducted in New Zealand, most consumers in Sweden had awareness, expressed general concerns with environmental issues, and perform sustainable behaviours such as recycling (McNeill & Venter, 2019). However, it is important to note that the sustainable benefit associated with alternative consumption is not always the main motivator for participation (McNeill & Venter, 2019).

Current evidence from stakeholder interview in Sweden do not seem to suggest their clientele as being motivated purely by environmental or altruistic reasons. Yet at the same time, there is also no overwhelming consensus describing those who engage in CFC in Sweden as purely driven by egoistic or economic reasons. Although it can be argued that sustainable fashion consumers may perceive value in non-economic terms, this is not always the case. In the findings made by Lundblad and Davies (2016, p. 159) for instance, consumers treated difficulties or costs in obtaining sustainable fashion as “product benefits of healthier, longer-lasting, unique designs, timeless cuts and higher-quality textiles and psychological benefits of accomplishment, individuality, feeling good and improved self-esteem”. However, CFC consumers in Sweden,

were not described as such in stakeholder interviews of this study. In fact, convenience is held to be of more importance for their clients than a supposed desire to be merely set apart from the mainstream. Nevertheless, responses also pointing toward social norms in a positive manner in Swedish consumers ascribing to current norms of sustainable fashion especially when promoted by fashion brands acting as norm entrepreneurs.

It was also revealed that the promotion of clothe rentals by big fashion brands such as H&M and Filippa K, and other fashion industry leaders has had significant importance. Albeit limited and regarded primarily as “PR”, these marketing efforts are claimed to have substantially contributed towards a change of perception, behaviour, and adoption of CFC among consumers. The efforts have also helped or supported start-ups and small scale entrepreneurs with their sustainable initiatives in the fashion market.

Finally, responses from interviews, particularly from clothe libraries, second hand stores and swapping respondents, seem to follow also the findings of Lang and Armstrong (2018) in the fashion context. Herein, the personality traits that positively influence adoption of CFC are fashion leadership and the need for uniqueness, while materialism is found to be negatively related to adoption.

4.4.2 Spain

Knowledge about motivating factors in Spain is rather limited. However, the analysis of the fashion market in Spain shows that the growth of environmental and social awareness about the fast fashion industry may work against the expansion of this industry in the future. In turn, this (will) contribute(s) to the expansion of CFC initiatives in the country. In fact, the environmental dimension is one of the main reasons provided by the CFC firms to support their market growth. According to the study carried out by Fashion Revolution (2018), 90% of Spaniards affirm that environmental and social factors are important when making a purchase. The European average is 5 percentage points below (i.e. Germany 86%, France 83%, Italy 88% or UK 77%) (Fashion Revolution, 2018). A key aim is to engage women that are more sensitive to the environmental problems caused by the fashion industry.

Another argument that motivates the expansion of CFC initiatives relates to the discourse towards minimalism and smart consumption. In Spain, this discourse puts forward the importance of revising wardrobes, managing them in a better way and fit for purpose. Interestingly, while 40% of Spanish women declare that they want to reduce the garments they buy, only 27% confirm to have done it (REF). This suggest a ‘value-action gap’ (Babutsidze & Chai, 2018) which seems to prevent Spanish fashion consumers acting according to their (environmental) beliefs and intentions .

The use of high end brands also seems to support the market growth of CFC firms in Spain. This is because women, who are the main target group, want to wear expensive clothes that cannot be afforded if CFC firms

were not available. An analysis of the second-hand clothing market show that luxury and top designers brands such as Louis Vuitton, Isabel Marant, Gucci or Kenzo were revalued up to 40% more among customers, compared to premium or high street brands that were 26% (REF).

Additionally, the provision of stylists is another reason motivating the expansion of CFC initiatives in Spain. This relates not only to party clothes but also daily garments. A problem highly recurrent in the market is that some women do not know how to combine their clothes in order to get the most out of them. So, the final effect is that women buy more than they need or want. Actually, 51% of the purchases made by Spanish women are not out of necessity but rather the outcome of impulse-buying (REF). CFC firms tap this potential and provide a valuable regular service by suggesting to their clients fashion items and let them know how to combine them. Of course, this same advisory service is also offered by fashion firms that sell clothes but this service is punctual, just one sell. The advantage for CFC firms is that their client is going to receive clothes and stylist advisory every month, allowing the client to dress appropriately with the clothes pieces that are going to be provided by the firm.

The CFC market is also seen (or perceived) as an opportunity for indecisive and doubtful users who are unsure whether or not to buy a garment, and need to try them out before purchasing. It is also claimed to be a solution for impulsive consumers who like to be on fashion, buying clothes that in a short period want to discard them because they have tired of them. In both cases, consumers (can) feel motivated by the services offered by the CFCs. In fact, the CFCs can avoid unnecessary purchases if they are rented. A study (REF) shows that 54 % of women say they have clothes in their wardrobe with a label that, months after purchase, have never been used. As long as the customers see and wear clothes that they like, they can decide the purchase if they finally think that it is something that they are going to use for a long(er) time and that it suits with their style. This is a specific advantage for those CFC companies that offer this possibility.

With growing online platforms, convenience is also another factor motivating the expansion of CFC initiatives in Spain. CFC firms that work with online services enable the target population, mainly women, to have the possibility to access fashionable clothes without the need to go shopping to the physical stores. This is an advantage for many customers who due to their profession do not have time to look for the garments that they need or want. From this perspective, CFCs have in the traditional fashion companies with online sales their main competitors.

4.5 Hindering factors and potential barriers in the adoption of CFC

4.5.1 Sweden

As for the main barriers or obstacles identified, knowledge seems to be fragmented but a recurring theme among interviews was the issue of cleanliness (particularly acute during the COVID-19 pandemic), with half

of respondents indicating some people having felt “disgusted” with the idea of using second hand clothes. Thus, particularly for rental services, considerable effort is devoted towards maintenance of products and add-on services for cleaning, care and repair.

Especially for rental and swapping services, a crucial aspect worth reflecting on is quality which is strongly linked to the product attribute long-lasting, usually in the form of premium items. This impression thus holds true for both service providers and consumers, as one of the most important features required from clothing being durability to last for frequent usage without losing shape. Entering the market with lower quality and cheaper clothing, such as those from fast fashion brands, may also have the impact of undermining the strong associations frequent consumers have with the use of high-quality, durable, and natural materials. More importantly, it may be unlikely that many of the consumers would continue to sustainably consume for purely altruistic reasons without CFC/sustainable fashion suppliers providing core product, dedicated services and meaningful psychological benefits - that entail significant operational costs that need to be considered within their pricing structures (Lundblad & Davies, 2016).

Interviews also validate the observations of several challenges to further adoption: consumer hesitation and resistance for lower-priced items, which are easier to buy new, transportation as well as dry-cleaning (Gwozdz et al., 2017), and respondents also noting that CFC is still considered a novel idea by consumers, in line with wider findings that only 40% of people surveyed in Germany, Poland, Sweden and the US could “imagine using fashion rental”. Consequently these predict a low likelihood of adoption (Nielsen & Wencke, 2017). Social norms, socio-economic status and stigma towards used clothes were also mentioned as contributing to the reluctance of using second hand clothes.

Challenging experiences shared by interviewees who handled fashion libraries in Linköping and Stockholm reflect what Pedersen and Netter (2015) have purported in their study about the barriers and opportunities for fashion libraries in Nordic countries. Particularly, that while this fashion library business model offers opportunities for users to experiment with new styles, CFC faces a major barrier in the form of limited human and financial resources as well as conventional fashion consumption patterns. Further, fashion libraries are often run by volunteers and can thus only offer limited services.

Another key aspect of fashion libraries highlighted is its dependence on the commitment of a few entrepreneurs and the loyalty of a small community of members, which makes the concept a vulnerable business model. For example, fashion library members are typically young and open to alternatives to conventional shopping. An adopter would then be students who are young, care about how they look, are aware of sustainability challenges, but have limited financial resources. Problems can arise when fashion libraries are unable to maintain a sufficient number of members to sustain and operate the business. This deepens financial challenges. The situation makes it imperative to develop new sources of revenue to better serve existing members and attract new ones.

In Sweden, people are sceptical to lending their clothes, especially more expensive ones (Rosensköld, 2017). But it is hoped that it will become easier as people gain experience sharing and see that it is easy, convenient, and gives a chance to earn money (Rosensköld, 2017), as in the case of Swopshop and the WoW Closet respectively.

4.5.2 Spain

Given the limited existing information, there are basically three main inhibiting factors affecting the expansion of the Spanish CFC market. First, there is the competition with the fast fashion industry. A study (Micolet Survey, 2019) of the composition of garments in the closet of Spanish women reveals that 65% of their garments are from fast fashion brands, both versions, high street (45%) and low cost (20%). Estimates indicate that 83% of fast fashion buyers state that they intend to increase their spending in this segment in the future (Micolet Survey, 2019). Instagram is becoming an important channel for the fast fashion industry because their followers are updated on a regular basis.

Second, pricing and subscription fees also play a role. Available information show that that 24% of consumers (Micolet Survey, 2019) believe that sustainable fashion is expensive and that cannot be afforded it despite being socially and environmentally aware. On average, a monthly subscription fee of €80 in a CFC initiative would be equal to €960 per year in Spain. However, this needs to be compared with an average annual expenditure on clothing, including footwear, in the proximity of €567.70 in 2018, according to a report by EAE Business School (Irastorza, 2019).

Third, transaction costs and logistics also play a role. Although clothe consumers declare that they want to get rid of some clothes (e.g. to feed the second hand market), the problem is that they do not know or have the time to look for the appropriate channels. Statistics (Micolet Survey, 2019) show that only 8.4% of the garments are sold to rental shops due to the lack of time to deal with the procedures. The alternatives for the unwanted garments are recycling containers (26.4%), donations containers (30.2%), keep them (10.2%), give them to close friends (19.8%) and discard (5%) (Micolet Survey, 2019).

4.6 Environmental aspects

Although clothes-sharing provides a promising alternative for clothing disposal, its contributions to sustainability goals remain to be further explored. In this section we briefly summarise findings from the interviews and also the reviewed literature (when available) in relation to the environmental performance of CFC initiatives.

When it comes to (potentially) *positive* environmental aspects, the majority of the Swedish respondents perceive that CFC initiatives and the activities that their organization engage in have a positive environmental impact. In turn, there is also recognition for accessibility and opportunities offered to consumers in order to

make sustainable choices possible. There is also consensus among responses that more can still be done towards sustainability and future growth of the market share of CFC.

Particularly for rental services included in the study, most positive impacts brought by CFC can be attributed to increased usage and maintenance of extant garments. This is in line with Stanszus and Iran (in Idowu et al. (2015, p. 519)) defining sustainable fashion as “clothing which is designed, produced, reused, and disposed of in a way that is aligned with the concept of sustainable development”. Thus, the concept relates not only to its production but also its usage and post-usage phase. As such, one can easily argue that CFC falls under the umbrella of sustainable fashion. Use intensification is achieved as consumers decide to use second-hand garments instead of buying new ones, or when they extend the lifecycle of their garments by making them available for second hand use. A study by WRAP in the UK (WRAP, 2012), for example, estimate that by using clothes for longer by nine months could potentially reduce carbon emission by 27% and water use by 22%. In theory, the CFC model also incentivizes companies to invest in durability and find ways to extend the life of the garments given that there are customers and renting companies willing to pay for additional usage.

Participants from rental services indicated their business activities mainly involved special occasions and unique festive events. It is in these situations where the sufficiency effect have been touted to occur (Iran & Schrader, 2017). Thus, assuming that rental prices fully capture all private costs incurred in the life cycle of the garment, renting encourages consumers to be more considerate of their desire for new clothing items as they pay per use, rather than per item and amassing wardrobe that would be mostly unused.

Another potential positive impact of clothes-sharing identified is spillover effects to other forms of consumption, such as when fewer clothes lead to less need for large wardrobe or storage spaces (Iran & Schrader, 2017). This type of introspection towards amassed wardrobe was stated as being part of the rationale for one participant to have started the second hand store and an innovative swapping platform.

Regarding (potentially) *negative* environmental aspects, life cycle analyses of clothes-sharing are so far very limited. More studies utilising LCA may be beneficial for Sweden’s fashion sector, for instance Strand (2015) using a general LCA model for the environmental impact of the Swedish textile consumption applicable for 25 different textile products, yielded valuable insights on less consumption and non-use of tumble-dry during use.

Woolridge et al. (2006) estimate that for every kilogram of virgin cotton displaced by second hand clothing, 65 kWh is saved in the various stages of production and use: resource extraction, material production, electricity generation, clothing collection, processing and distribution, and final disposal of waste. The saving is even higher for polyester at 90 kWh.

Zamani et al. (2017) conducted a life cycle assessment of the environmental performance of clothing libraries, based on three key popular garments: jeans, T-shirts and dresses. Results indicate benefits stemming from the prolonged life of garments but also risks that increased transportation may offset the benefits from reduced production. It is therefore important to account for logistics when implementing such business models.

At the same time, one additional concern may be that the positive effect of use intensification may be counterbalanced by a negative effect on the life expectancy of clothes. However, Iran and Schrader (2017) argue that garments are usually disposed of not because of wear and tear, but rather because they are considered to be out of fashion, which were somewhat reflected in the case of fast fashion everyday wear that had to be donated to second hand shops as they were not being borrowed by members of a fashion library. When facing a high rental price, a consumer is also more likely to wear already owned clothes or borrow from a friend or family member. However, as acknowledged by the interviewees, there is also the possibility that consumers will choose to buy a cheaper and readily available alternatives such as fast fashion instead.

Another potential negative impact of CFC, as in any pro-environmental activity, is the risk of rebound effects. CFC may accelerate the trend of increased buying and disposing of clothes. For example, a consumer may end up buying more if she knows that older clothes are easily passed (rented or sold) on to peers. It may also be that consumers are less careful with borrowed clothes than with their own clothes, increasing maintenance and cleaning services and resulting environmental impacts. In addition, negative externalities from increased transportation due to high rotation of rentals can also be identified.

Concerns over the negative impacts such as the rebound effect were also expressed by interviewees. Correspondingly several of the participants had integrated specific measures within their business models to address these issues— such as instituting a maximum number of items that can be swapped or leased, and careful consideration and corresponding fees for cleaning and maintenance of quality garments and their pristine condition. Most of the reviewed CFC initiatives indicate that customers have the responsibility of taking care of rented items.

5 Conclusions

The objective of this report was to provide an understanding of Collaborative Fashion Consumption (CFC). It builds upon existing knowledge on the fashion industry and consumption-related issues. Given the available literature and insights from interviewees, particular attention has been given to environmental and behavioural aspects that CFC potentially entail. Numerous CFC initiatives were identified and to advance them, our study stresses further analysis of consumer behaviour(s) is needed. This is particularly important to identify behavioural-oriented measures that can promote CFC adoption.

In relation to our research questions, the report found the following aspects. First, environmental concerns about the rise of fast fashion and growth of the clothing industry are consistently indicated in the literature, with trends also confirming unsustainable patterns in the production and consumption of fashion. Second, in regard to factors underlying consumer behaviour, several anomalies and cognitive biases (e.g. sunk cost effect, loss aversion) have been identified as potential drivers of unsustainable consumption. Third, this report identified various CFC initiatives being implemented in Sweden and Spain that addresses (some of the) environmental concerns and unsustainable consumer behaviour, with myriad emergent business models and showing potential for market uptake. Finally, and from a consumer perspective, this study revealed on one hand motivating factors that play a role in the adoption of CFC include economic reasons, convenience, pro-environmental behaviour, conformity towards emerging social norms, and innovative business platforms and experience. On the other hand, factors that hinder adoption include practical challenges in transportation and cleaning of garments, a lack of accessibility to the product, and uncertain participation of CFC members in the long term. In light of the objective of this report, some of the aspects mentioned above are further elaborated below.

As indicated, the findings confirm environmental concerns about the rise of fast fashion and growth of the clothing industry; including the resultant supply (or disposal) of used clothing and corresponding environmental impacts. In fact, there is growing literature about the negative environmental impacts of the fashion industry stemming from production, usage and waste disposal. Trends also confirm unsustainable patterns in the fashion industry. From a behavioural point view, several anomalies and cognitive biases are likely to drive unsustainable consumption patterns. With due limitations, the literature provides indications that fashion consumers can: a) stick to their status quo and continue choosing the 'default' fast fashion option, b) exhibit self-control problems that drives compulsive shopping behaviour, c) apply heuristics and satisficing approaches that make them prone to errors and suboptimal choices, d) be loss adverse and susceptible to the 'fear of missing out' effect, e) show time-inconsistent preferences, f) be subject to the sunk cost effect that re-enforces self-control problems and compulsive behaviour, and g) conform to social norms that sustain unsustainable consumption levels. These characteristics have the potential to generate systematic behavioural deviations across all stages of decision making.

While further studies are certainly needed to address deviations between decision and experienced utilities, the literature highlights the need for understanding people's motivations and barriers that affect the adoption of CFC initiatives. When it comes to motivations, our study reveals several aspects that promote or sustain the adoption of CFC. This includes economic reasons, convenience, pro-environmental behaviour, conformity towards emerging social norms, and innovative business platforms and experience. On the contrary, barriers that seem to prevent the adoption of CFC include practical challenges in transportation and cleaning of garments, a lack of accessibility to the product, and uncertain participation of fellow costumers in the long term.

Finally, and setting aside uncertainties about the environmental performance of CFC initiatives –that need to be duly analysed– our study suggests various behavioural-oriented measures that can be potentially tested to promote the adoption of CFC. Building upon the taxonomy of choice architecture techniques proposed by Münscher et al. (2016), various behavioural policy interventions can target either the penalisation of positive feelings about compulsive behaviour or highlight negative ones associated with guilt and shame. For example, in the decision information domain, feedback about negative environmental aspects (e.g. via labelling schemes, education campaign)³⁶ or social reference points can be used to encourage fashion consumers to behave pro-environmentally. The establishment of social norms (e.g. descriptive vs injunctive; static vs dynamic) that are 'pro' CFC can indeed be an intervention to further explore. When it comes to decision structure, the framing of decision context (e.g. connecting purchase choices to environmental benefits or costs) or default choices (e.g. prompted to CFC initiatives when buying online) might also provide avenues for further research. Under the decision assistance domain, goal settings and commitment devices that can help fashion consumers to materialise their sustainable shopping intentions can also provide research opportunities to support policymaking. The testing and analysis of these potential behavioural-oriented policy interventions should provide ample room to increase our understanding of (potential) CFC adopters.

³⁶ For example, an experiment conducted on fashion items with visual informational forms of social and environmental nudges show a significant influence on decisions to purchasing the product (Beer, 2018). This suggests that when consumers are made aware of negative impact of a brand during the shopping experience, consumers are likely to refrain from buying that brand.

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Appendices

Annex 1 Interview Protocol

Sharing Behaviour -Behavioural Economics to advance Sustainable Urban Sharing-Economy initiatives in Sweden (BE-USE)

Stakeholder Interviews

Sharing economy initiatives are being implemented around the world with the prospects of offering sustainable solutions to cities. BE-USE is a strategic project that will develop behavioural economics interventions and experiments that will test, examine and generate policy recommendations to advance sustainable urban sharing economy initiatives in Sweden.

The overall goal of this interview is to collect insights and feedback from stakeholders on various issues concerning in Collaborative Fashion Consumption (CFC) / Clothe sharing in Sweden.

Interview 2020 - February

Thank you for agreeing to participate in this interview. This conversation should take between 45 and 60 minutes.

A. About your company

1. What is your position / role at the organization and what does it entail?
2. How would you describe the business model of your company / organization?
3. What quality does your clothing / products belong to (vintage, premium brands, fast fashion...)?
4. Why did you decide to focus your business on this specific category?
5. How do you describe your price structure? Would it be possible for you to explain how you set prices?
6. In case of mixed business models: What is the fraction of the CFC / Clothe sharing in your business?

B. About your customers

7. How many customers do you have (within CFC / Clothe sharing)?
8. Who is your typical customer / client? (e.g. age, gender, education level, income level, environmental awareness, etc.)
9. What are the motives of your customers / clients to participate in Collaborative Fashion Consumption (CFC) / Clothe sharing?
10. What is the average purchase basket (pieces and value)?

C. About the market

11. Which items are currently the most popular? Which do you think will be in demand later on?
12. How would you describe the CFC / Clothe sharing business market in Sweden today?
13. What are the main barriers or obstacles for the market to growth?
14. What future do you see for the CFC / Clothe sharing market?
15. Where do you see your company / organization and its business model in the future?
16. Finally, what is your opinion about the (current and/ or future) environmental performance of CFC/clothe sharing?

Annex 2 List of Interviewees in Sweden

Expert name	Affiliation / Company / Organization
Hargita Horvat	Klädbibblan Linköping
Magnus Sellberg	Rent-a-Plagg / Outdoor Buddies
Savita Upadhyaya Sadiye Altundal	ReTuren Malmö
Madlen Fondén	Something Borrowed
Oksana Poliakova	WOW Closet
Jane Olsson	Swopshop
Louise Eriksson	Klädoteket
Shirley Johansson	Curatorz
Unni Warner / Andreas Grimelund	Sabina & Friends
Emelie Gustafsson Maistedt	Gemme Collective
Personnel-in-charge	It's Re:leased
Douglas Heidergren Olivia Rothschild Markus Hjelm Kim Gottlieb	Hyber
Jodi Everding	Filippa K
Pascal Brun	H & M
Emelie Dahlström	Lånegarderoben