

**All you have to do is ask:
Innovation and value creation in the post-
consumer apparel industry**

The story of Eileen Fisher Renew

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Abstract

This study aims to explore the development of a self-motivated (e.g. not policy or regulation initiated) closed-loop, clothing take-back program within a large sized enterprise in the fashion/apparel industry. From the perspective of a single case study – that of the Eileen Fisher Renew program – this thesis aims to explore, outline and describe EF Renew’s business model. The ultimate goal is to discover how it is creating value both inside and outside of the company, and detail the insights from key stakeholders for other industry actors to learn from. Data collection is conducted with 10 semi-structured interviews with key stakeholders from both within and outside of the company. In order to investigate this program from a holistic perspective, data is analysed in a two-tiered approach – from the perspective of Osterwalder’s Business Model Canvas, and with a mapping of Eileen Fisher Renew’s reverse supply chain. Eileen Fisher Renew has developed a vertically integrated clothing take back program that is successfully circulating garments at their highest quality for as long as possible with the development of multiple product lines. Findings show that, in accordance with much of the previous research, the development of this program has resulted in the acquisition of new customers, increased customer loyalty and engagement, and the generation of economic, environmental, social, customer, and informational value. Certain company characteristics were also identified that are likely enabling the program to become as holistic and comprehensive as it is. These characteristics are: being a values driven company; privately held and 40% company owned; primarily operating in a single market; a committed learning organisation; and the creation of timeless and trendless designs that are crafted out of high-quality materials.

Keywords: closed-loop business model, clothing take back, reverse supply chain, remanufacturing, apparel industry

Executive Summary

Over the last few decades, the fashion industry's considerable growth and success over has not only allowed it to become one of the most important industries in the world, but also one of the most polluting. It is often cited for the exploitation of both natural and human resources including: poor working conditions, child labour, low wages, health and safety issues, water pollution, chemical toxicity, green house gas emissions (GHGs), and large amounts of waste generation have all been noted as pervasive problems across the industry's value chain.

However, with consumers driving demand, and purchasing in excess of legitimate need, textile and clothing waste has also become of growing concern. In spite of numerous, and increasing alternatives for used clothing (e.g. consignment and vintage stores, online re-commerce platforms, and clothing libraries), the majority are still ending up in landfill, with the EPA in the US estimating that as of 2014, 64.5% of textiles generated ended up discarded in landfill as opposed to reused or recycled. Now, this commonplace problem, largely resulting from systemic inefficiencies, requires not only increased attention but new initiatives as a countermeasure.

There has been a movement for fashion brands and retailers to address these issues by implementing sustainability strategies and practices that adhere to increased environmental regulations and standards. Whereas, a few are innovating their very business models by developing new ways to create and deliver value to their customers, while simultaneously taking into consideration the not only economic benefits, but social and environmental benefits as well. One such business model innovation is the concept of a closed-loop, or circular business model. This model has been identified as a means to avoid waste, and conserve materials that would otherwise end-up in landfill, by bringing products back from customers, to recover or reuse materials, parts or whole products over the course of multiple lifecycles, while ultimately adding increased value to the company and the product itself. Specifically, the reuse of clothing has been found to require 10 to 20 times less energy than producing a new one, and decrease environmental impacts overall.

While the development of closed-loop business models is growing in the fashion industry, few comprehensive examples exist with brands developing vertically integrated product take-back programs that also include their own resale platform. It has been noted that stemming from the fact that textile recycling is less feasible and economical for apparel and fashion retailers downstream value-chain related issues (reuse, remanufacturing, end-of-life solutions) have received far less attention from big companies up until recently, and thus has resulted in few examples of classic reverse logistics and closed-loop supply chains to draw from.

However, with this as the point of departure this thesis explores an example of a closed-loop business model in the fashion industry that does exist – the case of EILEEN FISHER Inc.'s Eileen Fisher Renew program. Eileen Fisher Renew has successfully created a vertically integrated take-back program with resale platform that successfully upcycles returned products and keeps them at their highest quality and value for multiple lifecycles and for as long as possible. With an exploration of both Eileen Fisher Renew (EF Renew) business model and reverse supply chain, this in-depth case study answers the following research questions:

RQ 1: With the creation, delivery, and capturing of value as a central piece of any business model, what types of value is being generated with this business model in this particular case?

RQ 2: Are there any specific company characteristics that have likely enabled EF Renew to develop in the way it has? And if so, what are they?

Primary data collection consisted of 10 semi-structured one on one, online interviews, and two brief email correspondence with stakeholders from both inside and outside of the company. Seeking to have an overview of all aspects of the program, individuals working in several key roles at EF Renew were selected and interviewed: The Facilitating Manager, a Retail Manager, a Recycling Coordinator, and the Head Remade Designer. Likewise, the Sustainability Leader from EILEEN FISHER, Inc., was also interviewed (group interview). Outside stakeholders were selected based on two parameters – their familiarity with the program, and/or their familiarity with the industry and issues with textile waste. Ultimately, the interviewees included: A Circular Fashion Strategist from Circle Economy, a Bard MBA in sustainability consultant, a Patagonia Worn Wear repair technician, the Executive Director of the Secondary Materials and Recycled Textiles Association (SMART), and CBS business model innovation for circular economy researcher. The two brief email correspondence took place with the CEO of the Trans-America Textile Recycling Inc., and a Manager from the Social Innovation & Entrepreneurship team at EILEEN FISHER, Inc.

Findings indicate that:

EF Renew is an innovative company that is “developing new ways to capture, create and deliver value” that “moves beyond more narrowly defined categories, such as product, service, and process innovation.” The program itself can be considered a “radical” business model innovation, because they are going beyond mere improvements to existing offerings. They have developed and are developing new processes (e.g. reverse supply chain logistics, sorting, remanufacturing/upcycling, and R&D); new competencies (e.g. bundle dyeing, felting, creating yardage, patchwork, making garments from garments); and new partnerships (e.g. Lean Enterprise Institute, fiber-to-fiber recycling company, CFDA, customers).

EF Renew can be considered as an example of the “creating value from waste” sustainable business model archetype, with the reuse, repair and remanufacturing of used garments. Likewise, they can be considered as being driven by corporate citizenship, with their demonstrated commitment to producing zero-waste, coupled with statements such as “The whole company is 100% behind sustainability and the triple bottom line.” Sustainability is found to be deeply engrained in the ethos of the company, which is largely indicative of the overall company culture.

It is an example of an integral closed-loop business model, where dedicated business units have been established for product recovery and a permanent inventory of products and recovered parts is maintained. Likewise, they have enabled the reduction of environmental degradation with the promotion of environmentally sound practices (e.g. recycling, reuse, remanufacturing, reconditioning and refurbishing); while also recapturing value and creating new value with the development of new production networks and access to new markets with the expansion of multiple product lines with varying retail prices. In doing so, they are also accessing new customers while also reinforcing pre-existing customer loyalty.

They are delivering value through omnichannel sales opportunities and experiences, including numerous established brick and mortar shops, and pop-up events. They are delivering community value by supporting women’s and girl’s causes and providing well-paid employment and other benefits to their staff. Whereas, they have been able to capture value with the development of their reverse supply chain that allows them to access the secondlife value of their products that would have otherwise gone to others or would have been wasted all together.

A fairly unanimous sentiment, from those both within and outside EF Renew, is that this type of integrated, full lifecycle approach to post-consumer clothing management is not suited for all brands, and that it will look different for every brand. As it stands now, this business model is best suited for brands with market maturity and whose products have a strong secondhand value.

Likewise, with certain limitations for retail planning, the secondhand market looks different from the firsthand industry. This has led to many retailers and brands fearful of trying something new. Other limitations identified is that business modeling at the end-of-life is lacking, and that many continue to view these types of programs more as communication and marketing tools.

With that said, only the value driven companies, who are motivated by environmental concern are participating with programs like this to this level of engagement at this time. Also, it was identified that there is a need to develop repair and construction/deconstruction skills among fashion designers, as well as reinforce communication feedback loops among firstlife and secondlife design teams.

However, there also remains the need to educate consumers, and create policy and regulatory support for these types of programs. For example, a clear need for regulatory action that classifies textile products not as waste, but as a resources – such as that with plastics, paper and glass – is pivotal for enticing more brands to participate in these types of programs.

In response to **(RQ 1)**, in addition to being able to capture, create and deliver value, EF Renew is generating multiple *types* of value – economic, environmental, social, customer and informational. They are generating economic value by capturing the resale value of their products while successfully upcycling pieces, in both quality and price, that would have otherwise been waste.

They are creating environmental value having taken back approximately 750,000 items since the program's formal launch. Their expanding commitment to produce zero-waste, demonstrated with their saving and storage of all pieces brought back, in addition to all production scraps and materials, is commendable and unique. Also, the cycling materials at their highest value for as long as possible is in accordance with both the waste hierarchy, and Principle 2 of the circular economy.

They are democratising the EF brand, by providing EF beautiful, quality garments at a fraction of their original retail price, and thus making them available to a wider range of people. They are also providing a unique shopping experience that is valued by customers.

Finally, informational value is being created with with the development of new processes and competencies central to the reverse supply chain activities. Informational feedback loops have been established among employees with the aim of constantly learning from mistakes and being dedicated to continual improvement. In general, EF Renew is committed to develop new ways to remake, market, and sell things, with the aim of informing and setting an example for the industry as a whole.

In response to **(RQ 2)**, a number of company characteristic were identified that are likely enabling the successful growth of this program. There are specific product characteristics that can be considered one of those factors. For one, they are known for their timeless and trendless designs, made from high quality materials. This finding echoes that of the previous research – the presence of quality products and materials coupled with a trendless aesthetic, at

least at this point time, appears to be a prerequisite for fashion brands to develop take back programs with new resell/reuse channels. A second factor is that they can be considered a values driven company that is dedicated to sustainability and lessening their impact on the environment, indicating the impetus for the growth of a program like this as well as their continued commitment to its success.

Another characteristic that is likely contributing to the successful evolution of the EF Renew program is that they are a company that demonstrates market maturity. As a result, they maintain a strong and loyal customer base, as well as, a large number of items already in circulation, which are both vital to the creation and success of a robust secondhand market.

Another characteristic – that can also be considered quite unique, particularly for a fashion company – is that they are a privately held and 40% employee owned company. What this means from a practical perspective, is that there is more collective decision making taking place about the direction of the company with the “final say” still coming down to Eileen Fisher herself. This also indicates, in contrast to a publicly held company, they have the opportunity to make decisions that are not only guided by the bottom line.

Lastly, they are a company that is committed to learning. They recognise that there are not yet solutions for all the problems they are trying to solve, and that there are even fewer best case examples for to learn from, yet they are continually working to innovate new solutions. They recognize that the industry needs to “reinvent the wheel” to make programs like this and clothing remanufacturing more commonplace. EF Renew is dedicated to figuring it out, to develop new ways to remake, market, and sell things, and want to inform and set an example for the industry to learn from.

Future research recommendations:

Within the emerging field of research pertaining to closed-loop business models in the fashion industry there are several perspectives for future research. For one, with the analytical framework in this research leaving something to be desired, a future study that employs an analytical framework that is more comprehensive than the standard BMC is recommended. One suggestion is the triple layered business model canvas presented by Joyce & Paquin (2016). This framework takes into consideration the social, environmental, and financial aspects of a business model, which would be particularly interesting to apply to a case such as this that has demonstrated the generation of multiple types of value. Another business model framework that could be interesting to apply here is computer aided business model design (CABMD. Since the standard BMC provides just a snapshot of a particular business model at a single point in time, this methodology allows for one to note and track evolutions of a business model that for a type business model that is in its nascent phase can be considered an interesting and useful approach.

Another aspect that would be relevant to investigate is from a technological perspective with an attempt to discover solutions to the current barriers that exist to the remanufacturing process. Solutions to issues such as what to do with blended fibers or garments made with multiple textile types, or how to address garments with many seams, will be necessary in order to scale programs like this. Furthermore, exploring the initial design phase (e.g. “Design for remanufacturing”) in order to determine certain design elements that make a garment better suited for remanufacturing would be very interesting and useful to investigate.

The importance and current lack of policy and regulatory support has been established. Future research that explores possible policy packages, or how to incentivise more brands and

retailers to participate in product take-back and resale remain important to explore. Likewise, policy initiatives that enable the easier development of reverse supply chains would be equally important to take up.

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Abbreviations

BMC – Business Model Canvas

CE – Circular Economy

CLSC – Closed-loop supply chain

EF – Eileen Fisher

EF Renew – Eileen Fisher Renew

GERCs – Green Eileen Recycling Centers

RL – Reverse logistics

1 Introduction

Today, the fashion industry is one of the most important, yet polluting industries in the world (Müller et al., 2015; Strähle & Müller, 2017). Excluding the luxury fashion segment, the industry is regarded in general as a low-value manufacturing industry (Pui-Yan Ho & Choi, 2012; Hvass, 2014) with the widespread exploitation of both natural and human resources. Poor working conditions, child labour, low wages, health and safety issues, water pollution, chemical toxicity, green house gas emissions (GHGs), and large amounts of waste generation are noted as pervasive problems across the industry's value chain (Allwood et al., 2006; DEPA, 2003; Kozłowski et al., 2012; Ozdamar Ertekin & Atik, 2015).

Historically, it has thrived off cyclical trends of planned obsolescence. However, the present day "fast fashion" business model, which functions by offering imitations of luxury designs at extremely low prices, has taken this concept to new heights by shifting the frequency of the fashion cycle from bi-annually to weekly, and reducing the intervals between production and consumption (Moon et al., 2015; Ozdamar Ertekin & Atik, 2015). Overall, the fashion industry is increasingly fast paced, and characterised by "artificial newness ... disposable trends, and aesthetic fads..." (Ozdamar Ertekin & Atik, 2015, p. 54).

A growth in clothing consumption has also led to a coinciding growth in clothing waste. Despite numerous, and ever increasing alternatives for used clothes, the majority are still ending up in landfills alternatively to being reused or recycled. (Allwood et al., 2006; Domina & Koch, 1999; Fletcher 2008; Hawley, 2008, 2009; Hvass, 2014; Kozłowski et al., 2012; Madsen et al., 2007). This now commonplace problem, largely resulting from systemic inefficiencies, requires not only increased attention but new initiatives as a countermeasure (Domina & Koch, 1999; Fletcher 2008; Hawley, 2008; Hvass, 2014).

In order to address and correct the mounting environmental and social concerns associated with the industry, companies have been driven to adopt and implement sustainability strategies and practices, and adhere to increased environmental regulations and standards (Strähle & Philipsen, 2017). There has also been a movement for companies to innovate their very business model by developing an expanded way to create and deliver value to their customers, while adopting a triple-bottom line thinking that takes into consideration the creation of not only economic benefits, but social and environmental benefits as well (Bocken et al., 2015).

Once such innovation is that of a closed-loop, or circular business model. This model is identified as a means to avoid waste, and conserve materials that would otherwise end up in landfill (Sinha et al., 2016²). The chief focus of closed-loop supply chains is to bring products back from customers, to recover or reuse materials, parts or whole products over the course of multiple lifecycles, while ultimately adding increased value to the company and the product itself (Sinha et al., 2016¹). In respect to the fashion industry specifically, closed-loop supply chains are widely considered a model that can enhance environmental sustainability largely with the diversion of waste to landfill. (Choi & Li, 2015).

There is a growing number of initiatives to collect post-consumer clothing so they can be reused or recycled, yet few comprehensive examples exist with brands managing the take-back and resale of their own garments (Hvass, 2015; Strähle & Matthaei, 2017). With this as the point of departure, this thesis will explore the case of one fashion brand who has created a vertically integrated, closed-loop program to manage their own post-consumer garments that are then resold with the development of their own resale channels. This case will be considered from the perspective of this example's business model and reverse supply chain.

1.1 Background

1.1.1 The global fashion industry

Prior to the industrial revolution upward of two-thirds of clothing was produced by women at home, and its production was so laborious that it was kept simple and remained scarce (Ozdamar Ertekin & Atik, 2015). The global fashion industry today is comprised of a vast array of actors that is characterised as one of the most complex and fragmented supply chains and production networks in the world (Mihm, 2010; Joy et al., 2012; Partridge, 2011; GFA & BCG, 2017). Moving around the world, the lifecycle of clothing spans many phases from “resource production and extraction, fibre and yarn manufacturing, textile manufacturing” to “apparel assembly, packaging, transpiration and distribution” and finally “consumer use, recycling and ultimate disposal” (Kozlowsk et al., 2012, pg. 19). Over the last few decades, the fashion industry’s considerable growth and success has led to a myriad of social, environmental and economic issues (Strähle & Müller, 2017), with sustainability challenges existing throughout the entire lifecycle of a garment (Pedersen & Andersen, 2015; Strähle & Höhn, 2017).

As one example, the production of cotton and wool are both water and pesticide intensive (Strähle & Philipsen, 2017). Whereas the production of synthetic fibers, which today makes up 60% of the garments sold, not only has high energy demands but is thought to also be contributing to microfibre plastic pollution in waterways (Boucher & Friot, 2017; Textile World, 2015; Strähle & Philipsen, 2017). Likewise, high amounts of chemical products and natural resources are also used during the dyeing, drying, and finishing phases of textile production (De Brito et al., 2008; Strähle & Philipsen, 2017). Greenpeace (2017), estimates the chemical usage during the entire textile production process equals approximately 3500 diverse chemicals, many of which are toxic to human health.

During the apparel manufacturing process, human rights violations and environmental problems are rampant. This is largely on part to the complex network of suppliers that makes transparency and regulatory oversight difficult to achieve (Winter & Lasch, 2016). The fashion industry is notorious for employing “sweatshop” type labor conditions resulting from downward pressures that force companies to cut wages and evade environmental standards in order to uphold production demands and narrowing profit margins (Hoskins, 2014; McNeill & Moore, 2015).

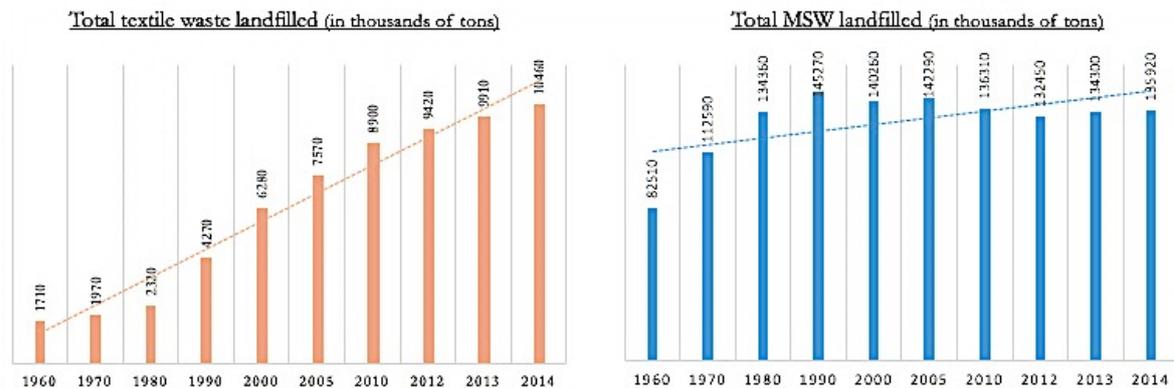
To complicate things further, the current mode of fashion consumption is increasingly fast paced, and characterised by “artificial newness ... disposable trends, and aesthetic fads...,” with new styles rapidly introduced on to the market replacing the old, and stimulating the perpetual desire for novelty and change among consumers (Ozdamar Ertekin & Atik, 2015, p. 54; Joy et al. 2012). Consumers, have been found to buy fashion products more as a result of emotional need rather than a rational one (Cao et al., 2014; Strähle & Müller, 2017). And nowadays the consumption of clothing in excess of legitimate need, and at times in excess of financial capacity, is considered commonplace (Lang et al., 2016).

The growth of consumption, coupled with the growth of the market for low-cost and low-quality fashion products has led to the subsequent growth in clothing and textile waste (Birtwistle and Moore, 2007; Hvass, 2014). It has been said that the opportunity to buy more for less has incited a type of throwaway attitude or “throwaway culture,” where clothing has lost its inherent value, and has contributed to an increase in pollution and textile waste (Dissanayake & Sinha, 2015; Hvass, 2014; Strähle & Philipsen, 2017). Consumers are now disposing of garments at a quicker rate, and often times prematurely before the end of their useful life, some of which have never been worn (Fletcher, 2007; Kozlowski et al., 2012).

Greenpeace (2017), concludes that the average person is buying 60% more clothing than just 15 years ago, yet keeping them for half of the time. The graph below (*figure 1-1*) shows the growth in textile waste going to landfill in the US, in comparison to total MSW going to landfill, which since the 90s has remained relatively constant and has even been decreasing slightly.

Furthermore, it has been determined that in spite of numerous, and increasing alternatives for used clothing – such as brick-and-mortar and online used clothing markets, donations to charitable organisations, or producer-led initiatives that center around textile reuse and recycling – there is a significant and increasing problem of post-consumer textile waste going to landfill (Allwood et al., 2006; Domina & Koch, 1999; Fletcher, 2008; Hawley, 2008, 2009; Hvass, 2014; Kozłowski et al., 2012; Madsen et al., 2007). For example, in the US it is estimated that as of 2014, 64.5% of textiles generated ended up in landfills (EPA, 2016). Whereas in North America and Europe an estimated 15 million tons of garments are discarded annually (Ellen MacArthur Foundation, 2013; Hvass, 2015). With the Global Fashion Agenda (GFA), a subsidiary of the non-profit organisation Danish Fashion Institute, estimating that the global average of clothing reuse and recycling is a mere 20%. As a result, it is now a widely held belief that this commonplace problem requires not only increased attention, but new and innovative initiatives to remedy the current systemic inefficiencies that by default diverts large amount of used clothing and textiles to landfills (Hvass, 2014).

Figure 1-1. 'Landfilled waste historic statistics in the US'



Source: 'Adapted from EPA – Advancing sustainable materials management : 2014 fact sheet, (2016)'

1.1.2 Benefits from extending the useful life of clothing

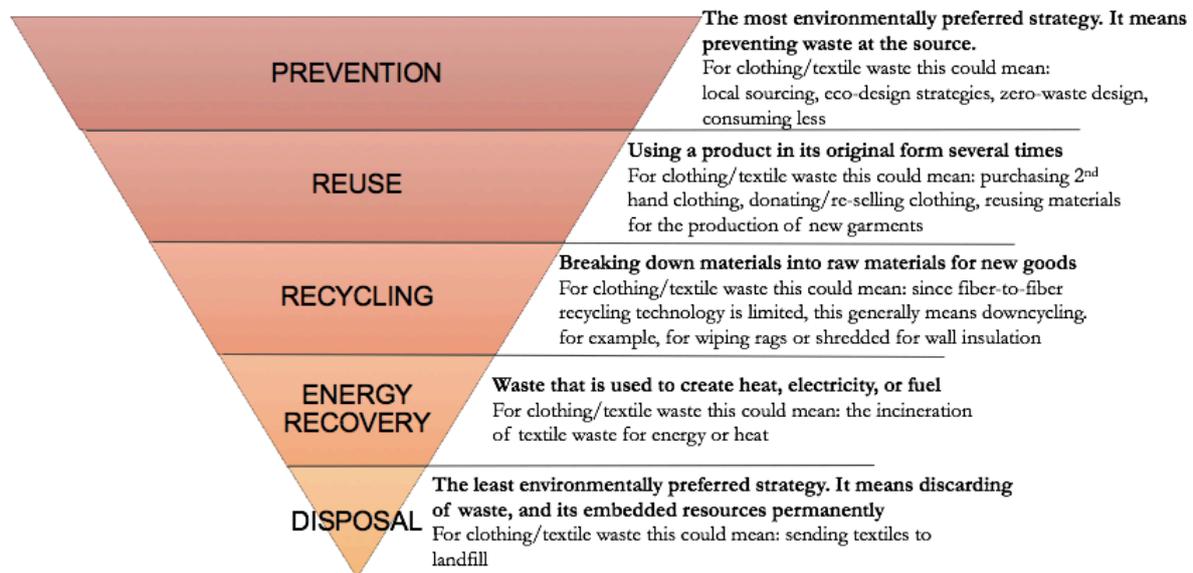
Today, in Western societies the trade of 2nd hand clothing is dominated by not-for-profit organisations and textile recycling firms (Hansen, 2004; Hvass, 2015; Strähle & Höhn, 2017). However, as of late, new actors, largely enabled by new technologies, have entered the clothing re-sale market including privately owned consignment and vintage stores, online re-commerce platforms, and clothing libraries (Hvass, 2015). Where as, the emerging post-consumer initiatives among fashion brands and retailers focus on capturing previously wasted value and resources thru incentivised in-store take-back, re-use, and recycling possibilities (Hvass, 2015). The reuse of products is very appealing because in comparison to manufacturing products from virgin materials, it requires less energy, less resources, and less labor, and as a result should be one of the top priorities in a fashion company's efforts to extend their responsibility through the end-of-life of their products (Castellani et al., 2015; Hvass, 2015; WRAP, 2011).

Environmental

According to numerous sources extending the useful life of a garment has been found to greatly decrease environmental aspects demonstrated over its entire lifetime, including its embedded energy, carbon footprint, and water use, among others (Farrant et al., 2010; Schmidt et al., 2016; Roos, 2016; Roos et al., 2015; Watson et al., 2014). For example, Schmidt et al (2016) state, “re-use, both in Nordic countries and in other areas of the world, gives by far the greatest environmental benefits compared to recycling and incineration” (pg. 7). While a life cycle assessment study conducted by Roos (2015) found that “if the practical lifespan of the average garment is increased by a factor of three ... the carbon footprint and water use are reduced by 65 and 66 percent respectively” (pg. 5). Whereas Fletcher (2013) has determined that the environmental benefits associated with garment re-use are high, and that the energy used to treat, transport and re-sell a garment remains 10 to 20 times less than that needed to produce a new one.

When considered in the context of the waste management hierarchy (*figure 1-2*), prevention, reduction, and reuse should be prioritised over recycling (Directive 2008/98/EC on waste, 2016; Zero Waste SA, 2016). Direct reuse keeps materials at an equal or higher quality and requires less energy as an input than recycling, while prevention and reduction decreases the creation of waste overall. Likewise, it was determined that in the context of clothing, the waste hierarchy remains valid and that the greatest energy and CO₂ equivalent savings are obtained via direct re-use and longer lifespans, then followed by material recycling and energy recovery – all of which remain superior solutions to landfilling (Cooper, 2010; Farrant, 2008; Fisher et al., 2011; Laitala, 2014; Morley et al., 2009).

Figure 1-2. *Waste management hierarchy considered from the perspective of the clothing/textile waste*



Source: ‘Adapted from Ho & Choi; EPA – Sustainable Materials Management...Waste Management Hierarchy, 2017’

The Circular Economy (CE) theory also prioritises activities much like that of the waste hierarchy. CE theory establishes re-use in its framework with the promotion of collecting and use of recovered materials within the same product chain (Singh & Ordoñez, 2016). Where as, out of the three, Principle 2 stresses the optimization of resource yields with the circulation of products, components, and materials at the highest utility at all times in both technical and biological cycles (Ellen MacArthur Foundation, 2015). This can be achieved through activities

such as remanufacturing, refurbishing, and recycling, which maintains the circulation of technical components and materials circulating that contribute to the economy continuously (Ellen MacArthur Foundation, 2015).

Finally, product re-use is connected to a number of other supposed benefits. Not only does it have the potential to conserve resources, reduce environmental impacts, and lessen the burden on waste management systems, it is also strongly correlated with promoting a culture of sustainable consumption by countering the pervasive “throwaway” norm (Evans, 2012; Fortuna & Diyamandoglu, 2017; Ghisellini et al., 2016). Farrant et al., (2010) claim that priority should be given to strategies that prioritise product re-use and shopping secondhand. Likewise, they point to a need to raise awareness among consumers of the impacts of clothing over its entire lifecycle, while advocating the benefits of re-use (Farrant et al., 2010).

Economic

The market and trade of secondhand clothing has existed for thousands of years (Palmer & Clark, 2005). However, since the 90s up until today the market of secondhand clothing has developed into a thriving fashion scene (Hansen, 2000). Today, the resale of apparel takes place by way of a variety of channels. Secondhand apparel can be widely found widely at thrift shops, flea markets, second-hand shops, vintage shops, auctions and garage sales, local and traditional markets, and online (Herjanto et al, 2016).

In general, the trend of secondhand clothing consumption is considered to be increasing globally, and is said to be unstoppable (Herjanto et al., 2016; Mintel, 2009). The annual ThredUp report (2017), states that the resale or secondhand apparel market is growing at a 4% faster rate than that of the traditional retail market, and that “resale disruptors” are growing 20x faster than the broader retail market. Likewise, secondhand apparel is no longer seen as a low level fashion option (Herjanto et al, 2016). Instead, it has now become a global fashion trend appealing to customers from different socio-economic backgrounds and classes (Hansen, 2000).

The sale of secondhand clothing has also been found to be economically advantageous to buyers, due to its depreciated price as a result of its previous ownership and use (Guiot & Roux, 2008). Whereas, low prices were identified as one of the primary reasons consumers choose to purchase second hand clothing (Xu et al., 2014). These economical benefits are also found to be linked to a positive shopping experience, associated with bargain or “treasure” hunting, and the chance to discover something “special” (Guiot & Roux, 2008).

1.2 Problem definition

1.2.1 Industry trends at the end-of-life

At present, there is a global agreement that post-consumer textile waste is a systemic problem that requires increased attention and comprehensive solutions (Domina and Koch, 1999; Fletcher, 2008; Hawley, 2008, 2009; Hvass, 2014). Clothing at the end-of-use has a chance at many possible fates. These include, incineration, recycling, donations to charitable organizations, used-clothing/ 2nd hand markets, as well as a number of designer and producer-led initiatives that center on textile reuse, remanufacturing or refurbishing, and disposal (Domina and Koch, 1999; Fletcher, 2013; Hawley, 2008, 2009; Hvass, 2014; Sinha et al., 2016¹). However, as mentioned previously, despite a growing number of resale channels and ways to capture second use value, textiles and clothing are still going to landfill in exorbitant amounts (Allwood et al., 2006; Domina & Koch, 1999; Fletcher, 2008; Hawley, 2008, 2009; Hvass, 2014; Kozlowski et al., 2012; Madsen et al., 2007). Meaning that, ultimately the

embedded materials and energy needed for their original manufacturing, and carbon emissions associated with transportation are wasted (Choi et al., 2015).

As of late, a number of fashion brands and retailers have emerged to claim an increased level of responsibility for post-consumer clothing waste. It is an attractive value proposition for companies since often times discarded garments remain in a condition suitable for a secondlife, thus offering the opportunity to profit off the remaining product value while simultaneously decreasing textile waste (Strähle & Matthaei, 2017; WRAP, 2011). However, this field has been found to remain complex and fragmented, with the learning curve still rooted in basic trial and error (Kant Hvass, 2014). Whereas, the seminal industry report, *Pulse of the Fashion Industry* (2017), produced by the Global Fashion Agenda in collaboration with the Boston Consulting group, and other industry stakeholders (H&M, Kering, Li& Fung, Target, and Sustainable Apparel Coalition), acknowledged that major fashion brands are still not realising opportunities at the end of the value chain and recommend transitioning to a closed loop model (GFA & BCG, 2017).

Beh et al. (2016) make note of the fact that since “the classic recycling of material, which is possible in the manufacturing sector is less feasible and economical for apparel and fashion retailers” this has resulted in the “classic reverse logistics and closed-loop supply chains” being far less common in this particular industry (p. 260). Echoing this, Strähle & Höhn (2017) state, that this has also resulted in “the downstream value-chain related issues (reuse, remanufacturing, end-of-life solutions) receiving less attention from big companies” until recently (p. 165).

Among the “early movers” who have chosen to engage with post-consumer management of clothing two broad strategies have been identified (Hvass, 2014). The first of these strategies is a partnership with a charity organisation or other third party collection company (e.g. I:CO) in order to manage the collection and re-allocation of used clothing. This strategy is considered one of the fastest growing strategies, due to the mutual benefits provided to both parties (Hvass, 2014; Olsen, 2010). As can be seen in the examples provided in the table below, at this time most brands have opted for the first strategy where they have developed a collaboration with a third-party charitable organisation or collection company. The clothing retrieved in this manner is likely destined for the second-hand clothing export market, with those of poorer quality likely being processed into wiping rags or new fibers instead (Hansen, 2004).

The second strategy, is when brands choose to internally manage their own post-consumer garments and specialise in the sale of these secondlife assets with the development of resale/reuse platforms (Hvass, 2015; Hvass, 2014; Strähle & Höhn, 2017). In these instances, brands and retailers specialise in upcycling and/or direct resell of their own branded apparel thus extending its lifetime and capturing its resale value (Hvass, 2015). *Table 1-1* below, provides a non-exhaustive list of fashion brands and retailers that are currently offering clothing take-back programs to varying degrees, and with varying recovery options. To align these examples more closely to the case company under study, this list is isolated to companies that are managing end-of-life products of multiple fiber types and product categories (i.e. all garments, shoes, bags, etc.), and who provide information about these initiatives on their website.

Table 1-1. 'Overview of clothing take-back programs in the fashion industry'

Company	Collection partner	Reduce	Reuse	Remake	Recycle	Resell	\$\$ captured
			X		X		No
 Boomerang	N/A	X	X	X	X	X	Yes
			X		X		No
			X		X		No
EILEEN FISHER	N/A	X	X	X	X	X	Yes
Filippa K	Various, depending on location	X	X		X	X	Yes
			X		X		No
    H&M group			X		X		No
			X		X		No
					X		No
			X		X	X	No
	N/A		X		X		No
			X		X		No
	N/A	X	X		X	X	Yes
	Various, depending on location		X				No

Source: 'Own source, based on information from company websites'

1.3 Aim and research questions

With so few other examples of vertically integrated clothing take-back programs to draw from, a deeper look at EF Renew is thought to provide a unique perspective about a self-motivated (e.g. not policy or regulation initiated) closed-loop, clothing take-back program and resale platform within a large sized enterprise in the fashion/apparel industry. With an exploration of EF Renew's business model, this study aims to explore, outline and describe the program, and to discover how and what kinds of value are being created both inside and outside of the

company. The ultimate aim is to extrapolate information from the findings that other industry actors can learn from.

Table 1-2. 'Research questions'

RQ 1:	With the creation, delivery, and capturing of value as a central piece of any business model, what types of value are being generated with this business model in this particular case?
RQ 2:	Are there any specific company characteristics that have likely enabled EF Renew to develop in the way it has? And if so what are they?

Source: 'Own source'

1.4 Scope and limitations

Scope

The chosen focus of this research is on the single case of the EF Renew program, which was selected for a few reasons. One being, they have been identified as one of the fashion industry leaders with one of the most robust and holistic, clothing take-back programs to date. Secondly, as mentioned in the **Problem Definition** section, other studies have looked at other comparable programs, and even at Eileen Fisher's take-back program specifically, but have yet to explore this program in-depth indicating a distinct research gap in the current literature.

A two-tiered analytical framework, including the Business Model Canvas and a mapping of EF Renew's reverse supply chain, was chosen in an attempt to capture the nuances of the program and to describe its unique characteristics holistically. This exploration of the reverse supply chain can also be justified for other reasons as well. Firstly, because as found by Beh et al., (2016), since "the classic recycling of material, which is possible in the manufacturing sector is less feasible and economical for apparel and fashion retailers" this has also resulted in the "classic reverse logistics and closed-loop supply chains" being far less common (p. 260). Whereas, Hvass (2015) points out that reverse logistics and the arrangement of collection sites and a distribution system have been identified as one of the primary challenges for fashion brands or retailers to engage with secondhand retailing. These findings indicate a need to explore the examples of closed-loop supply chains that do exist, thus warranting a deeper look at this operational aspect of EF Renew.

Lastly, with the aim to inform others about program specifics, semi-structured interviews with experts of the program, from both within and outside of the company, is considered useful in order to extrapolate first-hand accounts and their direct experiences. The majority of the informants are selected based on two criteria: 1) either they work at EF Renew, or EILEEN FISHER, Inc.'s Social Consciousness Team, or 2) they are personally familiar with the program, having worked with or researched it, and/or are familiar with textile waste issues and textile collection and reuse. From this perspective the informants could be considered biased in favor of the program or something similar. However, the aim here, in this particular research is not to provide a critical lens but to explore the program's characteristics holistically so others can learn from these experiences.

Limitations

One of the primary limitations that can be identified is, as already mentioned, this particular study is not so unlike the previous research mentioned above. However, it differs in that it provides a unique analysis of the particular case of EF Renew program specifically.

Other limitations exist primarily with the level of company access provided to the researcher. Ultimately, it was fairly limited due to employee work load and their subsequent time constraints. While, it would have been ideal to speak with more individuals from various positions at both EF Renew and the parent company EILEEN FISHER, Inc. this in the end was not possible.

Another factor that is considered a limitation to data collection is that due to the fact that all informants hold different positions at the company or maintain different types of expertise. This resulted in the guiding questions for each interview not being uniform. While, this is not ideal from a methodological perspective a more thematic approach, meaning comparable and re-occurring themes were used, to make-up for this shortcoming. These themes are described in greater detail in Chapter 3, the **Methods** section.

Additionally, due to time constraints on part of the researcher, interviews takes place in only a single phase. As a result, this did not provide the opportunity to confirm informant responses and test for their reliability. Likewise, this time constraint lead to manually coding interviews instead of using a qualitative data analysis software.

1.5 Ethical considerations

While with limited access to the company, access to sensitive company information is also limited, it is important to treat all company documents that are made available with the upmost attention and to ensure their security. Additionally, the primary company contact, the Facilitating Manager of the EF Renew program, maintains the ultimate say for which information is to be included and excluded from the final report.

Additionally, when conducting interviews, ethical considerations are also significant. Firstly, as part of the data collection process, each interview was recorded so it could be later transcribed and effectively analysed. As a result, established consent of interviewees prior to the actual recording is attained. Also, some information provided in interviews may have to remain “off the record” if so deemed by the informant.

Likewise, as a means to maintain privacy, the names of those interviewed have been concealed and will now be referred to by either their job title or interview number, which is organised in sequential order based on the actual order in which the interviews take place. This information is presented at the beginning of Chapter 4, the **Findings** section.

1.6 Audience

The primary audience for this research is thought to be other clothing retailers interested in integrating clothing take-back programs into their current business. The inclusion of multiple dimensions of the EF Renew program can be used as a guidance for others to start the conversation and exploration of what one such program would mean to, and within their own company.

Otherwise, this research can also be considered relevant for those developing policy intended to support or influence companies to develop more comprehensive closed-loop systems into their business model. Thirdly, as this is an emerging field that warrants continued research, this work can be interesting for other researchers to draw from.

1.7 Disposition

Chapter 2 presents the literature review used to guide the theoretical and analytical framework for this research. This in-depth analysis of literature is centered around two broad themes – the concept of business models, and the circular economy. Business models are explored as a general concept, and then from the perspective of innovation and sustainability. Sustainable business model innovation is then explored specifically in the context of the fashion industry. The second theme, the circular economy, is explored from the perspective of its theoretical roots, how it is being broadly applied, critiques of the concept, and then specifically how it is, or can be applied within companies, which is also considered in the context of the fashion industry.

The analytical framework is also discussed here. It is also considered from a two-tiered approach being translated from the literature used to inform the analysis – the Business Model Canvas presented by Osterwalder (2004), and the reverse supply chain activities presented by Sinha et al., (2016²).

Chapter 3 presents the methodology for this research, with the overview of the data collection and analysis processes.

Chapter 4 presents the findings from the data collection, which are presented from the perspective of the Business Model Canvas and a mapping of EF Renew’s reverse supply chain.

Chapter 5 provides a discussion and in-depth analysis about the findings. Also, using the findings, it focuses around answering the research questions, while also contextualising the findings with previous research.

Chapter 6 concludes the thesis by providing an overview of the thesis and its key findings, and also provides directions and suggestions for future research.

All you have to do is ask

2 Literature review

Two distinct fields of literature are reflected upon to inform the development of this research – business models and the circular economy. These two concepts are considered to come together in this case study, with EF Renew being exemplar of an innovative business model that is a closed-loop or circular in its design.

Business models remain a concept with definitional and theoretical ambiguity. However, without departing too far from the intention of this research, the business model literature will be explored more in depth and the definitional and theoretical ambiguity in the context of this particular research and case will be clarified below.

Secondly, the circular economy (CE), is today the principal theoretical view informing the ideas of circular value systems, and closed-loop supply chains. For this reason, the CE will be looked at closely: its own theoretical roots; how it is currently being realised in different levels of society; critiques of the model; and how is the CE theory applied within a company – that being the development of a closed-loop supply chain.

Lastly, the above two themes are exemplified in three previous studies that have acted as inspiration for this thesis. These studies are the only other examples (found by the author) that are exploring specific cases of closed-loop business models in the fashion industry. Since closed-loop business models remain in their nascent phase in this industry, yet have also been identified as important to help ameliorate the issue of textile waste, specific case studies remain valuable information to draw and learn from in order to understand how more brands and retailers can adopt similar practices.

2.1 Business models

2.1.1 Backgrounds and definitions

A business model has been described as an organisation's business logic blueprint (Lüdeke-Freund, 2009), or as “a conceptualisation of the money earning logic of a firm” (Osterwalder, 2004, p. 14). A business model is thought to be “concerned with how the firm defines its competitive strategy through the design of the product or service it offers to its market, how it charges for it, and what it costs to produce, how it differentiates itself from other firms by the value proposition, and how the firm integrates its own value chain with those of other's firms in a value network” (Bocken et al., 2014, p. 44; Rasmussen, 2007). Whereas, the notion of value creation is considered central to any business model (Bocken et al., 2014).

The concept of business models has its roots in the dotcom boom of the 1990s (Boons & Lüdeke-Freund, 2013; Pedersen et al., 2016). It is at that time internet start-ups and ground breaking technologies really started to challenge conventional industries, inciting a need to characterise business archetypes (Boons & Lüdeke-Freund, 2013; Pedersen et al., 2016). However, today the concept is used across industries as a common way to describe, analyse and communicate the design of an organisation (Pedersen et al., 2016). Consequently, since 1995, more than 1,000 peer-reviewed, academic articles have been written on the subject (Pedersen & Netter, 2013; Zott et al., 2011).

Despite its popularity and prevalent use in both academia and business, an element of definitional ambiguity of the business model concept remains. As a result, it is widely accepted that multiple definitions exist for the term “business model” (Pedersen et al., 2016). There

remains a general lack of clarity and conceptual consistency regarding the term “business model” (Boons & Lüdeke-Freund, 2013; Evans et al., 2016; Osterwalder & Pigneur, 2010; Margretta, 2002).

With that said, the work of Osterwalder is considered clear and well-defined, and as a result is widely accepted (Lüdeke-Freund, 2009). Consequently, in the context of this research the definition proposed by Osterwalder & Pigneur (2010) “a business model describes the rationale of how an organization creates, delivers, and captures value” (p. 14) will be used. Osterwalder’s ultimate work, a generic template, built on four main pillars (product, customer interface, infrastructure management, and financial aspects) and then broken up into nine-part business model canvas will also act as part of the analytical framework for this research, and will be described in greater detail below.

2.1.2 Business model innovation

According to Merriam-Webster an innovation is: 1) the introduction of something new; 2) a new idea, method, or device. Whereas, business model innovation centers around “developing new ways to capture, create and deliver value and moves beyond more narrowly defined categories, such as product, service, and process innovation” (Pedersen et al., 2016; Preuss, 2011; Wells, 2008). It has been found to be an important aspect to the sustained success, as well as, an undisputable source of a competitive advantage for an organisation (Pedersen et al., 2016; (Foss & Saebi, 2015; Osterwalder, 2004). With Osterwalder & Pigneur (2010) claiming it is “about replacing outdated models” (p. 5).

An important and distinguishing characteristic of business model innovation is that it pertains to the entire “architecture” of a company, and not just merely a technological or operational innovation (Pedersen et al., 2016; Teece, 2010). Pedersen et al., (2016) determined that when a company changes the “architecture” of their business as a result they also form new strategic partnerships, may reduce company costs, improve flexibility, and take advantage of emerging market opportunities. Wells (2013) also highlights that “business model innovation has to be grounded in time and place, in a socio-culturally specific moment in which myriad enabling factors are involved” (p. 44).

Business model innovation is thought to be either incremental or radical. Incremental business model innovation is considered to be on-going improvements related to existing offerings and without major changes in internal competences and external partner relationships (Lindgren & Taran, 2011; Pedersen et al., 2016). Conversely, radical business model innovation involves new types of offerings and a restructuring of existing organisational attributes and stakeholder networks (Lindgren & Taran, 2011; Pedersen et al., 2016).

Business model innovation is seen as something that is a difficult undertaking for most organisations and its stakeholders, as it requires significant resources, financial and other, with a considerable amount of risk involved (Evans et al., 2016). It has been said that, “given the uncertainty regarding processes and outcomes of business model innovation, it is widely understood that firms are hesitant to pilot business model innovations in the real world” (Evans et al., 2016, p. 7; Thompson & MacMillan, 2010). However, it has also been said that in order to overcome this uncertainty and discover new business models it is essential to accept the process of experimentation, trial and error, and organisational learning (Evans et al., 2016).

The results of a global survey of company CEOs revealed that companies that emphasise business model innovation yield higher operational margins (Palmisano, 2006). The same study also found that those companies that place twice as much emphasis on business model

innovation outperformed those that did not make the same effort (Palmisano, 2006). With that said, it has also been determined that an underlying company values and culture that allows for the questioning of norms, rules, and routines is an important, if not essential, prerequisite for business model innovation (Pedersen et al., 2016). Whereas, transformations to business models are widely recognised as fundamental to the realisation of sustainability innovations in organisations (Evans et al., 2016).

2.1.3 Sustainable business models

In the context of sustainability, business model innovation has been defined as “innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organisation and its value-network create, deliver value and capture value...” (Bocken et al., 2014, p. 44). The “triple bottom line” approach to business that is beneficial to “people, profit, and planet” (Strähle & Müller, 2017), is also considered central to the concept of a sustainable business model (Bocken et al. 2015; Lüdeke-Freund, 2009). A sustainable business model is thought to provide a company a competitive advantage with the provision of superior customer value (Lüdeke-Freund, 2009), and also act as a vehicle to “coordinate technological and social innovations with system-level sustainability (Bocken et al., 2014, p. 44).

Halme & Laurila (2009) highlight that although in theory and practice business model innovation and corporate sustainability are distinct they come together in the concept of sustainable business model innovation, which ultimately can then be viewed as an advanced form of corporate sustainability, or CSR. Whereas Weber (2008), points out that the business model concept becomes relevant for companies when they try to improve their sustainability performance with the longer term in mind. He states, “True corporate sustainability requires an integration of all three sustainability dimensions into business management, which can even lead to business model transformations to secure sustainable operations in the long-term.” (Weber, 2008, p. 248).

It was also determined that in order for organisations to adopt sustainable business models they must develop internal structures, cultural capabilities, and collaborate with key stakeholders (Stubbs & Cocklin, 2008). Two primary dimensions of characteristics associated with sustainable business models were also defined: structural characteristics (e.g. processes, organisational forms and structures, business practices) and cultural characteristics (e.g. norms, values, behaviors, attitudes) (Stubbs & Cocklin, 2008). It is also considered that the integration of sustainability into business models demands the consideration of a global and systematic perspective (Stubbs & Cocklin, 2009) and acknowledgement of a broader stakeholder group (Pedersen et al., 2016).

Wells (2013) points out that six key principals can be associated with business models for sustainability: resource efficiency, social relevance, localization and engagement, longevity, ethical sourcing, and work enrichment. Whereas Bocken et al., (2014) went so far as to develop sustainable business model archetypes through the process of an extensive literature review. They found that business model innovation for sustainability could be grouped into three main categories: technological, social, and organisational, which can then be subdivided into eight main archetypes. These archetypes are described in greater detail below in *Table 2-1*.

In terms of successful implementation, it has been found that an organisation’s ability develop new business models and sustainability initiatives are influenced by its underlying values (Pedersen et al., 2015). Likewise, it has become increasingly understood that sustainability key performance metrics must go beyond the boundaries of a single firm to consider issues from a broader and more systemic perspective (Evans et al., 2016; Searcy, 2016). Inline with that

thinking, the generation of stakeholder value needs to be considered beyond shareholders to the entire set of stakeholders that are part of the long-term success and overall survival of the firm (Evans et al., 2016).

Table 2-1. 'Sustainable business model archetypes'

	Sustainability archetypes	Defintion
Technological	Maximise material and energy efficiency	"Do more with fewer resources" (p. 48)
	Create value from waste	"The concept of 'waste' is eliminated by turning waste streams into useful and valuable input to other production and making better use of under-utilised capacity" (p. 49)
	Substitute with renewables and natural processes	"Reduce environmental impacts and increase business resilience by addressing resource constraints 'limits to growth' associated with non-renewable resources and current production system" (p. 50)
Social	Deliver functionality rather than ownership	"Provide services that satisfy users' needs without having to own physical products" (p. 50)
	Adopt a stewardship role	"Proactively engaging with all stakeholders to ensure their long-term health and well-being" (p. 51)
	Encourage sufficiency	"Solutions that actively seek to reduce consumption and production" (p. 52)
Organisational	Repurpose for society/environment	"Prioritising delivery of social and environmental benefits rather than economic profit (i.e., shareholder value) maximisation, through close integration between the firm and local communities and other stakeholder groups" (p. 53)
	Develop scale up solutions	"Delivering sustainable solutions at a large scale to maximise benefits for society and the environment" (p. 53)

Source: 'Adapted from Bocken et al., 2014'

2.1.4 Sustainable business model innovation in the fashion industry

Todeschini et al., (2017) found there are five macro-trends driving the development of innovative and sustainable business models in the fashion industry: the circular economy, corporate social responsibility, sharing economy and collaborative consumption, technological innovation, and consumer awareness. Whereas, several common business model innovations have been identified (Pedersen et al., 2016). Firstly, many companies have simply introduced a codes of conduct to address social and environmental issues, with others engaging with initiatives that focus on fair trade and sweatshop free practices (Pedersen et al., 2016; Todeschini et al., 2017). Others have turned to cleaner production, zero-waste methods, using sustainable or vegan raw materials; with others still having established brands and retailers are experimenting with various recycling, reusing, and reselling platforms in addition to their conventional business models (Pedersen et al., 2016; Todeschini et al., 2017). Some are creating entirely new business models which include practices like upcycling, leasing, sharing,

or swapping (Pedersen et al., 2016; Todeschini et al., 2017). For example, fashion libraries where customers obtain a membership that enables them to check out, rent, and return clothing on a regular basis. There has been a resurgence in the development of local manufacturing and local material sourcing to address issues within global supply chains (Pedersen et al., 2016; Todeschini et al., 2017). Finally, others are inciting more sustainable consumption habits with the promotion of collections that support the notion of “less-is-more” (i.e. capsule wardrobes, lowsumerism, and slow fashion) (Todeschini et al., 2017).

Research also identified the CE being realised in several ways. Wahrer (2015), found that material science and garment technology were being used to achieve sustainability and closed material loops at a premium lifestyle brand. Whereas, according to the Dutch cooperative, Circle Economy, the CE within textile companies, including among fashion brands and retailers, can be achieved with the development of circular, servization, and sufficiency business models (Circle Economy, 2015). With Hvass (2015), identifying two predominant closed-loop schemes currently taking place within the fashion industry specifically – in-store take back schemes for material recycling, and resell/resuse platforms for extending the useful life of garments.

In one particular study that surveyed 492 Swedish fashion companies (Pedersen et al., 2016), found that those demonstrating the highest levels of business model innovation were also more probable to proactively engage with sustainability. It was also found that an organisation’s underlying values largely influence their ability to successfully transform their business model and their sustainability performance (Pedersen et al., 2016). They conclude that those who want to advance corporate sustainability must also take into consideration organisational values (Pedersen et al., 2016).

2.2 The circular economy

The circular economy (CE) is a concept that is receiving a lot of attention at present due to its potential to shift us away from our current unsustainable “take-make-dispose” economic system to one that optimises resources, preserves natural capital, is regenerative, and positive for people and the planet (MacArthur, 2015; MacArthur & Waughray, 2015). A recent study from McKinsey & Co. (2017) concluded that the CE could generate a cost savings of €600 billion annually and €1.2 trillion in other economic benefits by 2030 in the EU alone.

The CE is a concept that can be more characterised than defined. With that said, it can be considered a generic term for an industrial economy that can enable us to surmount our current deleterious modes of production and consumption, and decouple economic growth and societal wellbeing from resource use and environmental degradation (Ghisellini et al., 2016). Likewise, it can also be conceived as a sustainable development model that takes into consideration equally economic, environmental, social, and technological aspects (Ghisellini et al., 2016).

Its most basic tenets are commonly described as being “restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles” (Ellen MacArthur Foundation, 2015, p. 2). It is conceived as a perpetual positive development cycle and degrowth model that closes material loops, reduces the throughput of resources, increases resource efficiency, effectively manages and renews urban and industrial waste, while attaining an improved equilibrium between society, the economy, and the environment, inciting improved well-being and equity (Ellen MacArthur Foundation, 2015; Ghisellini et al., 2016).

The CE rests on three key principles. According to the Ellen MacArthur Foundation (2015) & World Economic Forum (2016): The first principle is to preserve and enhance natural capital aims to dematerialise utility, efficiently manage finite stocks, balance resource flows, and create the conditions for regeneration; The second principle aims to optimize resource yields by circulating products in both the technical and biological cycles, at their highest utility at all times; And finally, the third and last principle seeks to advance system effectiveness by first revealing and then designing out negative externalities, which includes reducing pre-existing damage to systems, and containing externalities such as air, water and noise pollution, toxic substance release, and land use. These principals are also thought to include the 3Rs (reduce, reuse, recycle), or the more comprehensive 6Rs (reuse, recycle, redesign, remanufacture, reduce, recover) (Winans et al., 2017).

2.2.1 Theoretical roots of the circular economy

The concept of the CE was first presented in 1989, by British environmental economists David W. Pearce and R. Kerry Turner, and was built upon the studies of ecological economist Kenneth Boulding (1966) (Ghisellini et al., 2016; Heshmati, 2015; Pearce & Turner, 1989; Perman, 2003; Ribeiro Rosa; 2016). Boulding, was the first to recognise that in order to achieve sustainability and maintain the life systems needed to sustain human life, a circular system was prerequisite (Ghisellini et al., 2016). Whereas Pearce and Turner (1989), were the first to conceptualise the shift from an open to closed economic system needed as a result of the law of thermodynamics (Ghisellini et al., 2016).

While, the CE has largely been considered a waste management strategy, this limited view may lead to its demise (Ghisellini et al., 2016). In reality, the foundation of the CE is inspired by numerous theories and thought leaders, which can be further delineated into General Systems Theory and Industrial Ecology. Whereas, the Ellen MacArthur Foundation supplemented the concept with theories such as: “regenerative design, performance economy, cradle to cradle, biomimicry, and the blue economy,” which are considered relevant theoretical contributions (Ghisellini et al., 2016).

General Systems Theory

General Systems Theory (GST) promotes the concepts of holism, complexity, system thinking, organizational learning and human resource development, all of which can be considered fundamental to the Circular Economy (Ghisellini et al., 2016). According to Meadows (2008), “A system is an interconnected set of elements that is coherently organised in a way that achieves something. If you look at the definition closely for a minute, you can see that a system must consist of three kinds of things: elements, interconnections, and a function or purpose” (p. 11).

The General Systems Theory originated circa 1954 (Rosseau, 2015). It proposes the development of interdisciplinary communications and cooperation; facilitation of scientific discoveries in disciplines that lack exact theories; the promotion of the unity of knowledge; and to help to bridge the gap between object and subject oriented disciplines (Rosseau, 2015). Guided by the ethical belief that “our civilisation was at risk due to looming human, social and environmental crises” the GST was considered a means to render the advancement of scientific research that was more effective and efficient, and provide a pathway towards “a better world” (Rosseau, 2015, p. 523). However, Rosseau (2015) points out that the ability to actually integrate systems thinking “remains elusive,” particularly with “the ongoing fragmentation of the systems community” (p. 523).

As a theoretical foundation of the CE, the application of GST would mean that society and its individuals must look at themselves as part of a larger system (Huamao & Fengqi, 2007).

Previous research, by Huamao & Fengqi (2007) details that GST in relation to the CE is realised in a few ways. Most fundamentally, the successful realisation of a functioning CE depends on an aggregated system as a whole – one that gives ecosystem, social and economic benefits equal importance (Huamao & Fengqi, 2007). They also point out that GST influences the CE with the concept of an “open” system. That is, an optimal CE will be achieved when it is a dynamic system that constantly exchanges matter, energy, and information internally and externally (Huamao & Fengqi, 2007). Likewise, the CE model can be attributed to GST with its use of a layered approach – each of which, have different parts and different orders of hierarchy, but contribute to a greater whole (Huamao & Fengqi, 2007).

Industrial Ecology

Essentially, the circular economy is conceptualised as an industrial system that is restorative (Genovese et al., 2017). This feature of the CE, is largely propagated by the concept of industrial ecology.

The main premise of the industrial ecology is centered around exchanges of materials and energy (Layakurwa, 2014). Whereas, in its advanced conception of industrial symbiosis, these exchanges of materials and energy occur between various industries as a means to enhance sustainability performance and decrease the negative environmental consequences associated with traditional methods of production (Genovese et al., 2017; Layakurwa, 2014). It is a process oriented solution that aims to create closed-loop systems, where the waste from one system acts as the input for another – mimicking that which occurs in nature (Bocken et al., 2014; Schools of Thought, 2017). It is thought that industrial systems should be considered in context of the environment in which they operate, and should be characterised by their joint material flows, energy, information, resources and biosystem services (Erkman, 1997; Ghisellini et al., 2016).

Industrial symbiosis has often been realised in concentrated eco-industrial estates or networks that consist of a group of businesses that seek to improve environmental, social, and economic performance by collectively managing environmental and resource issues (e.g. water, waste, and energy) (Layakurwa, 2014; Winans et al., 2017). In the context of the CE, industrial ecology is scaled to an economic wide system, with the goal of developing a new paradigm for economic development, production, distribution, material recovery, and management of resources (Ghisellini et al., 2016).

Theoretical updates according to the Ellen MacArthur Foundation

The additional philosophies identified by the Ellen MacArthur Foundation, which are also considered central to the CE are: Cradle to Cradle, Biomimicry, and Regenerative Design, The Blue Economy, and the Performance Economy (Ghisellini et al., 2016).

Cradle to Cradle is a design concept and certification process where all materials are considered to be “nutrients” that are categorised into two main groups or “metabolisms”, technical and biological, and are intended to cycle in these two groups endlessly (Schools of Thought, 2017). It focuses on creating products that have a positive impact, not just one that is “less bad” (McDonough & Braungart, 2010; Schools of Thought, 2017). It is a philosophy and practice that is founded on three main principles: eliminate the concept of waste, “Waste equals food”; power with renewable energy, “Use current solar income”; respect human and natural systems, “Celebrate diversity” (Schools of Thought, 2017).

Biomimicry is yet another approach to the design of products, processes, and systems. It seeks to innovate sustainable solutions by mirroring “nature’s time-tested patterns and strategies” (Biomimicry Institute, 2017). The core philosophy is that nature is the ultimate engineer and

after billions of years of research and development, trial and error, the animals, plants and microbes surrounding us today hold the secrets to survival (Biomimicry Institute, 2017). Its core values are nature as a model, as a measure, and as a mentor (Schools of Thought, 2017).

Whereas, Regenerative Design is an interdisciplinary concept, that is rooted in environmental, economic and social sustainability (About Regeneration, 2004). It is not about conservation, but the enhancement of natural resources (About Regeneration, 2004). It emphasises the creation of community support systems that can be restored, renewed, revitalised, or regenerated with the incorporation of natural processes, or community or human action (About Regeneration, 2004).

The Blue Economy is a concept first described by Gunter Pauli in 2004 (MacArthur, 2015; Schools of Thought, 2017). The Blue Economy is centered around 21 fundamental principles and considered as “ZERI (zero emissions research and initiatives) in action” (The Blue Economy, 2016; Schools of Thought, 2017). The guiding philosophy is to “respond to basic needs of all with what you have, introducing innovations inspired by nature, generating multiple benefits, including jobs and social capital, offering more with less” (The Blue Economy, 2016). In practice The Blue Economy intends to create systems with a cascade of resources where the waste from one product becomes the input of another, to create a new economic cash flow (Schools of Thought, 2017).

Finally, the Performance Economy was proposed by Walter Stahel in the 1970s with the aim of developing a closed-loop system (Schools of Thought, 2017). It centers around the concept of a “functional service economy,” that follows four main goals: product-life extension, long-life goals, reconditioning activities, and waste prevention (Schools of Thought, 2017).

2.2.2 Current applications of the circular economy

Winans et al. (2017), find that the application of the CE can be found in relation to three thematic groupings: policy instruments and approaches; value chains, material flows and product specific applications; technological, organisational, and social innovation. They conclude that CE-related initiatives should consist of bottom-up and top-down in both its implementation and evaluation (Winans et al., 2017). Whereas, lack of information exchange, regulation, incentives, and infrastructure have all been identified to place strains on the successful development (Winnans et al., 2017).

In another empirical study, Ghisellini et al., (2016), went back into 20 years of literature seeking to discover, define, and comprehend the basic features of the CE including: its origins, its pros and cons, and examples for how it is being modelled and implemented across the globe. They identify examples of the CE being realised at micro, meso, and macro levels:

Micro	In the production sectors with the rise of ecodesign and cleaner production technologies and strategies
	In the consumer sector through green public procurement and the rise of responsible consumption schemes in the form of eco-labelling
	In waste management with the focus on resource recovery and impact prevention
Meso	The development of eco-industrial parks
	The implementation of industrial symbiosis in districts and networks
Macro	Eco-cities
	Collaborative consumption models (e.g. renting, leasing, lending, bartering, etc.) to shift consumption patterns away from the business-as-usual model
	Innovative waste management with an emphasis on prevention and the development of zero-waste programmes
	decoupling of economic growth from resource depletion and environmental impacts

Table 2-2. ‘Applications of the circular economy’ – Source: ‘Adapted from Ghisellini et al., 2016’

2.2.3 Circular thinking in business

The CE and closed-loop systems are technically separate yet interchangeable concepts, that maintain similar approaches and ultimate goals. Both advocate the use of renewable energy, the elimination of toxic and non-renewable materials, circulating components at their highest quality for as long as possible, minimizing waste, and the efficient use of water, energy, and other resources during multiple lifecycles (Strähle & Matthaei, 2017; Brismar, 2015).

Closed-loop systems appear to be the favorable term used, when considering a concept like the CE in the context of a business model. Closed-loop systems are defined as the “taking back of products from customers and recovering added value by reusing the entire product, and/or some of its modules, components and parts” (Guide & Van Wassenhove, 2009, p. 10; Strähle & Philipsen, 2017). Closed-loop supply chains (CLSCs) are the means for companies to achieve post-retail management of their products so they may be reused in one form or another, with additional value being generated and captured (Strähle & Philipsen, 2017). Generally speaking, CLSCs are thought to consist of five core operational processes: product acquisition, reverse logistics, product sorting, elected recovery (retrieving, reconditioning, and regaining products, components, and materials), and redistribution (Strähle & Philipsen, 2017). The concept in practice has been identified to support the avoidance of waste, and the conservation of materials that would otherwise end-up in landfill (Sinha et al., 2016²).

Likewise, closed-loop business models are considered a means to create multiple forms of value for a company. Schenkel et al., (2015) identified the generation of economic, environmental, social, customer, and informational value. Economic value is considered the profits generated from product recovery (Brodin & Anderson, 2008; Downlatshahi, 2010; Schenkel et al., 2015; Skapa & Klupalová, 2012). Environmental value is associated with a lower carbon footprint and pollution prevention (Huppes & Ishikawa, 2009; Krikke, 2011; Schenkel et al., 2015). Social value is thought to be created with the creation of employment opportunities, infrastructure development, and increased social welfare from a reduction in toxic waste disposal (Khor & Udin, 2013; Schenkel et al., 2015; Sarkis et al., 2010). Customer value is largely generated and captured with an increase in customer satisfaction, customer loyalty, repurchase intention, better customer service, and improved brand image and brand protection (Lee & Lam, 2012; Jayaraman et al, 2012; Kocabasoglu et al., 2007; Mollenkopf et al., 2007; Michaud & Llerena, 2011; Östlin et al., 2008; Schenkel et al., 2015). Finally, information value can be collected and shared through CLSC management, including information about customers and about how to improve operational aspects (e.g., product

recovery, product design, customer contact, supply chain processes) (Mafakheri & Nasiri, 2013; Subramoniam et al., 2010; Kocabasoglu et al., 2007; Talbot et al., 2007; Jayaraman & Luo, 2007; Östlin et al., 2008; Schenkel et al., 2015).

From the business model perspective, closed-loop business models “include products and business processes designed in a manner that enables waste at the end of the use phase of a product to be used to create new value” (Bocken et al., 2014, p. 49). Schenkel et al. (2015), identify four different types of business models related to CLSCs. There are companies that make product recovery, with the maintenance of a permanent inventory of recovered parts and products integral to their business model – indicating not only integral thinking but integral profit creation, with the aim of achieving profit for the company for the long-term (Schenkel et al., 2015). Secondly, there are companies that is more driven by the business case. Meaning that recovery activities were more occasional and focused on generating short-term profits (Schenkel et al., 2015). In the third case, while likely not possible for those with complex global supply networks, suppliers can perform recovery activities (Schenkel et al., 2015). It was also found that often times companies would outsource the de-installation and reverse logistics to third-parties (Schenkel et al., 2015). The fourth and final business model identified is a new service focused model (e.g. rental and leasing), or one that allows for customers to “trade-in” products and acquire new ones at a discounted cost (Schenkel et al., 2015).

For fashion brands and retailers beyond the development of new business models, this paradigm shift towards closed-loop systems proposes developments like “effective take-back systems, and the emergence of new design practices that generate more durable products and facilitate disassembly and refurbishment” (Todeschini et al., 2017, p. 3). Previous research has found that there are three main drivers for fashion brands to participate in post-consumer management of their products: economic, corporate citizenship, and legislative (Álvarez-Gil et al., 2007; Hvass, 2014). Whereas, the post-retail or post-consumer management of clothing is thought to bring about a number of opportunities and benefits for fashion brands and retailers (Hvass, 2014). For example, an improved image, new customer acquisition, the strengthening of customer loyalty and engagement, and a diminished environmental footprint are thought to be some of the supposed benefits realised through such initiatives (Hvass, 2014; Strähle & Philipsen, 2017). Furthermore, in face of insecure access to raw materials and cost volatility the development of practices and technologies that are able to capture and re-use “waste” materials makes not only sustainability sense, but business sense (Strähle & Philipsen, 2017).

Evidence shows that the development of new resell/reuse channels tends to be selected by premium and high fashion brands with better quality products. This is considered in large part due to the need for garments to be at their highest quality over the course of many use phases, so they retain both their functional and perceived value (Fletcher & Grose, 2012; Hvass, 2015). Likewise, it appears that more large-scale and market driven brands and retailers tend to engage with product take-back schemes, due to the availability of networks and resources (Hvass, 2014).

2.2.4 Critiques of the circular economy

As promising as the concept of the CE may be, it is of course not without its limitations. First it requires that both producers and consumers forget the passive “throwaway” culture pervasive today, and become more active participants in the recycling and reuse of products, which we are far from achieving (Ghisellini et al., 2016). Likewise, due to the limitations of recycling the CE cannot be expected to provide economic growth indefinitely, but should be treated as a transition strategy to an actual degrowth path (Ghisellini et al., 2016).

Murray et al., (2015) also critique the CE with a number of potential deficiencies. For one, they conclude the CE does not pay enough attention to the social dimension of sustainability (Murray et al., 2015). Murray et al., (2015) write, “It is unclear how the concept of CE [sic] will lead to greater social equality, in terms of inter- and intra-generational equity, gender, racial and religious equality and other diversity, financial equality, or in terms of equality and social opportunity” (p. 376). Likewise, they conclude that the CE will likely result in unintended consequences and maintains over simplistic goals (Murray et al., 2015). For example, a product designed for longevity may not be efficient ecologically, large in part due to resource intense production processes (Murray et al., 2015). Finally, they criticize the biomimetic aspect of the CE for being too reductionist, and propose it would be better to “bio-participate” and learn our role in the biosphere than “bio-mimic” other species (Murray et al., 2015).

Zink & Geyer (2017), claim that while the CE framework has strong intuitive appeal, in practice the results may be quite different. At the core of their argument is that the current focus of the CE discourse has centered on engineering aspects as opposed to the economic system. They have coined the term “circular economy rebound,” which can occur with secondary production failing to effectively compete with primary production, or with a decrease in prices leading to increased consumption (Zink & Geyer, 2017). Both of which they claim have a high probability of occurring. They state, “It turns out that simply closing material loops is not enough to guarantee environmental improvement” (p. 600), especially when socioeconomic factors are taken into account.

Finally, it has been said to genuinely flourish, the CE needs support the bigger effort to tackle “economic growth, wasteful consumerism and undemocratic power structures in the global economy” not just prop them up in more “sustainable” ways (Narberhaus & von Mitschke-Collande, 2017). Furthermore, the replacement of global corporations with more cooperative mechanisms and a peer-to-peer commerce is considered the means for the CE to have real and lasting benefits (Narberhaus & von Mitschke-Collande, 2017).

2.3 Previous research

This particular research is inspired by three previous studies. While the present study is not so dissimilar to some of the research mentioned below, its in-depth focus on the case of Eileen Fisher, and its EF Renew program remains unique. Yet, the few analogous elements between this study and those previous are: 1) they also sought to explore programs where brands have chosen to internally manage their own post-consumer garments; 2) two of the studies (Hvass, 2015; Circle Economy, 2015) chose to look into a fashion brand that had developed their own resale platform – both examining the case of Filippa K; 3) while the same two studies also analysed this case from the perspective of its business model using Osterwalder’s Business Model Canvas.

Hvass (2014), explored post-consumer textile waste from the perspective of the fashion industry. The aim of this study was to first map EPR, post-consumer practices emerging in the fashion industry. Secondly, by way of in-depth interviews with individuals from seven companies (Eileen Fisher, Filippa K, Levi Strauss & Co, Boomerang, Patagonia, Katvig, Jackpot, Marks & Spencer, Jack & Jones), to provide insights into the motivations and strategies chosen by fashion companies. This study revealed the motivations, strategies and challenges of “early movers.” Yet it was determined that no best practices or established patterns exist among those examples. It did however, recognize that most initiatives could be categorised into two generic strategies: product take-back schemes, and resell/reuse platforms which allow companies to capture the resale value. Also, it was found these initiatives have

been achieved in three distinct approaches – by entering a partnership with a donation charity, collaborating with an external private actor that maintains know how and resources in the secondary market, or by internally managing products.

In a follow-up study by the same author, Hvass (2015), conducted of an in-depth case study of Swedish retailers Filippa K, from the perspective of their business model. In terms of design, this research can be considered very similar to the present study. In 2008, Filippa K began to engage with the 2nd hand resale of their own garments, which they realise via a collaboration with a local second-hand consignment retailer in Stockholm, Sweden. This venture is considered part of Filippa K's overall goal to shift to a circular production model that also aims to limit toxic chemical use and waste. The case of Filippa K is of interest because they have been identified as one of the industry pioneers in this field, and work actively to extend the lifetime of their products, engage with EPR and secondhand retailing. Data collection consisted of twelve in-depth interviews with individuals from across the company. The findings denote that there is a potential for other fashion brands with high quality products, brand recognition, and market maturity to benefit from the adoption of such business models, which in turn may enable the generation of income, customer relationship building opportunities, and the acquisition of new customers. The study also uncovers, that one of the primary challenges for secondhand retailing is reverse logistics, and the arrangement of collection sites and a distribution system.

In 2015, The Circle Economy also published a report, that centered on ten in-depth case studies of textile and fashion companies that represent “the most promising and innovative service-based business models and circular strategies available today” (p. 3). While, not all of these cases can be considered as representative of internal management of post-consumer waste streams with the development of resale/reuse platforms, a few do provide important insights. The cases included in the study under the circular business model category, which focus on examples that emphasize product and material re-use, eliminating the concept of waste, and thus the closure of material loops are those considered relevant for further examination here. These cases include a deep-dive into Filippa K's secondhand store and collection concept from a business model perspective, with an overview of three comparative cases: Claudia Strater: Share Your Clothes program, Eileen Fisher: Green Eileen, and Cees n° Co.

This study concludes, that circular business models that emphasise product reuse is best suited for brands that maintain a timeless, minimalist, or classic aesthetic that lends itself well “to multiple use cycles, over time” (Circle Economy, 2015, p. 16). It was also found that for those brands that creating resell platforms for their own products, “allows them to monetize on growing second hand markets now dominated by peer-to-peer or third party trade” (Circle Economy, 2015, p. 16). Likewise, the risk of cannibalisation can be mitigated through: knowing your target audience, product differentiation, and the training of staff.

2.4 The analytical framework

As already mentioned, the concept of value is considered central to any business model. Whereas, in closed-loop business models the reverse supply chain is considered the prime mechanism to capture and create value. The analysis of these two dimensions of this case are also considered a way to capture the nuances of the program and to describe its unique characteristics holistically. With that said, this analytical framework will depart a bit from the traditional analysis of a business model to also include a deeper look at its reverse supply chain as part of the *key activities* section found in the BMC.

Building off of these two fields of literature informing the theoretical framework, the analytical framework will also remain influenced from the literature on business models and business model innovation for sustainability, which will be explored using the widely adopted Osterwalder's Business Model Canvas. While, stemming from the literature on CE and closed-loop supply chains, operational aspects in relation to EF Renew's reverse supply chain activities, will be mapped according to Sinha et al., (2016). Both of which are described in depth below.

2.4.1 The Business Model Canvas

One importance of business models as a concept, is that they are a useful contribution to the understanding and sharing of the business logic of a firm – by capturing, visualizing and communicating it (Osterwalder, 2004). Assessing a business model at regular intervals is also considered a vital management tool, that can foretell potential flaws and weaknesses in ones' business model and prevent its ultimate demise (Osterwalder & Pigneur, 2010). It can highlight a business model's best assets and unveil the best course of action for a strong future strategy (Osterwalder & Pigneur, 2010).

The strength of Alexander Osterwalder's work is found in its systematic and extensive compilation and subsequent development of previous business model research (Lambert, 2006; Lüdeke-Freund, 2009). Likewise, as mentioned previously it is considered clear and well-defined escaping "the fuzziness that can often be recognised in business model literature" and as a result is widely accepted (Lüdeke-Freund, 2009, p. 39). Whereas Hvass (2015), finds that even though other approaches to business models exist "Osterwalder's canvas is a systemic and holistic presentation of a business model and its operational approach allows organizing and structuring a [sic] case study into meaningful knowledge" (p. 17). Osterwalder's presentation of a generic template (i.e., the Business Model Canvas) offers a framework to visualise and represent a business model's elements and how they are interrelated (Osterwalder, 2004; Osterwalder et al., 2005; Osterwalder & Pigneur, 2010).

The Business Model canvas is built on four pillars that represent the foundational aspects considered pivotal to any business. These four pillars are: product, customer interface, infrastructure management, and financial aspects (Osterwalder, 2004). Building off of the four pillars key interrelated elements that create a business model are presented as nine building blocks, and go to makeup the Business Model Canvas framework (Osterwalder, 2004). The nine building blocks identified are: value proposition, customer segments, channel, customer relationship, key activities, key resources, key partnerships, cost structure, and revenue streams (Osterwalder, 2004; Osterwalder & Pigneur, 2010; Strategyzer, 2017). *Table 2-3* below describes the features of the Business Model Canvas in greater detail.

Table 2-3. 'The Business Model Canvas elements described'

Pillar	Building block	Description
Product	Value proposition	"Seeks to solve customer problems and satisfy customer needs"
	Customer segments	"An organisation serve one or several customer segments"
Customer interface	Customer relationships	"Customer relationships are established and maintained with each customer segment"
	Channels	"Value propositions are delivered to customers through communication, distribution, and sales"
Infrastructure management	Key resources	"Key resources are the assets required to offer and deliver the previously described elements..."
	Key activities	"...By performing a number of key activities"
	Key partners	"Some activities are outsourced and some resources are acquired outside the enterprise"
Financial aspects	Revenue streams	"Revenue streams result from value propositions successfully offered to customers"
	Cost structure	"The business model elements result in the cost structure"

Source: 'Adapted from Osterwalder & Pigneur, 2010, p. 16-17'

2.4.2 The reverse supply chain

Closed-loop business models can be achieved with the development of a closed-loop supply chain. Closed-loop supply chains (CLSC) are explicitly designed and managed to consider both the traditional forward oriented supply chain, and its reverse, the reverse supply chain (Coyle et al., 2016). In other words, the flow of materials in the traditional forward flow, from suppliers to the end consumers, and then back again from end-users to manufacturers (Sinha et al., 2016²).

The management of CLSCs is defined as the "design, control and operations of a system to maximize value creation over the entire lifecycle of a product with dynamic recovery of value from different types of volumes of returns over time (Oh & Jeong, 2014). Reverse logistics (RL) is the fundamental part of that process, which involves sending new or used products "back upstream" so they may be repaired, reused, refurbished, resold, recycled, scrapped or salvaged (Sinha et al., 2016¹).

The reverse supply chain is thought to enable the reduction of environmental degradation with the promotion of environmentally sound practices (e.g. recycling, reuse, remanufacturing, reconditioning and refurbishing) while also recapturing value or creating new value with the development of new production networks that create new markets (Beh et al., 2016). As identified by Hvass (2014), other benefits include "profitability through cost minimization, access to new customer segments and increased revenues" is possible (p. 425). Whereas, Álvares-Gil et al. (2007), point out that even if immediate profit is unable to be generated, other intangible benefits like corporate image, future anticipation of changes to legislation or policy, and the creation of a competitive advantage can be achieved with reverse logistic activities.

A handful of authors have identified several unique and potentially problematic characteristics associated with a reverse supply chain and its logistics (Strähle & Philipsen, 2017; Tibben-Lembke & Rogers, 2002; Venkatesh, 2010; Zheng & Fu, 2016). These characteristics are considered to be:

- Difficult to forecast: challenges surround not only predicting customer demand, but also the availability of products to be resold, thus indicating reverse logistics is largely a “reactive” system.
- Many to one consolidation: in contrast to forward logistics, reverse logistics operationalises products be transported from many locations to a single location.
- Variations in product quality: products can be returned during any number of its lifecycle stages, and in non-uniform conditions and degrees of quality.
- Lack of transparency in costs: costs associated with reverse logistics and processes are less clear and are more difficult to standardize.

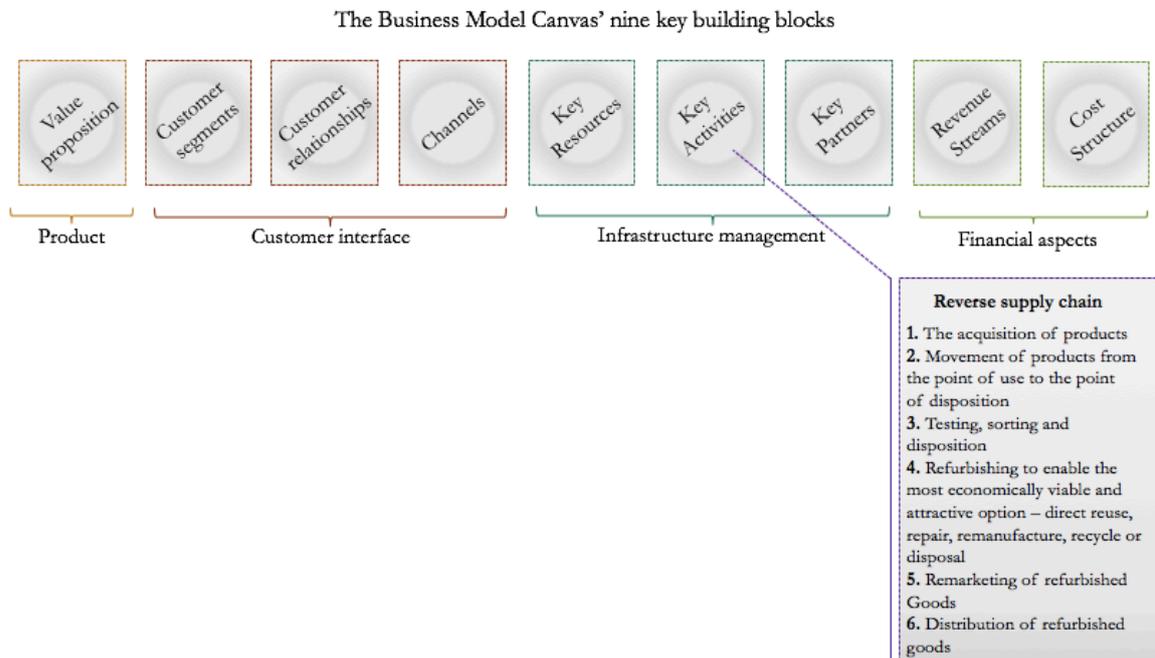
Other possible challenges include significant upfront investments, the development of new competences and processes, unpredictability in product return and its quality, lack of knowledge about best practices, low consumer awareness, and limitation of equipment and technology (Hvass, 2014; Sinha et al., 2016¹; Strähle & Philipsen, 2017). Hvass (2014), points out that there is no legislative standard or industry support for companies to develop reverse logistics systems, so companies are having to go at it alone. For example, those companies with a strong global presence and complex distribution incur obvious challenges with the creation of an efficient take-back and redistribution program (Hvass, 2014).

Sinha et al., (2016)² on the other hand identify specific challenges for the textile industry. They point out some of the pre-existing issues with the global supply chains, their lack of transparency, and certain ambiguities for some materials and their possible handling and treatment in the reverse supply chains. For example, issues with blended fibers, and garments containing multiple types of fabric remain problematic with unclear solutions, even with the development of a reverse supply chain. Whereas, the management of certain components after separation poses certain questions. Such as, what is to be done with certain components liked used zippers and buttons? With the proclivity for complex networks and supply chains in fashion/textile supply chains, indicates very diverse scenarios for global, regional, and local loops. Whereas, Beh et al. (2016) makes note of the fact that since “the classic recycling of material, which is possible in the manufacturing sector is less feasible and economical for apparel and fashion retailer” has resulted in the “classic reverse logistics and closed-loop supply chains... is less commom” (p. 260).

Yet, despite these potential uncertainties and challenges important activities have been identified as central to a reverse supply chain – also used to guide the mapping of EF Renew’s reverse supply chain, these include: “ 1) the acquisition of used products; 2) movement of products from the point of use to the point of disposition; 3) testing, sorting and disposition to determine the product’s actual condition and to decide the most economically viable reuse option; 4) refurbishing to enable the most economically viable and attractive option from one of the following – direct reuse, repair, remanufacture, recycle or disposal; 5) remarketing of refurbished goods; 6) distribution of refurbished goods” (Sinha et al., 2016, p. 13).

Whereas, for textile products specifically Sinha et al. (2016) and Strähle & Philipsen (2017), have identified several recovery options that also offer opportunities for additional value generation, including: Repair and reuse: return of used products into a new use phase after minor repairs and cleaning; Refurbishing: disassembly to the module level, including the inspection and replacement of broken modules, and the opportunity to increase value to a specified level; Remanufacturing: complete disassembly of a product to the component level, extensive inspection, replacement of broken or outdated parts, and the opportunity to bring products back to the highest quality standards; Recycling: reuse of materials from used products.

Figure 2-1. Depiction of the analytical framework



Source: 'Own source'

3 Methods

This thesis research contributes to an emerging, yet growing body of academic literature exploring brand or retailer initiated and vertically integrated post-consumer take-back programs in the fashion/apparel industry. In this particular study, a single fashion brand and retailer will be explored from the perspective of its business model and reverse supply chain.

3.1 A case study

According to Dul & Hak (2007), “A case study is a study in which 1) one case (single case study) or a small number of cases (comparative case study) in their real life context are selected, and 2) scores obtained from these cases are analysed in a qualitative manner” (p. 4). Case studies are considered a very useful research design when little is known about the situation under study (Kumar, 2011). Since vertically integrated clothing take-back programs, such as EF Renew remain in their nascent phase with few examples across the fashion industry at present, an inductive, exploratory, and practice-oriented case study was considered the best methods for this research.

Table 3-1. ‘Research methods explained’

<p>Inductive: A bottom-up approach, that works from specific observations to more general concepts and theories (Bellamy, 2011).</p>	<p>This study aims to develop a narrative, and general understanding about an emerging business model in the fashion/apparel industry, which is constructed with the insights of key actors and related stakeholders.</p>
<p>Exploratory: “...when a study is undertaken with the objective either to explore an area where little is known or to investigate the possibilities of undertaking a particular research study” (Kumar, 2005, p. 385).</p>	<p>Only a handful of examples of this emerging business model, and operationalisation of closed-loop production systems in the fashion/apparel industry exist. Likewise, research investigating these examples also remain limited. This research aims to contribute to the exploration of this new phenomenon.</p>
<p>Practice-oriented: “research that is aimed at contributing to the knowledge of specific practitioners responsible for a specific practice” (Dul & Hak, 2007, p. 30).</p>	<p>This ultimate objective of this research is to provide fashion/apparel brands and retailers with first-hand, and best-case examples for how to develop an extended producer responsibility, clothing take-back program.</p>

Source: ‘Own source’

“Where others see waste we see possibility”

(Fisher Found – Our Story, 2017)

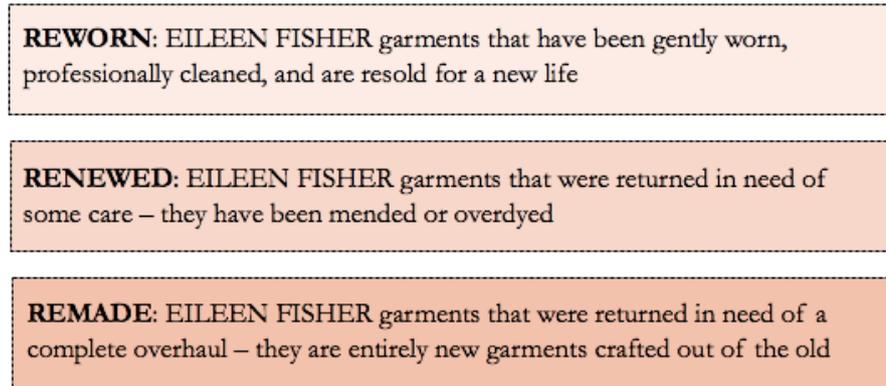
3.1.1 The case of EILEEN FISHER Inc.

In 2013, Eileen Fisher, a clothing brand and retailer headquartered in the US, ran a landmark campaign with the tagline “We’d like our clothes back now – thanks very much” (Green Eileen, 2013). The customer response was tremendous, with garments spanning the lifetime of the brand being returned en masse. This marked the official beginning of a new venture for the company – a formal clothing take-back program and secondhand retail concept. What this indicated is that Eileen Fisher had committed to buy-back their own branded items (e.g. garments, shoes, accessories) in the form of a \$5 “Recycle Rewards Card” per piece (Our Story, 2017). What started as a means to fund the EF Community Foundation, is now a national program and newest business venture to compliment their already robust social and environmental sustainability strategy. Eileen Fisher Renew (EF Renew), as the program is known today, is enabling EILEEN FISHER Inc., to “preserve the value of their [sic] clothes at every stage, in any condition” (Our Story, 2017), with the ultimate goal of making “waste a thing of the past” (Vision 2020, 2017).

One aspect that makes this case unique and of distinct pedagogical interest, is that they make no discretions to what pieces they will buy back. Meaning that *any* Eileen Fisher labeled item in any condition is eligible for the \$5 voucher upon its return. At the same time, they have developed multiple in-house treatment pathways and competencies to manage garments in varying conditions and various lifecycle stages. The items that are brought back into the possession of the company have three fates – to become Reworn, Renewed, or Remade, which is detailed in *Figure 1-3* below. Alternatively, they choose to donate only a small number of pieces to chosen charities that locally support women and girls’ causes, while they have chosen to keep and store all other pieces that don’t have an immediate and apparent use (Participant 3). Secondly, as detailed above, only a few vertically integrated, closed-loop clothing take-back programs exist across the fashion industry at present. Thirdly, it is an exemplary case having fully embraced the opportunity of incorporating circular thinking and a full lifecycle approach into their operations.

However, despite their leadership as industry pioneers an in depth exploration of their take back system, EF Renew, is lacking. While, previous academic research on this program has taken place, such as those mentioned above in the section titled **Previous Research**, it focuses on other aspects of the company, or has provided only a cursory analysis of EF Renew. Due to the emerging nature of this field, as well as a limited availability of comprehensive analysis of such cases, further exploration of the case of EF Renew is warranted.

Figure 3-1. 'Description of Reworn-Renewed-Remade'



Source: 'Adapted from FisherFound.com'

About the company

Eileen Fisher, founded in New York City in 1984, is a women's clothing brand and retailer that caters to the demographic of women aged 40+ (Moore, 2016). They are considered an industry leader when it comes to the holistic integration of Corporate Social Responsibility practices (B Corp – EILEEN FISHER, Inc.; Moore, 2016). They have fully embraced the notion of "business as a movement" where it can act as positive change agents within society (Business as a movement, 2017). The company is privately held, 40% employee owned, and a certified B Corp company (Business as a Movement, 2017; Informant 9).

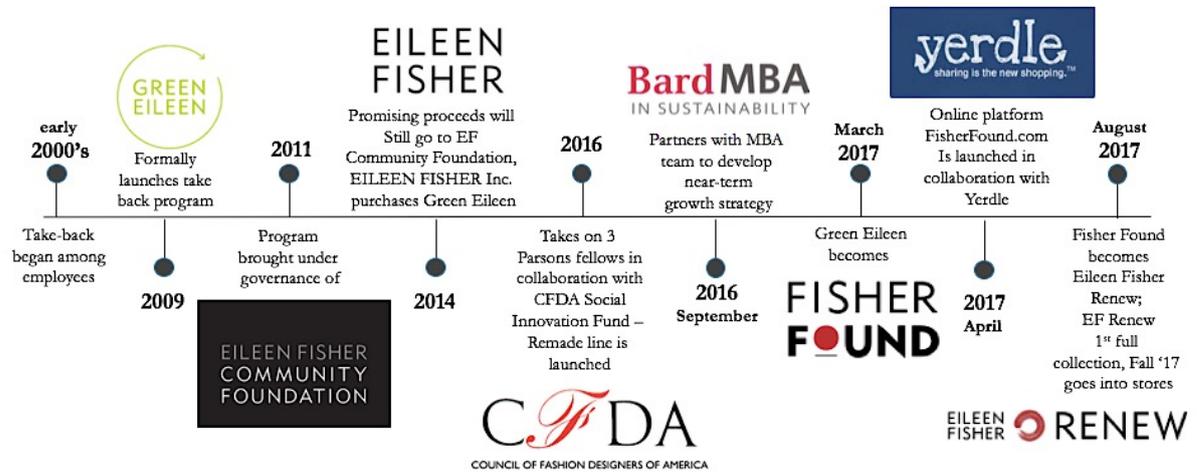
A large part of their garments are made using organic materials, and they continually work to improve their dye and production processes (Moore, 2016). They are committed to creating an ethical supply chain, promote fair trade projects and US based manufacturing, foster sustainable values in their company and greater community, and support and fund women's and girl's leadership and empowerment programs (Moore, 2016; Social Consciousness – What we do, 2017).

The company mission embraces "simplicity, sustainability, and great design (Our Brand, 2017). They aim to provide products that "delight the spirit and simplify life" (Our Mission, 2017). Each collection is designed to be modular, meaning they are intended to be mixed and matched throughout the year and with pieces from past and future collections (Welch, 2010). Likewise, they promote sustainable consumption with their #LessByDesign "System" collection, which consists of 8 key pieces, that work collectively or with most other pieces in a woman's closet (The System, 2017).

Today, Eileen Fisher, is headquartered in Irvington, NY. Considered a large enterprise (EUROSTAT, 2016), they employ approximately 1300 employees. They maintain a total of 65 stores located primarily in the US, with 3 stores in Canada and 3 in the UK (LinkedIn – EILEEN FISHER, Inc.). Additionally, Eileen Fisher branded clothing is sold through upscale department stores such as Nordstrom, Saks Fifth Avenue, and Neiman Marcus, as well as 400 other specialty stores across the US (D&B Hoovers, 2017; LinkedIn – EILEEN FISHER, Inc). Currently, the estimated annual turnover of the company is \$450 million (C. Tedrow, email, August 1, 2017).

The story of Eileen Fisher Renew

Figure 3-2. 'History of Eileen Fisher Renew' – Source: 'Adapted from Brundrett et al., 2017'



In the early 2000s Eileen Fisher launched an informal take-back program amongst its employees to help them clear their closets of EF garments they had grown tired of but still valued enough to not discard outright. These items were then sold in the EF Lab Store in Irvington, New York (Brundrett et al., 2017). In 2009, the program was formally launched as Green Eileen and came under the governance of the Eileen Fisher Community Foundation as a means to fund its efforts (Brundrett et al., 2017). As of 2013, EILEEN FISHER, Inc. purchased Green Eileen from the foundation, yet promised to continue funding women and girls' empowerment initiatives with its direct profits (Brundrett et al., 2017). In 2016, in collaboration with The Council of Fashion Designers of America's Social Innovators Fund, three recent Parsons' graduates came on board to help develop and prototype a commercially viable way to up-cycle damaged pieces into new marketable garments (Brundrett et al., 2017). In the same year, a group of Bard MBA in Sustainability consulting group participated in a project (September 2016 – May 2017) with the goal of creating operational, marketing and financial recommendations, as well as a near-term growth strategy for, the then, Green Eileen (Brundrett et al., 2017). In early 2017, Green Eileen was rebranded as Fisher Found, intended to target a younger customer, while around the same time they partnered with Yerdle to officially launch their e-commerce site (Brundrett et al., 2017). Finally, as of August 2017 it was determined Fisher Found, as a name, was not resonating with the overall company branding and the program was once again renamed – this time more closely aligned to the mainline branding as Eileen Fisher Renew.

Today, EF Renew continues to be in its nascent phase, but they are actively growing and expanding year over year. Its operations exist primarily in Seattle, WA and Irvington, NY, where the Green Eileen Recycling Centers (GERCs) are also located. Irvington, NY is also the site of their "Tiny Factory," which houses their EF Renew remanufacturing operations. EF Renew products can be found at all Eileen Fisher company stores (13 total); the Eileen Fisher Lab store and dedicated EF Renew stores in Irvington, NY; the dedicated EF Renew store in Seattle, WA; and online at eileenfisherrenew.com (Brundrett et al., 2017). These sale channels will be discussed further in the upcoming *Findings* section.

Previously, EF Renew operated purely as its own entity, maintaining a core team for its product development, operations, marketing, and financial management – with only ancillary

support from EILEEN FISHER Inc. who provides internal liaisons in the areas of brand development, communications, core concepts, merchandising, and internal communications (Brundrett et al., 2017). However, at this time EF Renew and EF have sought to adopt more cross-functional teams, and operational feedback loops, while also more closely aligning the two distinct, yet aesthetically comparable product lines (C. Tedrow, email, August 1, 2017).

Bard MBA project findings

The findings from the Bard case study, due to its timely delivery and thorough analysis of all aspects of the EF Renew business not only provides a good starting off point for this research, but enriches its findings as well. The development of a forthcoming growth strategy for the company yielded a number of interesting and relevant results for not only this case, but for the growth potential of the post-consumer retail concept as a whole.

Industry trends point to EF Renew having a distinct opportunity positioned at the nexus of sustainability, resale, and unique customer experience (Brundrett et al., 2017). EF Renew has been identified as being distinguishable and demonstrating a competitive advantage from other circular apparel programs by means of their:

- Complete ‘ecosystem’ with multiple product innovations
- Cycling of materials at their highest value
- Direct consumer sales
- Vertical integration of all processes
- National presence
- Omnichannel experiences and sales opportunities

(Brundrett et al., 2017)

EF Renew activities were found to also be complementary to EILEEN FISHER Inc.’s overall strategic objectives and Vision 2020 Riverbanks sustainability goals. Most notably, the elimination of waste, the use of eco-preferred materials, and the reduction of GHG, water, and chemical impacts (Brundrett et al., 2017). Furthermore, EFR operations are directly contributing to positive social impacts with the creation of local employment and the provision of living-wage production jobs (Brundrett et al., 2017).

Since its formal launch in 2009, the program has taken back over 750,000 garments and sold approximately 300,000 (Brundrett et al., 2017). EF Renew sales have continued to demonstrate growth at 40% year-over-year since 2013, and reached a \$3 million as of 2016 (Brundrett et al., 2017). Impressively, the projected growth of the program identifies the potential to capture 20% of the \$45 million Eileen Fisher resale market, over the next 5 years (Brundrett et al., 2017).

3.2 Primary data collection

Data collection is primarily achieved through semi-structured, one-to-one interviews conducted via Skype. Interview participants included employees working in various positions within EF Renew or EILEEN FISHER, Inc; and outside stakeholders and experts that are personally familiar with the program, having worked with or researched it, and/or are familiar with textile waste issues and textile collection and reuse. that are familiar with the case also acted as key informants. These outside stakeholders are considered to contextualise the case and provide an objective and holistic perspective about the program, as well as, provide key insights about industry trends.

All informants were found via LinkedIn or direct phone calls. The primary company contact, the Facilitating Manager at EF Renew also acted as the liaison to all the subsequent company interviewees. Seeking to have an overview of all aspects of the program, individuals working in several key roles at EF Renew were selected and interviewed: the program Facilitating Manager, a Retail Manager, a Recycling Coordinator, and the Head Remade Designer. Likewise, the Sustainability Leader from EILEEN FISHER, Inc., was also interviewed (group interview). Outside stakeholders were selected based on two parameters – their familiarity with the program, and/or their familiarity with the industry and issues with textile waste. Ultimately, the interviewees included: A Circular Fashion Strategist from Circle Economy, a Bard MBA in sustainability consultant, a Patagonia Worn Wear repair technician, the Executive Director of the Secondary Materials and Recycled Textiles Association (SMART), and CBS business model innovation for circular economy researcher. Data was also collected from two individuals: CEO of the Trans-America Textile Recycling Inc., and a Manager from the Social Innovation & Entrepreneurship team at EILEEN FISHER, Inc. – who were unavailable to be interviewed, yet alternatively provided responses to a limited number of questions via email.

Due to the fact that all informants hold different positions at the company or maintain different levels and forms of expertise, the guiding questions for each interview were not uniform, but included similar, and re-occurring topics. For those who worked within the company this centered around: explaining their role; infrastructure and costs; operational aspects; key partnerships; customer feedback; brand positioning; cannibalisation; future growth goals/strategy; relationship to EF mainline; and their thoughts about challenges for other brands to develop similar programs. For outside experts and stakeholders, questions centered around: the perceived business opportunity and barriers and challenges for brands to develop such programs, public policy and partnerships, cannibalisation, the future of such programs, the industry need for such programs, the strengths and weaknesses of FF. The interview questions are provided in full in **Appendix I**.

Interview questions have been formulated with the upmost attention to detail. Kumar’s (2011) *Research Methodology* was referenced during the formulation of questions to ensure they were not biased, assuming, double-barreled, confusing, leading, or overly wordy. All interviews have been recorded and were later transcribed for analysis.

Table 3-2. ‘The “NOT” guidelines used to create interview questions’

Complicated	Overly wordy questions, with complicated language
Ambiguous	Questions that can be interpreted in various ways
Double-barreled	Questions within questions
Leading	Questions that lead or suggest the respondent to answer in a certain way
Presumptive	Assumes a respondent is a certain way or has certain beliefs

Source: ‘Adapted from Kumar (2011)’

In addition to semi-structured interviews, data collection also consists of secondary sources. These secondary sources center around information from EILEEN FISHER, Inc. and EF Renew websites and relevant company documents made available via the primary company contact person. This information is considered to yield a more holistic understanding of the company, its values, mission, goals, operations, and outward facing branding and marketing.

Lastly, in mid-August an on-site visit by the researcher to EILEEN FISHER, Inc.’s main headquarter in Irvington, NY took place. This aspect of data collection provides the chance to observe the operations and meet staff members of EF Renew firsthand, accompanied with a

tour of their recycling center; sorting, storage and re-manufacturing facilities (aka “The Tiny Factory”); and resale outlets EF LAB and Warehouse stores.

3.3 Primary data analysis

Firstly, since a semi-structured interview method was used, the questions that did not meet the above criteria outlined by Kumar (2011) were omitted along with their subsequent responses from further analysis. The data analysis then takes place in two phases. Firstly, the content is manually color coded, using pre-set codes. These pre-set codes can be found listed in the two tables below and correspond to: 1. The fields of the Business Model Canvas, as conceived by Osterwalder & Pigneur (2010); 2. Reverse supply chain activities as presented by Sinha et al. (2016). The preliminary codes are then reexamined to determine their “goodness of fit” with the pre-defined codes, will be organised according to the nine key building blocks that make up the BMC with the mapped reverse supply chain activities being included in the **key activities** section.

Table 3-3. ‘Business model canvas pre-set codes’ – Source: ‘Adapted from Osterwalder, 2004; 2005’

Value propositions	The bundle of products and services that create value
Customer segments	All the people or organisations for which they are creating value, including users and paying customers
Customer relationships	Outline the type of relationships being established with customers
Channels	The touchpoints of interaction with customers, and how value is delivered to customers
Key resources	Indispensable key assets, unique to specific business model
Key activities	What is needed to conduct key objectives of the business model?
Key partners	Who helps to leverage business model?
Revenue streams	How and through which pricing mechanisms the business model is capturing value?
Cost structure	Business’ major cost drivers

Table 3-4. ‘Reverse supply chain activities’ – Source: ‘Adapted from Sinha et al., 2016²’

Step 1	Acquisition of used products
Step 2	Movement of products from the point of use to the point of disposition
Step 3	Testing, sorting and disposition to determine the product’s actual condition and to decide the most economically viable reuse option
Step 4	Refurbishing to enable the most economically viable and attractive option from one of the following: direct reuse, repair, remanufacture, recycle or disposal
Step 5	Remarketing of refurbished goods
Step 6	Distribution of refurbished goods

3.4 Reliability and validity

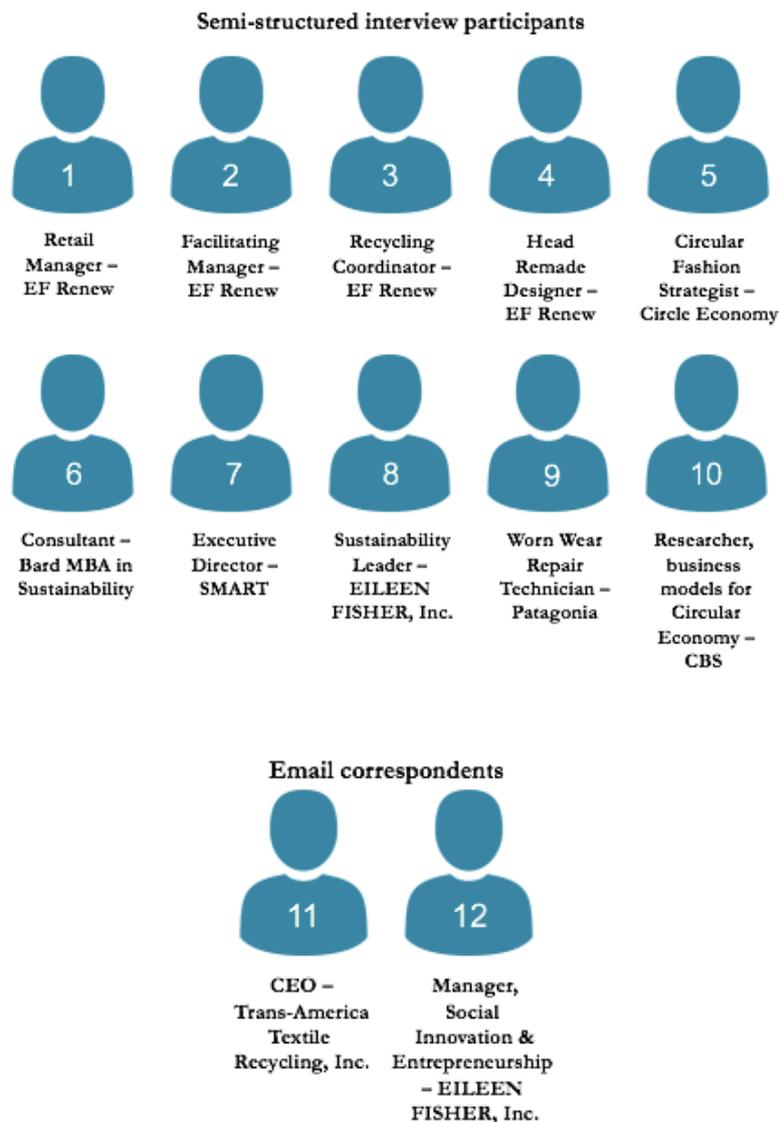
The research design sought to establish reliability, firstly by referencing the OWL Purdue writing lab (2017), and Kumar's (2011) *Research Methodology* during the formulation of questions to ensure they were not biased, assuming, double-barreled, confusing, leading, or overly wordy. Secondly, all interviews are recorded and transcribed for accurate later analysis. Lastly, all final questions and responses that could not uphold the above criteria were removed from final analysis.

Construct validity is considered with findings being discussed with multiple informants for appraisal and validation. Data triangulation from various informants has been used to test the consistency and soundness of descriptions, and to verify internal validity. Finally, external validity is sought with reference to the aforementioned previous and comparable studies, Hvass (2014) *Post-retail responsibility of garments—a fashion industry perspective*; Hvass (2015), *Business model innovation through second hand retailing: a fashion industry case*; and The Circle Economy report, *Service-Based Business Models & Circular Strategies for Textiles* (2015).

4 Findings

In this chapter, the findings collected through the semi-structured interviews will be organised corresponding to the nine key building blocks found in the BMC – value propositions, customer segments, customer relationships, channels, key resources, key activities, key partners, revenue streams, and cost structure. As is typical with a case study the findings will be presented in the form of a narrative (Peck, 2016). Whereas, departing from the standard analysis of a business model and BMC framework, the in-depth review of EF Renew’s reverse supply chain will be included in the **key activities** section of the canvas. Finally, additional findings that could not suitable to include in the BMC will be presented. Directly below the participants, their professional role, and reference number have been provided. These numbers are found throughout the section and correspond to remarks made or information they provided during interviews.

Figure 4-1. List of semi-structured interview participants ’



Source: ‘Own source’

4.1 Findings according to the Business Model Canvas

EF Renew's business model will be considered in accordance to Osterwalder's (2004) four pillars (product, customer interface, infrastructure management, and financial aspects), which make up the key areas that a business model, and its nine building blocks must address. These nine-building blocks (value proposition, customer segments, customer relationships, channels, key resources, key activities, key partnerships, revenue streams, and cost structure) will be presented individually according to each of their corresponding pillars. An edited version of the findings here is presented in the BMC template in **Appendix II**.

4.1.1 Product

Osterwalder (2004), describes a value proposition as products or services that are beneficial and value-adding, and that fulfill customer needs. The value propositions are also intended to correlate to a specific customer segment (Osterwalder, 2004). Likewise, a company's value proposition is considered a way for it to differentiate itself from its competitors (Osterwalder, 2004). A company's value proposition consists of five distinct stages: value creation, value purchase, value use, value renewal, and value transfer (Hvass, 2015; Osterwalder, 2004).

Value proposition

The value propositions offered at EF Renew locations, and with EF Renew value proposition centers around a handful of general themes: product attributes, financial benefits, experiential, value based, and educational. Reference to product attributes are re-current and considered central to the brand identity. EF is known for their high-quality materials and construction, timeless and trendless designs, and inherent beauty (Participants 1, 2, 4). These product characteristics come through as value propositions at the point of their return and during their subsequent lives as well. While, when garments are upcycled and remanufactured, they are considered unique, artisanal (Participants 2, 3, 8), and in certain instances, particularly in the case of felted goods that is crafted out of sweaters too damaged to be reworn, more like a work of art (Participant 2).

Financial benefits are provided to customer's directly with a \$5 Recycle Rewards Card that is provided for each piece upon their receipt. These rewards cards can then be used on future purchases at any EF or EF Renew location. Whereas, the lower retail price point is considered one of the main motivations for customers when shopping at EF Renew (Participant 1). The average retail price of Reworn goods \$50-\$75, and for Renewed goods \$60-\$150, which is significantly less than the average retail price for a new EF garment. The lower price point is thought to be "democratising the brand" and making it more accessible to more people (Participant 1).

The shopping experience is another value proposition that is associated with EF Renew. At the dedicated EF Renew locations, and LAB store a unique and "treasure hunt" experience is thought to exist (Participants 1, 6). Likewise, it is said to be a more interesting experience with the provision of more variety and styles, beyond that which is in fashion now and available in current collections (Participants 1, 10).

This program is also thought to offer customers a new and more profound way to interact with the company. Going beyond just the value of the products themselves, EF Renew allows customers to feel part of the greater mission of the company, which in the case of EF is their commitment to women's and girl's causes, and environmental sustainability (Participants 1, 2). It is considered a way for the customer to be more involved and participate in achieving in something that "really matters for the planet" (Participant 2). It was said, when a customer brings back her EF piece(s) they are "woven in to this larger story, and caring community"

(Informant 1). EF Renew is providing multiple points for the customer to experience the EF brand, and feel good about anywhere she interacts with it (Participant 1).

EF Renew has also taken a role of educating their customers. Whether it is about best practices for clothing care and maintenance, the provision of certain clothing care products that they offer in-store, or the environmental benefits of reusing clothing and keeping textiles out of landfill, every face-to-face interaction with a customer is considered an educational opportunity in one way or another (Participant 1). Likewise, a growing initiative at select locations is various workshop opportunities, in their “Makerspace,” that focus on skills such as mending, darning, various dyeing techniques, and other clothing/apparel construction and maintenance skills (Participant 1, personal observation).

“We are creating ways for customers to step in at multiple points... to experience the brand, and to engage in the environmental impact or social impact mission of the company” (Participant 1)

4.1.2 Customer interface

A company’s relationship with its customers is undoubtedly a very important aspect of business. Osterwalder (2004), describes this pillar as “the way a firm goes to market, how it actually reaches its customers and how it interacts with them” (p. 59). Osterwalder (2004) also points out that in order to serve customers better and reach new markets, companies often introduce new communication and distribution channels, or find new ways to forge relationships with their customer through mechanism such as personalization and trust.

Customer segments

While experience shows, that some cross-over customers (from EF mainline to EF Renew) exist, mainly influenced by the price point, many customers have been found to be new to the brand (Participant 1, 2, 6, 10). The program is thought to be “reaching a customer that has maybe not been accessible before” and those with “different motivations, different budgets, and different ways of buying” (Participants 5, 10). While the EF mainline, has generally appealed to a middle aged to older woman, EF Renew is found to be appealing to a more multi-generational customer base (Participants 1, 6). Most notably, its been viewed as an entry point to the brand for a younger, and more environmentally conscious consumer (Participants 1, 6).

Customer relationships

Relationship building has been viewed as a real opportunity at EF Renew. Beginning in 2013, when they did as “big ask” of their customers to start bringing back their unwanted EF items (Participant 2), not only was the response great, receiving “so many” clothes back, but the customer is thought to have then became more deeply involved with the program, and the overall brand (Participants 1, 2). The truth is they “couldn’t do this without them” which is something the company doesn’t forget (Participant 2). They are delving into a deeper relationship with the customer by involving them in the ethos of the company all while forging greater brand loyalty (Participants 1, 2, 10). One indicator of the strength of this relationship, and perhaps the program in general, is that the return rate on the Recycle Rewards Cards is approximately 93-97% (Participant 1). Also, it was said that “Eileen Fisher mainline customers love bringing their clothes back” (Participants 1, 2), and that “she happily gives them back for \$5 to support the programs that EF promotes and supports” (Participant 1).

Channels

EF Renew is said to provide an omnichannel experiences and sales opportunities (Participant 6). While, the program is currently strategizing its growth (Participants 1, 3, 6), a number of (albeit still limited in relation to its total potential market) points of contact between EF Renew products and their customers exist. At present, the Reworn and a limited amount of Remade products can be found in thirteen company store locations (outlet stores) across the country. The two dedicated EF Renew stores (one in Seattle, WA and one in Irvington, NY) and the EF LAB store also in Irvington, NY offer pieces from of all three product lines (Reworn, Renew, Remade). Also, they have been running a handful of pop-ups in different locations, which includes various EF mainline locations, flea markets, and in partnership with some of their high-end department store wholesale accounts (e.g. Nordstrom, and Neiman Marcus). Their online site, at present called FisherFound.com, was launched earlier this year. Whereas they plan to open another LAB store location in Brooklyn, NY later this year (Participants 1, 2). They also maintain a unique consignment like partnership with a non-profit in Ithaca, NY that teaches women how to sew, where the profits are shared.

4.1.3 Infrastructure management

This pillar pertains to *how* a company creates value. It centers around “what abilities are necessary to provide value propositions and maintain its customer interface” (Osterwalder, 2004, p. 79). It specifies a company’s capabilities, resources, partnership networks and how they interact with each other (Osterwalder, 2004).

Key resources

The primary resources needed for the development of the program have been people, space, and of course used clothes (Participants 2, 3). First, manpower is needed to sort through all of the products, and then during the renewing and remanufacturing processes, and resale channels. Today EF Renew has a total of 40 employees. Space has also been essential to store and maintain an inventory of used products (Participants 2, 3). However, this need is also largely influenced by the fact that, despite the lack of clear solutions to bring certain items back into a wear cycle, they have chosen to hold on to “everything” and not throw, or give anything away (Participants 1, 2, 3, 4). In a direct quote it was said, “there are future thinking people on my team...that thought well we don’t know what we are going to do with this yet but we think it is valuable enough to hold on to and figure it out” (Participant 2). Finally, while the supply has historically been a little “push and pull,” sometimes having too much and at others times not enough, it is now thought the program has reached a point where this appears to be a thing of the past (Participant 2).

Key activities

The key activities have been augmented here with an in-depth mapping of EF Renew’s reverse supply chain. Data has been collected and will be presented according to the reverse supply chain activities identified by Sinha et al., (2016). These include: “ 1) the acquisition of used products; 2) movements of products from the point of use to the point of disposition; 3) testing, sorting and disposition to determine the product’s actual condition and to decide the most economically viable reuse option; 4) refurbishing to enable the most economically viable and attractive option from one of the following – direct reuse, repair, remanufacture, recycle or disposal; 5) remarketing of refurbished goods; 6) distribution of refurbished goods” (p. 13). A visual schematic of EF Renew’s reverse supply chain has also been included in **Appendix III**.

1) Acquisition of used products

All products are brought, or sent back by the customer. They may bring any EF labelled product back to any of the EF mainline store, or any EF Renew location. Conversely, if

they choose they may mail in their items to one of the two GERC (Seattle, WA or Irvington, NY) dependent on which side (east or west) of the Mississippi River they live. Each piece is redeemable for a \$5 Recycle Rewards Card that can be used on a future purchase at any EF mainline or EF Renew location. Since the program formally began in 2009, they have received approximately 750,000 items (Participants 2, 6). It is estimated that a single customer may bring back, on average, 10 pieces at a single time (Participant 2).

2) Movement of products from point of use to point of disposition

For the products brought back in store, the location will keep all products until there is a box load, or enough to ship they send it to one of the two GERCs. Again, using the Mississippi River as the dividing line, products east of the river will do to the Irvington, NY location, and those west of will be shipped to the Seattle, WA site. It was said that the East Coast GERC processes approximately 600 units per day (Participants 2, 6). With the West Coast processing approximately 200 units per day (Participants 2, 6).

Conversely, for those that either do not live near an EF or EF Renew location, they can ship items to either of the aforementioned locations. At present, the cost of shipment is born on the customer. Yet there has been discussion if, alternatively, the company should provide shipping costs to customers, but no clear decision has been made regarding this possibility (Participant 2).

3) Testing, sorting, determination of condition and value

The two GERCs are not only the collection point for used product, but are also the site of sorting and storage, and in the case of Irvington, NY the site of their “Tiny Factory” or remanufacturing operations.

Incoming products are processed daily. They are counted, and then sorted based on condition into two overarching categories: that which is still valuable enough to be resold, aka Reworn, or if it is too stained, ripped, or damaged it will go into the Renew/Remade pile. Approximately, 50-60% of what is brought back is not in immediately wearable condition (Participants 1, 2).

Next, everything is sent out for laundering. When they come back from laundry the Reworn product is then separated out into 30 some odd categories, based on classification (e.g. pants, sweaters, dresses, etc.). They are then counted, recorded, and stored in laundry bags that are color coded for fall and spring.

In the case of the Remade products, after laundering they go through another, more fine tuned sort. They are sorted by style, color, size, and fiber type. Products are then recorded in a database and stored in clear bags. This second sort, is considered the most important step to the remanufacturing process, because the stock, and more information documented about that stock informs the design process (Participant 4).

Finally, they have committed themselves to producing zero waste. So not only are they saving damaged garments, even those for which not immediate solution exists, but they also save all tags, production scraps, and other various components (e.g. buttons, zippers, etc.) until a solution can be devised (Participants 2, 3, 4).

4) Reuse, repair, remanufacture, recycle, or disposal

At EF Renew has developed multiple treatment pathways, and product line innovations for the garments that are brought back. These various product lines, that are being born out of used clothing, will be detailed below.

Reworn – as briefly mentioned above, are those garments that are in nearly perfect EF original condition, and are immediately resellable. These items are only laundered, before they can be resold.

Seconds – is a product line at the Seattle location, that are garments in otherwise beautiful condition, with only a small imperfection.

Renewed – are garments that are in otherwise pristine condition except they are slightly flawed, with minimal stains, holes, or a broken zipper, etc. (Participant 2). These items are either mended, or dyed. Mending may be subtle and nearly invisible, like a button or something similar, or it may be a visible mend, like visible stitching in a zig-zagging pattern to repair a hole in a knit type of fabric (Participant 2). These visibly mended garments are considered to “tell a story... that these garments have been previously worn and now it has this beautiful mend, and if it has another hole in the future you can mend it again. So you are building this beautiful story with your own sweater” (Participant 4).

Secondly, dyeing is another technique that is frequently used to cover stains. Garments, may be overdye, that is with one uniform color. Or they are also being bundle dyed, which is a technique where you lay natural pigments on the piece, fold it, and then steam it. They refer to it as “hiding stains with more stains... or stains on stains” (Participants 2, 4).

Remade – products are those that are too damaged to be Reworn or Renewed. They are products that are deconstructed and used as raw materials to make new garments. Something that was noted is that they have found the various materials are damaging in the exact same way. They have found: wool either unravels, or has moth holes; linen is in perfect condition but has a sort of worn out look; and then cotton and silk are in near perfect condition but have staining.

The three primary techniques used are: felting, making new yardage, or creating patchwork (Participant 4). With felting they are essentially making new fabric out of sweaters that are too damaged (Participant 4). They are currently experimenting with all the possibilities of this technique, but it appears very promising. At present or in the near future, the products being produced from the felted fabric are coats, pillows, rugs, and wall hangings (Participants 2, 3, 4).

For other garments, where yardage is produced means that, the old garments are being used directly to produce new pieces. The designers have created metrics for each style. What this translates to, is that they have created a system and specific metric sheet for each new style. The metrics detail how many garments, of a particular size and of a particular style or cut, are needed to produce a new garment (Participant 4). Whereas patchwork, is a technique that uses small pieces of fabric or scraps to create new fabric. While none of these techniques are new, EF Renew is discovering new ways to utilise and develop these them so the can be used at scale (Participant 4).

5) Remarketing

Up until now, the marketing strategy has been relatively restrained. At present, they are working to define a clear growth strategy (Participants 2, 6). As a result, they are also exploring a marketing strategy (Participant 1). They have been toying with a few things. One, how to really position EF Renew in relation to the mainline. Secondly, they are trying to decide exactly how to communicate this story to their customers (Participant 6).

6) Final distribution

As mentioned previously, a number of final distribution channels exist. Reworn is sold in all of the company stores (outlet stores). Pop-ups, have been something they are playing with, and have taken place, or will take place in the future, at various EF locations, flea markets, and some of their wholesale accounts, most notably at Nordstrom or Neiman Marcus. Likewise, there is the EF LAB store in Irvington, NY, which sells products from all of the product lines, including pieces from the EF mainline, and their samples. The two EF Renew dedicated stores sell mostly Reworn products, but also have a small selection of Renewed garments. Then, as of earlier this year their products can be found online, at FisherFound.com. Finally, they maintain a partnership with a non-profit in Ithaca, NY, where the products are placed on consignment and the profits are then split to help fund the initiative.

Key partnerships

One of the key partnerships, or relationships, forged by EF Renew was with their own company (Participant 2). Not only is the program considered complimentary to EILEEN FISHER, Inc.'s sustainability strategy, but there has been the building of cross-functional teams and competencies in the departments of brand development, communications, core concepts, merchandising, and internal communications (Participants 6, 8). Likewise, the head Remade Designer works closely with the mainline product development team (e.g. technical designers, seamstresses, sample makers) (Participant 4).

Key partnerships outside of the company have also been really pivotal to the development and success of EF Renew. They have worked closely with outside business consultants, and others to build core competencies, such as The Lean Enterprise Institute and an industrial scale natural dying company, Botanical Colors. As of the last few months they have also partnered with a fiber-to-fiber recycling company in Barcelona, Spain to create new yardage out of one of their most popular yet most difficult to upcycle textiles, a silk jersey (Participant 4). This is an exciting prospect, and will likely result in their first new fabric made from their own damaged garments (Participant 4).

Additionally, they have looked to students as key partners. For one, working with the CFDA (Council of Fashion Designers of America), they brought three recently graduated Parsons fashion design school students on staff, for one year, to help develop and prototype commercially viable solutions to up-cycle damaged pieces into new marketable garments (Participants 2, 3, 4). Which resulted in the Renewed and Remade product lines. Similarly, as of late last year (2016), they collaborated with a team from Bard MBA in Sustainability program to create marketing, operational, and financial recommendations, and draft a forthcoming competitive near-term growth strategy for the program (Participants 2, 6).

Finally, the laundering of garments has required a close partnership with a local dry cleaner and laundering service (Participants 1, 3). However, with the ultimate goal to bring this process in-house a new partnership with TERSUS Solutions, a cleaning technology that uses liquid CO₂ in the place of water, may take place in the future (Participants 2, 6).

4.1.4 Financial aspects

The financial aspects are dependent on three of the aforementioned pillars (Osterwalder, 2004). Essentially this pillar focuses on the profit or loss mechanisms of a company, and subsequently its ability to survive (Osterwalder, 2004).

Revenue streams

The three primary product line innovations – Reworn, Renew, Remade – provide the program various, and consistent revenue streams. The Reworn garments, are those that come back in their same Eileen Fisher quality, and so are laundered and then resold. The processing of this garments in preparation for their resale is estimated to cost \$18 per unit, which is then sold for the retail price of between \$50-\$75. The Renewed garments also retail for an average of \$60-\$150 per unit. Whereas, the Remade garments are retailing on average for \$200. It is important to note, that the price of a new mainline EF garment, retails for roughly the same amount.

Additionally, working with a felting machine a number of new, extremely artisanal, and unique products will soon be going into stores (Participants 2, 3, 4). Thus far, a small run of felted coats, made out of sweaters too damaged to be effectively revitalised, have been created for

Fall '17, which will be available at a handful or select locations, and are expected to retail for around \$2000 a piece. Also, the felting technique has rendered exciting possibilities for an upcoming home décor line, which once again out of damaged sweaters, they will likely produce felted items such as wall hangings, pillows, and perhaps rugs.

Cost structure

As is typical, a large part of the costs incurred by EF Renew pertain to operational costs. So in other words, costs include things like laundry, shipping costs, storage and the physical collection centers (Participants 2, 3). Also, they are now staffing 40 employees.

Another, large cost, being paid out are the \$5 Recycle Rewards Cards. That at present, when considered in the context of the 750,000 garments bought back equates to a sizable amount of money. But, again the return rate on the cards, at between 93-97%, indicates revenues streaming back into the company that far exceed this cost (Participant 1).

Something, that is also unique to the cost structure in the case of EF Renew, is that having emerged as the core funding mechanism for the EF Community Foundation, the profits from the Reworn product line still go 100% to the foundation (Participants 1, 2, 6). However, when achievable the profits from the Renewed and Remade products will go back to fund the program (Participant 2).

4.2 Additional findings

This section includes findings that are not suitable to be included in either the BMC or the mapping of the reverse supply chain. Yet, they are considered information that is important to the overall case, and particularly for those in the industry that are interested in learning more about EF Renew or how to develop a similar program.

From those within the company

One of thing that came through in the interviews is the ethos and commitment of the company – not only their commitment to the program, but commitment to sustainability and reducing their environmental impacts. As stated by the EF Renew Facilitating Manager “The

whole company is 100% behind sustainability and the triple bottom line” (informant 2). Also echoed on part of the Manager of Social Innovation & Entrepreneurship at EILEEN FISHER Inc., that this program supports their EF Vision 2020 to become a 100% sustainable company by reducing material use impacts, particularly from textiles made out of natural fibers, “by keeping products out of landfill and exploring new technologies and processes to turn existing garments into new garments or textiles” (informant 12).

Likely resulting from this commitment to sustainability, there is also a commitment to experimentation, R&D, and organisational learning. This was evidenced in multiple conversations. There was recognition that the industry needs to “reinvent the wheel on this one” because “no one is really venturing to do this “and so they are “learning every step of the way” (Informant 4). They are developing new processes and exploring how to utilise ancient techniques (e.g. felting, patchwork, bundle dyeing) at scale, which has been very “trial and error” (Informants 3, 4). Also, it was said that as part of the learning process they “hear everybody’s voice” (Informant 4). The sewers and sorters at the Tiny Factory were told “if you see something that you know we can make better, just tell us” (Informant 4). Also, they have been and continuing to store and stock garments, components, scraps, and materials for which they still have no solutions for, with the thought that eventually they will (Informants 1, 2, 3, 4). They are currently testing and experimenting with marketing and communication strategies, and exploring how to position EF Renew in relation to the EF mainline (Informants 1, 2, 6). They are committed to develop new ways to remake, market, and sell things, and want to inform and set an example for the industry.

Another important piece to point out is the uniqueness of Eileen Fisher as a brand, from a design and company perspective. As mentioned previously, they have specialised in timeless and trendless designs. In line with these qualities they also have recurrent styles and designs, some of which have been sold for 20 years or more (Informants 1, 2, 4). This indicates they get back a lot of “the same styles, the same size, the same colors” that is then used to create their inventory for remanufacturing (Informant 4). It was said “the brand can really relate well to being adapted to this...because of the way the clothes are designed to work over time” (Informant 1). Also, echoing this it was said that “its really been designed for take back since day one...because the designs are so minimal, there is a lot of room for us to play with fabric on her designs because also there aren’t many seams” (Informant 4).

From a company perspective they are also unique. For one they are a privately held company, with Eileen Fisher herself, often having final say (Informant 8). This leaner management structure, and absence of stakeholders does allow the company a certain degree of freedom to experiment (Informant 8).

Finally, with the consideration of how others can develop such programs, a few things were noted. For one, the Head Remade Designer at EF Renew (also echoed by the Recycling Coordinator) spoke to the benefits of a brand taking back their own garments, from an upcycling perspective. The remanufacturing process is much easier for a brand who is managing their own garments because they know what’s gone into those garments (Informants 3, 4). They know how they were constructed, and they are not having to handle clothes of all different patterns and colors, of all different cuts, of all different textiles (Informant 4).

From those outside of the company

A fairly unanimous sentiment, from those both within and outside EF Renew, is that this type of integrated, full lifecycle approach to post-consumer clothing management is not suited for all brands, and that it will look different for every brand (Informants 4, 5, 7, 9, 10). As it

stands now, this business model is best suited for brands with market maturity and whose products have a have a strong secondhand value (Informants 9, 10).

Likewise, with certain limitations for retail planning, the secondhand market looks different from the firsthand industry (Informant 10). This has lead to many retailers and brands fearful of trying something new (Informant 5). Other limitations identified is that business modeling at the end-of-life is lacking, and that many continue to view these types of programs more as communication and marketing tools (Informant 5).

With that said, only the value driven companies, who are motivated by environmental concern are participating with programs like this to this level of engagement at this time (Informants 9, 10). Also, it was identified that there is a need to develop repair and construction/deconstruction skills among fashion designers, as well as reinforce communication feedback loops among firstlife and secondlife design teams (Informant 9).

Finally, it was said that as of 5 years ago the end-of-life phase was seldom covered at conferences, but it is considered much better positioned today with more and more brands starting to act (Informant 10). However, there remains the need to educate consumers, and create policy and regulatory support for these types of programs (Informants 5, 7, 10). For example, a clear need for regulatory action that classifies textile products not as waste, but as a resources – such as that with plastics, paper and glass – is pivotal for enticing more brands to participate in these types of programs (Informants 5, 10).

5 Discussion and analysis

EF Renew can be classified in a number of ways. For one, it is an innovative business model, one that is “developing new ways to capture, create and deliver value” that “moves beyond more narrowly defined categories, such as product, service, and process innovation” (Pedersen et al., 2016; Preuss, 2011; Wells, 2008). Furthermore, it can also be considered an example of a radical business model innovation, because going beyond mere improvements to existing offerings without major changes in internal competences and external partner relationships, EF Renew is developing new types of offerings and is restructuring existing organisational attributes and stakeholder networks (Lindgren & Taran, 2011; Pedersen et al., 2016). This is demonstrated with their development of new processes (e.g. reverse supply chain logistics, sorting, remanufacturing/upcycling, and R&D); new competencies (e.g. bundle dyeing, felting, creating yardage, patchwork, making garments from garments); and new partnerships (e.g. Lean Enterprise Institute, fiber-to-fiber recycling company, CFDA trio, customers).

EF Renew can be considered a sustainable business model that is seeking to economically contribute to the company, while also contributing positively to society and the environment (Bocken et al. 2015). According to the sustainable business model archetypes presented by Bocken et al., (2014), EF Renew can be considered as an example of the “creating value from waste” archetype, with the reuse, repair and remanufacturing of used garments. Likewise, they can be considered as being driven by corporate citizenship (Álvarez-Gil et al., 2007; Hvass, 2014) with their demonstrated commitment to producing zero-waste, coupled with statements such as “The whole company is 100% behind sustainability and the triple bottom line” (Participant 2). What is also demonstrated by these commitments is that sustainability is deeply engrained in the ethos of EF Renew. Previous research points to this as being an example of the cultural characteristics (e.g. norms, values, behaviors, attitudes) necessary to develop and maintain a sustainable business model (Stubbs & Cocklin, 2008).

EF Renew is a closed-loop business model that takes back products from their customers and recovers added value by either reusing the entire product, or some of its components or parts (Guide & Van Wassenhove, 2009; Strähle & Philipson, 2017). It is an example of an integral closed-loop business model, where dedicated business units have been established for product recovery and a permanent inventory of products and recovered parts is maintained (Schenkel et al., 2015). Likewise, they have enabled the reduction of environmental degradation with the promotion of environmentally sound practices (e.g. recycling, reuse, remanufacturing, reconditioning and refurbishing) while they also recapture value and create new value with the development of new production networks that create new markets (Beh et al., 2016), with the development of multiple product lines, with varying retail prices.

So according to EF Renew’s business model, how are they creating, delivering, and capturing value? For one they are creating value, because they have successfully built an entirely new brand out of their used garments. They are creating value by having innovated multiple solutions for garments in every condition, and as a result created multiple product lines out of this stock of used items. They are creating value by developing in-house competencies and solutions to manage post-consumer clothing in a way that no one else in the industry is doing (Participant 4). Even though, they do not have remedies for everything that is coming back through their doors they are dedicated to finding solutions with the prospect of creating long-term value for the company. As is often referenced in the literature about closed-loop business models, and clothing take-back with reuse/resell platforms (Hvass, 2014; Strähle & Philipson, 2017; and Schenkel et al., 2015), they are accessing new markets and new customers with the resale of their products. They are also enabling the customer to participate in the mission driven aspects of the company, and allowing the customer to take part in doing something

that “really matters for the planet” (Participant 2).

They are delivering value, through omnichannel sales opportunities and experiences. EF Renew pieces can be found at EF Factory stores, which are essentially their outlet stores. There are two dedicated EF Renew stores, and a EF LAB store. They have been experimenting with different pop-up events, and partnerships with some of their wholesale accounts. They are delivering value to their community by supporting various women’s and girl’s causes, and by providing various workshop and educational opportunities to their customers. They are also providing well paying employment and benefits to their staff, and creating manufacturing jobs in the US.

The development of their reverse supply chain has enabled them to capture the secondlife value of their products. They are capturing this value that would have otherwise gone to others, or would have been wasted (Participant 9; Sinha et al., 2016²). They are also capturing value by accessing new customers, and by giving their pre-existing customers multiple entry points to the brand (Participant 1). Something that is occurring, which is also echoed in the previous literature (Hvass, 2014; Strähle & Philipsen, 2017), is customer loyalty is being created because they are providing multiple points for the customer to experience the brand, and feel good about anywhere she interacts with it (Participant 1). One indicator of this loyalty, is the the 93-97% return rate for their \$5 Recycle Rewards Cards (Participant 1).

5.1 With the creation, delivery and capturing of value as a central piece of any business model, what types of value are being generated with this business model in this particular case? (RQ 1)

As stated by Bocken et al., (2014), “Value creation is at the heart of any business model; businesses typically capture value by seizing new business opportunities, new markets and new revenue streams” (p. 43). Likewise, this sentiment is also echoed in the business model definition that is guiding this research, “(..) the rationale of how an organisation creates, delivers, and captures value” (Osterwalder & Pigneur, 2010, p. 14). The findings illustrate that value at EF Renew occurs in many ways and has many meanings. Likewise, supporting the research of Schenkel et al. (2015), the development of this particular closed-loop business model is also producing economic, environmental, social, customer and informational value. With this notion of value in mind, the upcoming discussion and analysis will center around the generation of value being created with EF Renew’s through their business model.

Economic value

The economic value created from the program can be considered noteworthy. Supporting findings from previous literature, EF Renew has achieved a closed-loop system that is capturing additional value from its products that would have otherwise been wasted (Strähle & Philipsen, 2017; Sinha et al., 2016²). While, to date the program has not been generating a profit that then goes back into the company this is resulting from the fact that the majority of the revenues are allocated to the EF Community Foundation, not as a result of their absence. Regardless of this, sales have continued to demonstrate growth at 40% year-over-year since 2013, and as of 2016 reached approximately \$3 million (Brundrett et al., 2017). Likewise, the high redemption rate of the \$5 Recycle Rewards Cards, at between 93-97%, can be an indicator of the success of the program and overall economic benefits for both EF and EF Renew. Furthermore, the future growth prospects paint an impressive picture, indicating the potential to capture 20% of EF \$45 million resale market, up from 2% today, over the course of the next 5 years (Brundrett et al., 2017).

There are a number of innovative product lines being generated out of the stock of used garments, that afford the EF Renew multiple streams of revenue generation and future potential for profit. Schenkel et al., (2015), notes that this type of approach to closed-loop business models, where product recovery and a permanent inventory are integral to the business, indicates a means to achieve long-term profits.

As prime examples for the possibility to achieve long-term profits, the Remade and forthcoming home décor lines offer the opportunity to produce pieces of both upcycled quality and value. For example, the felted coat part of the Fall '17 Collection (*figure 5-1*), made out of damaged sweaters are now retailing for an estimated \$2000. Whereas Remade garments in general are retailing for roughly the same price as new EF mainline pieces. Again, while knowing exactly what the future holds for EF Renew is impossible to predict, these sorts of developments are very promising from both the points of view of profit generation and the program's continued existence and its success. As, one informant stated about of the future prospective of the program "we have a good feeling it is going to work" (Participant 3).

Figure 5-1. Example of a Remade felted coat made out of damaged sweaters – Fall '17 collection'



Source: 'EileenFisher.com/renew – with kind permission from Facilitating Manager EF Renew'

Economic value is also being generated for the customer. For one, economic value is being provided directly to the customer when EF Renew acquires their used EF items, when they are given the \$5 Recycle Rewards Card per piece. Economic value is also provided with the product itself and its lower retail price at the time of purchase, with the provision of "clothes she knows and trusts, but at a lesser price" (informant 1). This lower retail price point is considered one of the main motivations for customers when shopping at EF Renew (informant 1). This finding echoes that of Guiot & Roux (2008) who also establish that the sale of secondhand clothing is considered economically advantageous for customers, with Xu et al., (2014) stating economical benefits are the principal motivating factor for customers to buy secondhand.

“The most sustainable thing you can do with a garment is to try and keep it a garment as it is for a long time. So right away we made the decision that we were not going to cut all the garments...only the really damaged ones.” (Participant 4)

Environmental value

From an environmental perspective, the value that is being created at EF Renew is manifold. In an obvious way, their decision to not discriminate against the pieces they will buy back during the acquisition phase – coupled with the fact that since the beginning of the program they have taken back approximately 750,000 items, of which an estimated 50-60% are not in immediately wearable condition – indicates a clear demonstration of textile waste diversion. Likewise, the prospective growth of the company, coupled with the fact that at present they are receiving only 2% of EF’s total production indicates this impact will only increase. Their expanding commitment to produce zero-waste, demonstrated with their saving and storage of all pieces brought back, in addition to all production scraps and materials, is also commendable and unique.

Secondly, once again their decision to create multiple product lines, is not only generating economic value with multiple revenue streams, but environmental value as well by cycling garments at their highest value for as long as possible. This activity supports one of the basic tenets of the CE, Principle 2, to circulate products, components, and materials at their highest utility at all times (Ellen MacArthur Foundation, 2015). It is also considered ideal from the perspective of the waste hierarchy with direct reuse and longer lifespans for textile products demonstrating the greatest energy and CO² equivalent savings (Cooper, 2010; Farrant, 2008; Fisher et al., 2011; Laitala, 2014; Morley et al., 2009).

Social value

EF Renew is also providing and creating social value. For one, they demonstrate a true, and on-going commitment to causes that support women and girls locally and globally. This is exemplified with their sustained relationship with the EF Community Foundation, and pledge for Reworn revenues to be transferred to the foundation as funding. It is also demonstrated in community outreach events such as the “Chop Challenge” in Seattle that engaged local artists to recreate goods out of used textiles.

When viewing positive social impacts from the point of local employment, EF Renew is again making a difference. At present, they locally employ 40 individuals. While, the real impact can still be viewed as relatively limited, their efforts are supporting local manufacturing jobs that providing a living wage, and benefits. Again, with the program’s growth prospects this impact will only grow. The provision of employment, and development of local infrastructure in the form of their “Tiny Factory” is concurrent with the emerging literature that closed-loop business models generate social value (Schenkel et al., 2015; Nikolaou et al., 2013; Sarkis et al., 2010).

Additionally, the role they have assumed as educators is also significant. The need to inform and educate consumers about the entire lifecycle of clothing has been acknowledged on several occasions, from both primary and secondary sources (Hvass, 2015; Strähle & Müller, 2017; Participants 1, 7). They have used the program as a platform to engage and educate the customer about the various impacts of the industry. Likewise, their workshops and “Makerspace” provides the opportunity to teach new repair, maintenance and clothing

construction techniques and skills to customers.

Customer value

Customer value is provided in multiple ways, and at multiple points. Consistent with Hvass, 2014; Strähle & Philipsen, 2017; and Schenkel et al., 2015, the EF Renew program has led to the acquisition of new customers and increased customer loyalty. For one, this loyalty is demonstrated with the high redemption rate of the \$5 Recycle Rewards Cards, at between 93-97%.

Perhaps an extension of loyalty, but another value being provided to customers is with this idea of engagement by enabling a more profound way for them to interact with the company. It is thought that when the customer brings in their used clothing they then also actively participating in the social and environmental mission of the company, and that they can feel like they are also doing something that “really matters for the planet” (Participant 2).

The lower price point is also considered something that is creating customer value. It is considered to be “democratising of the brand” and making it accessible to a whole new clientele, creating a new market for the company that did not exist before, correlating to previous studies that identified closed-loop business models resulting in the acquisition of new customers and markets (Hvass, 2014, 2015; Strähle & Philipsen, 2017; Beh et al., 2016).

Something else to be considered here is the way EF Renew provides customers with a unique shopping experience. It has been found that this unique shopping experience is something often created with the sale of secondhand clothing, and results from a combination of lower prices and the possibility to “treasure hunt” and find a bargain (Guiot & Roux, 2008). This can also be considered from the perspective of providing a competitive advantage with the provision of superior customer value as is often associated with sustainable business models (Lüdeke-Freund, 2009).

Informational value

The generation of informational value is found with the development of new processes and competencies central to the reverse supply chain activities. Informational feedback loops have been established among employees with the aim of constantly learning from mistakes and as a result improving processes where they happen to fall short. Likewise, informational feedback loops have been established between the Remade design team and the mainline design team, regarding different issues often pertaining to the construction of, or materials used for some garments. These findings also complement previous research (Schenkel et al., 2015) that found closed-loop systems offer the opportunity for learning and collecting information about how to improve product recovery (Mafakheri & Nasiri, 2013; Subramoniam et al., 2010), product design (Kocabasoglu et al., 2007; Talbot et al., 2007), customer contact (Jayaraman & Luo, 2007), and operational or supply chain processes (Östlin et al., 2008).

Key partnerships are also a means for EF Renew to create informational value. They have sought, and continue to seek outside experts to help develop and strategise the program, its business model, and operational aspects. These partnerships have helped them to develop key competencies vital to the success of the program. For example, the partnership that was forged between EF Renew and the “CFDA trio” who were tasked to find solutions for damaged garments and went on to develop the multiple product lines that are central to the program today. In general, EF Renew is committed to develop new ways to remake, market, and sell things, with the aim of informing and setting an example for the industry as well.

5.2 What are specific company characteristics that has enabled EF Renew to develop in the way it has? (RQ 2)

Beyond merely the development of a reverse supply chain, there are several other characteristics that are likely leading to the robustness of this program. One of the primary enabling forces to the development of EF Renew's fully closed-loop approach is related to their product characteristics. They are known for their timeless and trendless designs, and for the use of high quality materials. Echoing previous research, the presence of good quality products appears to be a prerequisite for fashion brands to develop take back programs with new resell/reuse channels (Fletcher & Grose, 2012; Hvass, 2015). High quality, durable products are considered important because for one these items are likely to have a strong aftermarket value for reuse, and secondly because value can be more readily salvaged or added with refurbishment or remanufacturing.

Secondly, as identified in interviews (Participants 9, 10) it is primarily the values driven companies that are engaging with product take back, and closed-loop production, and often times sustainability in general. Pedersen et al. (2016) found, in their survey of 492 Swedish fashion companies, that an organisations underlying values largely influence their ability to successfully transform their business model and their sustainability performance. Being demonstrated with their long-term commitments to sourcing sustainable materials, fair trade and ethical supply chain practices, and supporting women's and girl's causes (Moore, 2016; Social Consciousness – What we do, 2017); in addition to the development of this program and their commitment to cycling materials at their highest quality and producing zero-waste, makes clear EILEEN FISHER Inc., is a values driven company.

Another characteristic that is likely playing a role in how this program has been, and is being developed is that they are a company with market maturity. Market maturity was previously identified by Hvass (2015), as being an important company feature for those creating clothing take-back programs with reuse/resell channels. Market maturity enables not only brand recognition and a likely loyal customer base so products can be successfully resold, but also allows for there to be enough pre-existing stock to develop a full fledged secondary resale business (Participants 9, 10).

Finally, they are a privately held company that is 40% employee owned, and that primarily operates in a single market. The fact that they are privately held and largely employee owned indicates there is more collective decision making taking place about the direction of the company, and are less solely focused on profits. Whereas, with Eileen Fisher herself remaining the president of the company she is often the final say in big decisions (Participant 8). While EF Renew is currently available only in the US, EF also operates primarily in a single market, which has likely made the development of their reverse supply chain much more straightforward, with collection channels that can be more direct and geographically closer.

Lastly, they are a company that is committed to learning. They recognise that there are not solutions for all the problems they are trying to solve at present. With even fewer best case examples, of other companies that are taking back their own garments who then repair and remanufacture them in house while also upcycling their value, to learn from. But, they are dedicated to figuring it out, to develop new ways to remake, market, and sell things, and want to inform and set an example for the industry. They are "learning every step of the way" (Participant 4) through basic trial and error. Nevertheless, it has been identified, that this type of experimentation, trial and error, and organisational learning is part of the innovation process and is the only way to overcome uncertainty and discover new business models (Evans et al., 2016), and so it has to be done.

There was recognition that the industry needs to “reinvent the wheel on this one” because “no one is really venturing to do this “and so they are “learning every step of the way” (Participant 4). They are developing new processes and exploring how to utilise ancient techniques (e.g. felting, patchwork, bundle dyeing) at scale, which has been very “trial and error” (Participant 3, 4). Also, it was said that as part of the learning process they “hear everybody’s voice” (Participant 4). The sewers and sorters at the Tiny Factory were told “if you see something that you know we can make better, just tell us” (Participant 4). Also, they have been and continuing to store and stock garments, components, scraps, and materials for which they still have no solutions for, with the thought that eventually they will (Participants 1, 2, 3, 4). They are currently testing and experimenting with marketing and communication strategies, and exploring how to position EF Renew in relation to the EF mainline (Participants 1, 2, 6). They are committed to develop new ways to remake, market, and sell things, and want to inform and set an example for the industry.

6 Conclusion

EF Renew is considered an example of a large fashion brand and retailer that has vertically integrated a closed-loop business model as a subsidiary to their pre-existing business as a means to manage their post-consumer garments. This study supports much of the former research about the benefits of developing a closed-loop business model in general, and also specific to a brand or retailer within the fashion industry.

For one, EILEEN FISHER Inc., can be considered a premium fashion brand, whose products have high secondlife value, which makes them well adapted to this type of business model. Likewise, it is found that with the development of EF Renew's closed-loop business model and resell platform they are acquiring a broader range of customers while also strengthening the loyalty of existing customers. They are also accessing new markets and with the creation of multiple product lines are adding value to garments through reuse, repair, and remanufacturing.

They are an exemplar company for having successfully created a closed-loop, circular business model that aims to keep materials at their highest utility for as long as possible, and committing to the production of zero-waste. Also, they are demonstrating a complete dedication to not only environmental sustainability but social welfare.

They can be considered a learning organisation that is committed to R&D, developing new processes, and creating new standards for themselves and the industry as a whole. They are "reinventing the wheel" and learning every step of the way through the sometime painful and daunting task of basic trial and error. They have sought the help and guidance of outside experts to help them strategise and learn the competencies needed to develop this program. Yet, they currently remain in the start-up phase and are just now defining a clear future growth strategy and tactics to scale their operations.

They are also a unique company, which is likely enabling this program to grow and flourish in the way it is. First, their 100% commitment to sustainability, which unfortunately remains a rarity among large fashion brands, is likely positively influencing the development of this program. Secondly, they are a privately held company which enables more straightforward decision making to take place. Thirdly, despite being considered a large organisation they operate primarily in a single market, which makes the development of their reverse supply chain far less complicated and easier to manage.

One of the key takeaways from this study, which has also been confirmed in several of the interviews conducted during data collection, is that this type of program will look different for every brand and retailer. There is no "one size fits all" model that can work for everyone. Again, this type of vertically integrated, closed-loop, take back program with a resell platform is suitable for the companies that have high quality products that are durable and valuable enough to be resold. Likewise, due to large upfront investment costs to develop a program like EF Renew, at present this type of program is probably best suited for a large organisation that has access to financial capital.

Another takeaway that is considered valuable to highlight, is that there are also real advantages for brands to work with their own garments at the end of life. It was said, that the remanufacturing process is much easier for a brand who is managing their own garments because they know what's gone into those garments – they know the material, how its been constructed and how its been treated. In other words, programs like this enable the possibility

to circulate garments at their highest value through multiple wear cycles by easily allowing for repairs and remanufacturing.

Regardless, technological barriers to managing clothing at the end of life remain. At present, EF Renew still doesn't have clear solutions for garments with various textile types. Also, the solutions that they are implementing are limited to certain types of fibers, to certain styles and cuts, and those with certain types of damages. They are committed to finding solutions for all of these challenges, but this will require more time and additional R&D.

Within the emerging field of research pertaining to closed-loop business models in the fashion industry there are several interesting future research topics to be taken up. For one, with the analytical framework in this research leaving something to be desired, a future study that employs an analytical framework that is a bit more comprehensive than the standard BMC is recommended. One suggestion is the triple layered business model canvas presented by Joyce & Paquin (2016). This framework takes into consideration the social, environmental, and financial aspects of a business model, which would be particularly interesting to apply in a case such as this that has demonstrated the generation of multiple types of value. Likewise, the triple layered business model canvas would allow for an in-depth look at the environmental and social aspects of a program like this, which is lacking in the present literature.

Another business model framework that could be interesting to apply here is computer aided business model design (CABMD) approach. Since the standard BMC provides just a snapshot of a particular business model at a single point in time, this methodology allows for one to note and track evolutions of a business model, which for a business model that is in its nascent phase could be an interesting and useful approach.

Another aspect that would be relevant to investigate is from a technological perspective with an attempt to discover solutions to the current barriers that exist to the remanufacturing process. Solutions to issues such as what to do with blended fibers or garments made with multiple textile types, or how to address garments with many seams, will be necessary in order to scale programs like this. Furthermore, exploring the initial design phase (e.g. "Design for remanufacturing") in order to determine certain design elements that make a garment better suited for remanufacturing would be very interesting and useful to investigate.

Finally, the importance and current lack of policy and regulatory support has been established. Future research that explores possible policy packages, or how to incentivise more brands and retailers to participate in product take-back and resale remain important to explore. Likewise, policy initiatives that enable the easier development of reverse supply chains would be equally important to take up.

All you have to do is ask

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Appendix I

Participant 1

Who is the Fisher Found customer?

How do customers learn about Fisher Found and the opportunity to sell-back their used garments?

Do you find that the customer of Fisher Found and Eileen Fisher are the same?

How does a Fisher Found store compare to an Eileen Fisher store in terms of aesthetic? How does the retail experience differ, if at all?

What kind of marketing does Fisher Found run?

Beyond that provided on the Eileen Fisher website, is there any other type of education to customers provided?

Maintenance and use?

How are bought back items evaluated?

How do you manage varying quantity, styles, and sizes in your stock?

Do you see any trends in terms of the duration a garment is kept? For example, is the typical turnover 1-3 years or much more or much less?

Also, how likely is it that someone who drops something off turns around and picks up something new?

What is the general feedback from the customer?

Are you aware of plans to expand Fisher Found brick and mortar shops to more locations? If so, what does the screening process look like to determine if a particular location is the right market for this type of business model?

I saw on your website that some Eileen Fisher locations also offer reworn goods. How are they positioned in relation to the mainline products?

Participant 2

Can you explain what Reworn, Renewed, Remade, and Regenerated means to Fisher Found?

What did the roll out process look like?

What types of initial investments and infrastructure were needed?

How did the company change with the introduction and growth of Fisher Found, for example what were the number of new hires, or job positions created?

How does Fisher Found contribute to the economic performance of Eileen Fisher?

What does Fisher Found's cost structure look like?

How do you envision, or what is the growth goal and future perspectives for Fisher Found?

What has consumer feedback been?

How are customers informed about the program?

There are currently two brick and mortar shops, how did you choose these locations? What type of market/consumer analysis did you conduct, if any?

Are there any examples of external policies, stakeholders, or key partnerships that have been influential in the development of Fisher Found?

So, as an example, if I bring my clothes back for re-sell to Eileen Fisher what does that process look like?

So, if I was a clothing company, similar to Eileen Fisher in terms of size and turnover, what is your advice for how I can develop my direct re-selling business? Lessons learned, first steps, things to avoid...

Various renting and leasing schemes have been gathering a lot of attention right now, has Eileen Fisher considered expanding with a renting and leasing?

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Participant 3

Ask about need for clearance from upper management for some of the experimentation, pop-ups, etc - who is involved?

Overhead costs?

Talk about relationship with dry cleaners?

What do you think barriers for other companies wanting to start such a program will be?

What is your opinion about small brands that want to engage with this type of program?

Remanufacturing, at this point appears to be fairly unique to Eileen Fisher, can you speak to this process and the company's experience with it?

Donations -- what is typically donated and to who?

What backstock do you currently have?

In house dying, out house dying -- in house mending, outhouse mending -- what is the selection criteria for this?

"Chop" what is done with this?

Participant 4

Can you explain your role at Eileen Fisher?

How does the re-manufacturing design process differ from the traditional design process?

EF is known for their timeless and simple aesthetic, for brands that tend to be more trend focused with collections that change rather dramatically from season to season, how do you think re-manufacturing can work for them?

What is exciting about your job?

What is challenging about your job?

In an ideal world, what tools or technology would exist to help you in your work?

What opportunities do you think exist for brands to develop programs like Fisher Found?

What types of limitations exist to successfully upcycle something? Likewise, what do you think some challenges maybe for other brands to remanufacture their clothes?

How is remanufacturing being taken into account in the original design phase at EF?

Can you share with me a bit about costing? For example what are your general production costs and retail prices for re-made garments?

Participant 5

In general, and from an industry perspective what are the business opportunities for extended producer responsibility take back schemes?

From your perspective what are the main barriers for companies to develop such programs?

What type of partnerships or public sector support do you think is needed to scale and improve the development of these programs?

What is your professional opinion about the strengths and weaknesses of the Fisher Found program?

What do you think is important to learn from and understand about the Fisher Found program?

How do you think businesses engaging with re-sell programs can or should address the issue of cannibalization?

Participant 6

What methodology did you use for your research? And by chance is there a final report that you could share with me?

Can you explain why your team concluded Eileen Fisher is uniquely positioned in the market?

Can you go into the opportunities for growth at FF?

Can you go into the strategy to diversify the customer base, and the opportunities there?

Can you explain the lack of accounting and finance tools at FF?

Can you go into the Lean Principles before scaling, like mentioned in the slide deck?

You guys mention that the management should maintain a dual organizational structure to stay agile while integrating Fisher Found and Eileen Fisher, can you go into this a bit?

You guys mention re-selling some products in Eileen Fisher stores, but also various strategies to differentiate FF from the mainline... in general this seems a little tricky to achieve brand unity while also differentiating themselves how do you think companies can achieve this, this type of straddling two brand identities?

What are key takeaways that other companies can learn from?

In your opinion what are barriers for other companies to develop a program like Fisher Found?

In your opinion what are the strengths and weaknesses of programs like Fisher Found?

Participant 7

Can you explain a bit about your role and the work of SMART (Council for Textile Recycling)?

What type of collective action would you hope to see across the industry to address textile waste?

What do you think the role of programs, such as that at Eileen Fisher, will be to the future of textile waste management?

What are issues or barriers you see with programs like this?

How does, or do you see your organisation supporting programs like this?

Is there a need for any policy support for programs like this?

Do you think there is a real business opportunity for companies to engage in programs like this?

Participant 9

What do you know of the Fisher Found program? What do you think it's strengths are?

What is the value proposition of such initiatives?

What have barriers been to the success of the program? What are you stuck on that you would want help figuring out, if anything?

Why do you think more retailers and brands haven't started similar EPR programs?

In your opinion, what is the business opportunity for brands to run programs like this?

The potential for cannabilization?

What do you think the future holds for these types of initiatives?

What type of support or partnerships could help makes these programs more commonplace?

Participant 10

From your perspective what are the main barriers for companies to develop such programs?

What type of partnerships or public sector support do you think is needed to scale and improve the development of these programs?

Why do we not have more examples?

Do you think vertical integration of these types of programs is the best case scenario?

What do you think other industry experts want to learn from this case?

In general, and from an industry perspective what are the business opportunities for extended producer responsibility take back schemes?

What is coming through the literature is that a particular type of company is developing EPR programs (i.e., values driven, learning organisation), what would say about the company profile of the examples you have seen or studied?

What do you think how does the Filippa K program compare to Eileen Fisher's?

What do you think the future holds for these types of initiatives?

Appendix II

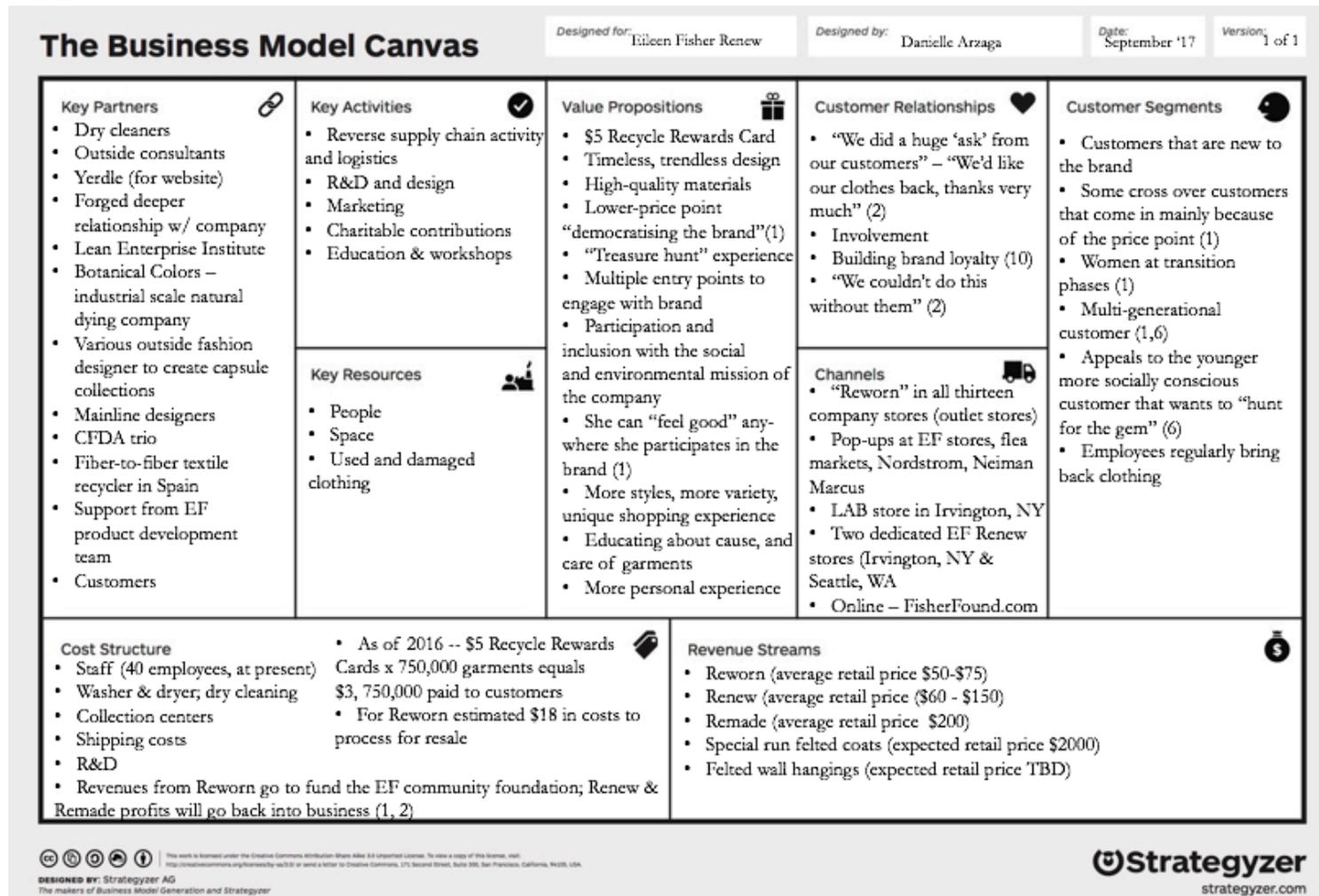


Figure 0-1. 'Business Model Canvas for EF Renew' – Source: Strategyzer, 2017

Appendix III

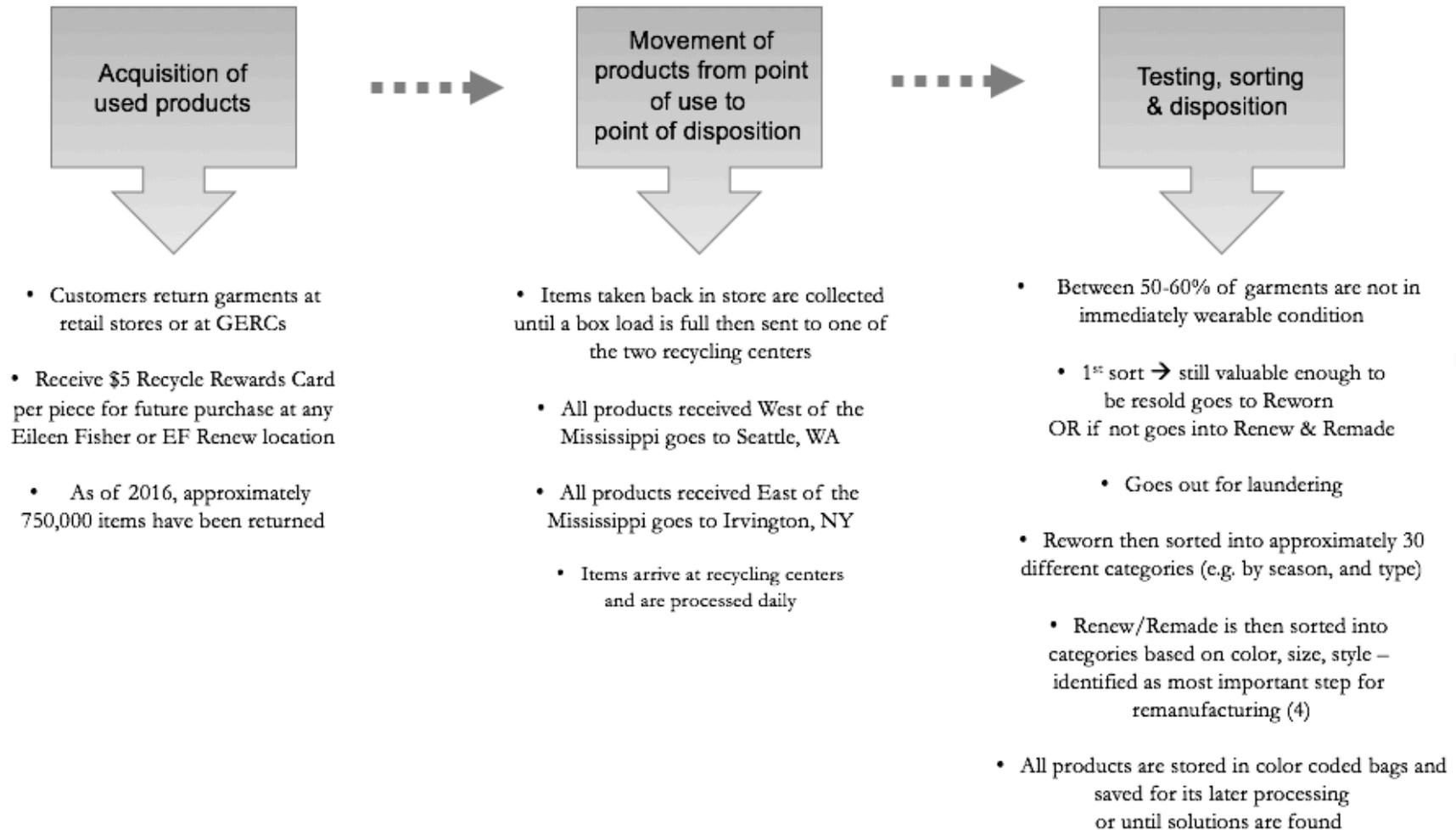


Figure 0-2. ‘Map of ER Renew’s reverse supply chain, Part 1’ – Source : ‘Own source’

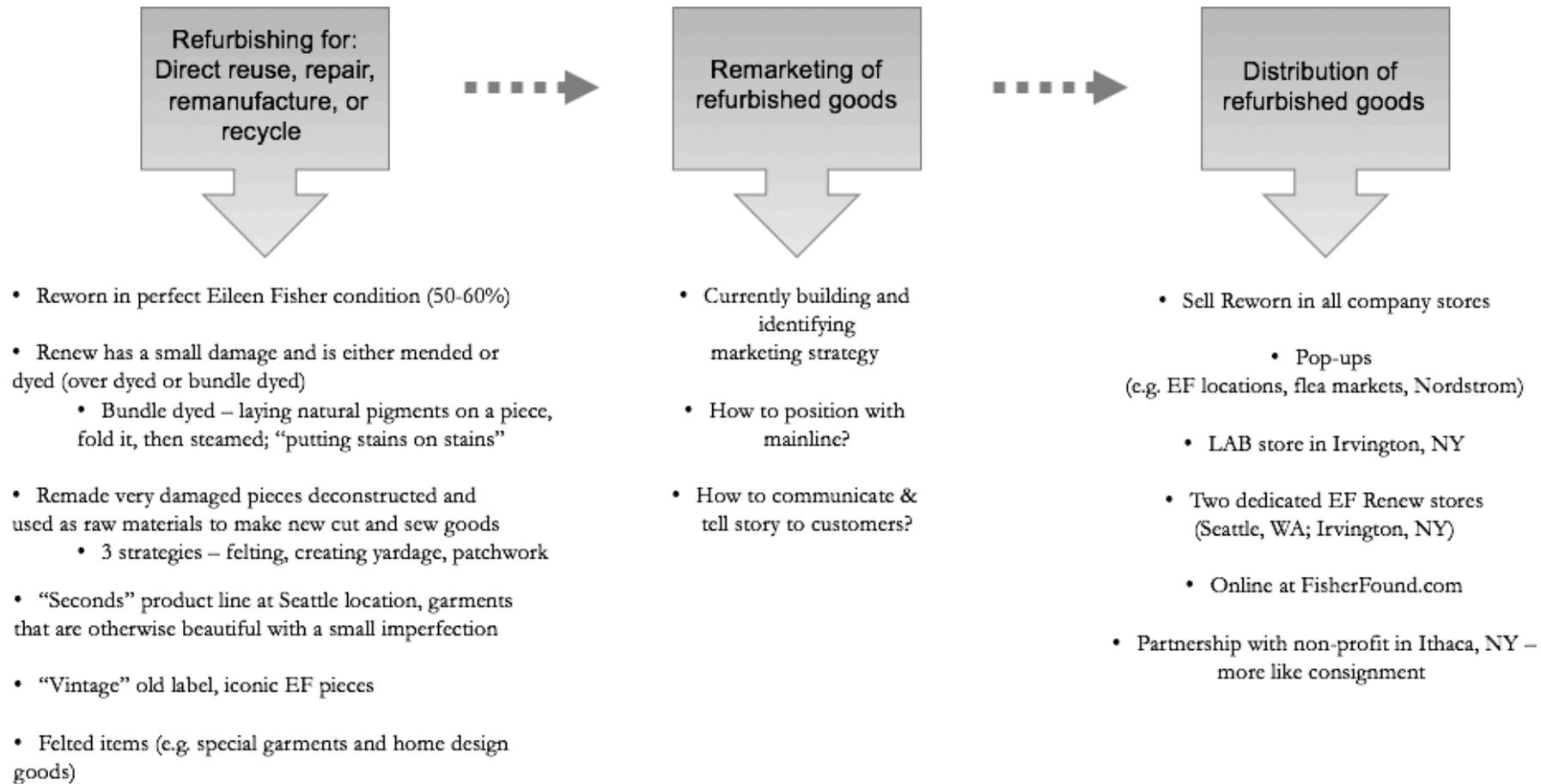


Figure 0-3. ‘Map of ER Renew’s reverse supply chain, Part 2’ – Source : ‘Own source’