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The Future of Fashion: Sustainability and circular Business Models

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SUMMARY

INTRODUCTION

This thesis, entitled *The Future of Fashion: Sustainability and Circular Business Model,* aims to address sustainable *retail* within the fashion industry.

Fashion, often regarded by theorists as intrinsically linked to change, has mainly been translated into a large number of short-term transitory trends with resource-intensive processes and increasingly shorter product life cycles.

According to prevailing linear production models based on “take, make, dispose” logics of resources and goods, current fashion industry processes have a negative impact on human health and well-being, progressively pushing the planetary capacity of the natural ecosystem towards collapse, and are therefore often considered antagonistic to sustainability.

On the contrary, it has been argued that fashion can be a key element in working towards more sustainable ways of life. Recent years have seen the rise of fashion design entrepreneurs among micro, small and medium-sized enterprises (MSMEs) who seek to challenge the “status quo” of their industry by developing alternative visions of fashion and business models that actively incorporate circular economy principles. These companies are often considered the 'creative engine' of the industry in general.

Fashion is clearly one of the most polluting industries in the world, accounting for an estimated 10% of global carbon emissions. Thanks to the recent rise of low-priced online retailers, consumers can access even more products while spending less. While this development has been presented as a great benefit to consumers, it has ended up decimating local retailers with sometimes serious effects on jobs, while encouraging over-consumption. Driven by this acceleration in the production and consumption of cheap, low-quality clothing, *fast fashion* business models are contributing to environmental damage while eroding the cultural value of fashion.

Sustainability and the concept of circular economy are two of the most important approaches in the fashion industry - a highly polluting sector - in order to be able to tackle what have now become real global challenges. These concepts mainly follow an environmental and economic perspective of sustainability.

The global fashion industry causes enormous environmental impact and disastrous social mismanagement in its supply chains. Various stakeholder groups, including consumers, non-governmental organisations (NGOs) and institutional investors, have lobbied major companies to encourage them to implement proper sustainability and risk management. Key factors for the implementation of circularity in the fashion industry include recycling and upcycling activities and vegan production principles.

The ability and capacity of companies to respond to external pressures and demands by creating sustainable value has become a key prerequisite for business success and for becoming a socially sustainable organisation.

The circular economy, as you will see, has the potential to significantly reduce resource use.

Thanks to the recent rise of low-price online retailers, consumers can access even more products while spending less. While this development has been presented as a great benefit to consumers, it has also decimated local retailers with sometimes serious effects on jobs, while encouraging excessive consumption. Driven by this accelerated production and consumption of cheap, low-quality clothing, 'fast fashion' business models are contributing to environmental damage while eroding the cultural value of fashion.

Fashion, often regarded by theorists as intrinsically linked to change, has mainly resulted in a large number of short-term transitory trends with resource-intensive processes and ever-shorter product life cycles. Following the dominant linear production models, based on 'take, make, dispose' logics of resources and goods, current fashion industry processes have a negative impact on human health and well-being, progressively pushing the planetary capacity of the natural ecosystem towards collapse and is therefore often considered antagonistic to sustainability. On the contrary, some scholars argue that fashion can be a key element in working towards more sustainable ways of life. Recent years have seen the rise of fashion design entrepreneurs among micro, small and medium-sized enterprises (SMEs) who seek to challenge the status quo of their industry by developing alternative visions of fashion and business models that actively incorporate circular economy principles. These SMEs are often considered the 'creative engine' of the industry at large.

Therefore, this issue has emerged as one of the most critical issues for retailers. Retailers' sustainability initiatives reduce the negative impact of products on people and the environment throughout the supply chain, which continues to be a major consumer demand. In addition to providing environmentally sustainable materials and packaging, consumers want to buy from companies that take a long-term view, focusing on the environmental and social impact of their supply chain activities.

Fashion retailers and academics have introduced fashion reuse as a strategy to make fashion retail sustainable. The main argument in favour of reuse is that it decreases the production of new garments, thus reducing the negative environmental impact. In practice, reuse occurs when a garment is used again.

Generally, research on fashion reuse has focused on conceptual frameworks, business characteristics and asset management methods. However, managerial issues are also important aspects and intra-organisational organisations, systems and processes are key factors for success. This may be difficult to achieve, as many actors need to be involved. Undeveloped and non-standardised processes within and between organisations are challenges that hinder efficient re-use processes.

Well, the management of fashion retail based on reuse is very complex. In this respect, as an example, ReTuna - a reuse-based shopping centre owned by the municipality of Eskilstuna, Sweden, opened in 2015 - will be analysed. ReTuna, in fact, is an example of the challenges that have to be met in order to realise sustainable retail. The owner's objectives covered the economic, environmental and social dimensions of sustainability: creating a positive financial result, reducing the amount of waste in the community by enabling reuse, increasing awareness of sustainable consumption and creating jobs. To achieve these goals, ReTuna collects goods and distributes them to its tenants, who process and resell them. Three years after its opening, ReTuna is a success in many ways. The shopping centre has received large amounts of donated goods and attracted media attention. However, it has failed to effectively manage and resell the donated fashion items. The question therefore arose as to why the shopping centre was not successful when it came to reusing fashion.

Finally, the experimental part of the work, consists in analyzing the well-known fashion company H&M and the circularity that marks it. Circularity is basically about ensuring

that valuable resources never end up as waste. This means wearing your clothes more, taking care of them and, finally, recycling them. Designing according to the principle of circularity makes a major change possible by making the fashion industry more sustainable.

According to this is born *The Ring* a retail space designed to repurposes all of fashion shoppers' leftover products. This is because fashion firms have a detrimental impact on the environment in terms of sustainability and must adhere to sustainable practices in order to be as environmentally friendly as feasible.

The Ring will thus be a warehouse that will partner with fashion chains, as well as a location where all leftover garments, donated by customers in the store after being modified by a Stilyst or Designer, will be regenerated.

This program will ensure that all consumers participate to the decrease of the brand's production by regenerating their unwanted garments, but they will also have unique access to the collection for the new regenerated garments. As a result, *The Ring* contacts all companies that decide to start making a difference by engaging in sustainable practices, with the goal of providing services for the regeneration of used garments, contributing to the reduction of a company's garment production, and always protecting and supporting the brand's image and culture.

CHAPTER 1. SUSTAINABLE *RETAILING*

1.1 Sustainability: concept, definition and application within *retailing*

Winterich[1] defines sustainability as the set of ideas, attitudes, intentions and behaviors that involve the strategic consideration of economic, environmental and social resources, for the success of current and future generations. In other words, a sustainability-conscious retailer, while considering the long-term, goes beyond mere economics to include environmental and social considerations for current and future generations.

Sustainability for companies is often referred to as the *"triple bottom line"* (TBL or 3BL), or "3Ps", which refers to a company's consideration of economic performance [profit], environmental impact [planet] and social impact [people][2]. Sustainability goes beyond environmental management and also includes the "people" component.

Sustainability deals with the working conditions and well-being of employees, the impact of procurement decisions on inequalities in society and opportunities for underrepresented segments of society. Sustainability initiatives aimed at increasing living wages, ensuring safe working conditions and ensuring fair treatment apply not only the retailer's direct employee group, but also to indirect employees, who work for the retailer's supply chain partners. Considerations of stakeholders, such as local communities and society at large, reflect the broadening of the definition of sustainability.

Conceptually, sustainability goes beyond corporate responsibility or philanthropic activities that some retailers promoted for decades. Early corporate social responsibility initiatives, which focused on social issues, were mainly based on ethics and moral philosophy. Sustainability initiatives that emerged later, focused on the environmental issues based on physical science[3]. Over time, these initiative have merged and expanded

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[1] Winterich K. P. , *Sustainability Marketing Note*, Collaborative for Customer-Based Execution and Strategy, 2019

[2] Elkington J., *Cannibals with Forks: The Triple Bottom Line of 21st Century Business New Society Publishers*, Gabriola Island, BC, 1998

[3] Bansal P., Song H.C., *Similar But Not the Same: Differentiating Corporate Sustainability from Corporate Responsibility,* Academy of Management Annals, 11 (1), 2017, pp. 105-149

to also include social welfare under the umbrella of sustainability. Today, the concept of sustainability encompasses environmental, ethical/moral and social aspects. In terms of definition and scope, sustainability is considered to go beyond CSR initiatives.

Financial performance goals, such as sales growth and shareholder value, have historically been the primary focus of retailers. Increasingly, distributors are integrating sustainability goals with profit and sales growth goals. Rather then competing with each other, retailers aim to address them as complementary so that achieving sustainability also increases profits growth.

In addition to economic benefits, retailers are beginning to consider operational costs by limiting the use of natural resources and minimizing damage to the ecosystem by reducing emissions. Some of them are responsible for about 10% of food waste in the United States (43 billion pounds per year) and even more food waste in the supply chain[4]. In response to this challenge, large food retailers, including Walmart, are implementing technology to reduce food waste throughout the supply chain, saving money and environmental resources[5].

Although it has not always been easy to calculate, the impact of sustainability initiatives on critical outcomes can now be ascertained using new measurement techniques and technologies integrated into retail supply chains. Indeed in the apparel industry, retailers can use the Higg index to measure and score a product's sustainability performance at each stage[6].

In terms of human impact, sustainability recognize that retail chains impact and are impacted by their employees, suppliers, and the communities in which they operate.

Walmart, on the other hand, has invested 100 millions of dollars in training programs to help employees get hades in the retail industry and to train one million farmers who are directly and indirectly part of its supply chain[7]. When low coffee prices threatened

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[4] Weigel G., *Supermarkets Moving Toward Zero Food Waste,* 2020, in: https://blog.smartsense.co/supermarkets-zero-food-waste]

[5] Kleinman A., Schneider K., Strumwasser S., *Eden: A New Technology to Reduce Food Waste in Walmart's Supply Chain* , 2018, in: https://blogs.anderson.ucla.edu/global-supply-chain/2018/09/eden-a-new-technology-to-reduce-food-waste-in-walmarts-supply-chain.html]

[6] Radhakrishnan S., *The Sustainable Apparel Coalition and the Higg Index Subramanian Senthilkannan Muthu (Ed.), Roadmap to Sustainable Textiles and Clothing,* Springer, Singapore, 2015, pp. 23-57

[7] Macri K. P., *Walmart's Improved Social Responsibility Efforts Begin with Supply Chain Supply*, Chain Dive, 2018.

farmers, Starbucks committed 20 million in relief funds to provide them with income stability (Almeida, 2019)[8]. Although the social question can be more difficult to quantify, the advantage of addressing social issues in the supply chain is that it can simultaneously increase company performance and legitimacy[9].

In the United Kingdom, on the other hand, B Corps, a network of socially oriented companies that use business as a force for prosperity, has experienced an average annual growth rate of 14%, 28 times higher then the national economic growth rate of 0.5%[10]. It is not surprising, then, that companies are increasingly seeking to address social issues in their supply chain and move from a for-profit business model to a for-profit business model with social purpose[11].

B Corp Beautycounter offers "clean" beauty products that avoid ingredients, that although lawful, are considered questionable. Its employees and customers are also instrumental in lobbying for clean beauty regulations. In 2018, Beautycounter's annual sales grew by 33%[12].

In terms of time, supply chain sustainability focuses not only on the present and near future, but also on the long term. In particular, sustainability consider the impact of current operations on future generations, as state in the 1987 Bruntland Report[13]. At the same time, promotes a shift from short-term quarterly results to a long-term focus on both financial and ESG performance recognized by investors[14].

In summary, sustainability in the supply chain requires retailers to implement system-wide integration throughout the supply chain to minimize harm to the environment and people to reap environmental and societal benefits over time. Beyond the placement of recycling bins in stores, sustainability encompasses a comprehensive consideration of the

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[8] Almeida I., *Starbucks Pays Farmers $20 Million More as Coffee Crisis Deepens*, Bloomberg, 2019.
[9] Yawar S. A., Seuring S., *Management of Social Issues in Supply Chains: A Literature Review Exploring Social Issues, Actions and Performance Outcomes,* Journal of Business Ethics, 141, 2017, pp. 621-643
[10]Sustainable Brands B Corp, *Analysis Reveals Purpose-Led Businesses Grow 28 Times Faster than National Average,* 2018, in: https://sustainablebrands.com/read/business-case/b-corp-analysis-reveals-purpose-led-businesses-grow-28-times-faster-than-national-average].
[11] Lee S., Bolton L. E., Winterich K. P., *To Profit or Not To Profit? The Role of Greed Perceptions In Consumer Support For Social Ventures*, Journal of Consumer Research, 44 (4), 2017, pp. 853-876.
[12] Raphael R., *Beautycounter Has 40,000 Ways to Clean Up the Beauty Industry,* Fast Company, 2019.
[13] World Commission on Environment and Development, *Our Common Future,* Oxford University Press, Oxford, 1987.
[14] Eccles R. G., Klimenko S., *The Investor Revolution,* Harvard Business Review, 2019.

environmental and social impacts of business activity, from the acquisition of raw materials to the disposal, reuse, or recycling of products; from the safety and well-being of employees to the safety and wellbeing of society at large.

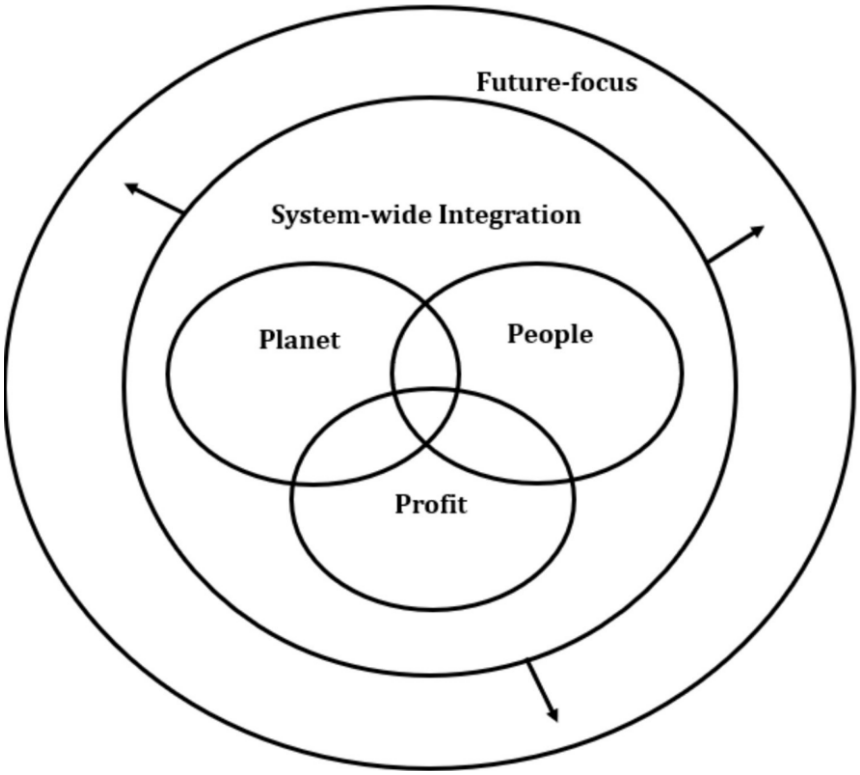

Fig.1 A framework for the conceptualisation and assessment of sustainability

1.2 *Retailing* and management of the Supply Chain Management (SCM)

Sustainable supply chain management or SSCM is defined as *"the management of material, information and capital flows, as well as cooperation between companies along the supply chain, taking into account the objectives of all 3 dimension of the sustainable development, namely economic, environmental and social, arising from the client and*

stakeholder needs"[15]. SSCM aims to maximize productivity of the supply chain and social welfare while minimizing environmental impact. Initially, sustainable supply chain management focused on reducing environmental impact; in the recent year the relevance of SSCM's social impact has increased. In recent years, SSCMM has attracted enormous attention from academics and practitioners[16]. Emerging evidence suggests that SSCM helps organizations achieve better financial and non-financial[17] *performance.* However, despite its popularity, the SSCM is little known in the retail sector.

The SSCM is closely associated with the circular economy concept[18]; an idea rooted in the ancient concept of the "circle of life" that recognize how when something dies, it gives rise to something new[19].

Applied to a supply chain, the circular economy contrasts the traditional unidirectional flows of products and materials from the consumer to the end consumer (also called upstream supply chain) to a bidirectional flow of products and materials within the supply chain members.

Specifically, the circular economy emphasizes the "closing the circle" by incorporating a reverse supply chain together with the traditional upstream supply chain, where the reverse supply chain allows the reverse flow of materials between channel members so that materials are reused or recycled wherever possible[20].

Reverse supply chains, augment advanced supply chains by ensuring that the product itself is easy to recycle or reuse and made with a minimum of new materials. Indeed, one result of Coca-Cola's efforts to build a reverse supply chain is the increase of recycled

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[15] Seuring S., Müller M., *From a Literature Review to a Conceptual Framework for Sustainable Supply Chain Management,* Journal of Cleaner Production, 16 (15), 2008, pp. 1699-1710

[16] Wilhelm M. M., Blome C., Bhakoo V., Paulraj A., *Sustainability in Multi-Tier Supply Chains: Understanding the Double Agency Role of the First-Tier Supplier,* Journal of Operations Management, 41 (1), 2016, pp. 42-60

[17] Vachon S., Klassen R. D., *Environmental Management and Manufacturing Performance: The Role of Collaboration in the Supply Chain International,* Journal of Production Economics, 111, (2), 2008, pp. 299-315

[18] Govindan K., Hasanagic M., *A Systematic Review on Drivers, Barriers, and Practices Towards Circular Economy: A Supply Chain Perspective International,* Journal of Production Research, 56, (1–2), 2018, pp. 278-311

[19] Toupin L., *The Circle of Life: A Look at the Circular Economy,* Enablon, 2019.

[20] Carter C. R., Ellram L. M., *Reverse Logistics: A Review of the Literature and Framework for Future Investigation,* Journal of Business Logistics, 49, (1), 1998, pp. 85-102

products in the production of Coca-Cola bottle and cans. A closed-loop supply chain can help a company achieve sustainability goals[21] more easily.

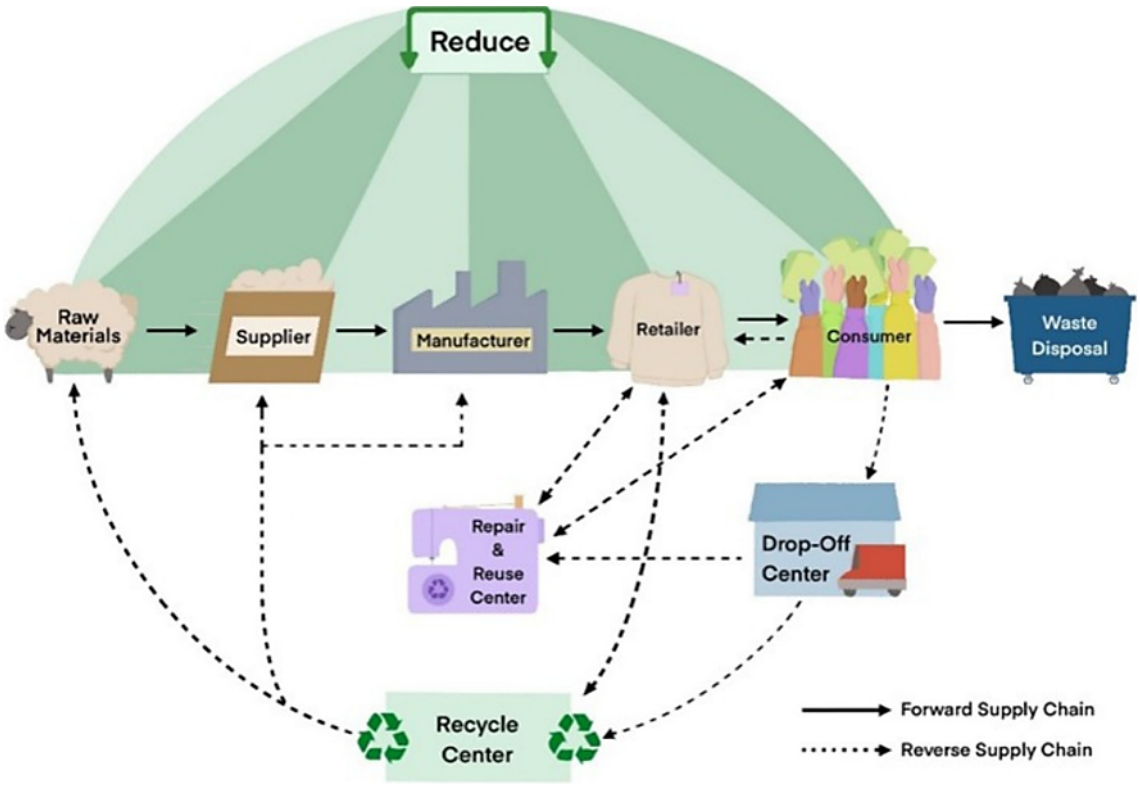

Fig.1 - Sustainable closed-loop supply chain (circular economy)

For the apparel industry's upstream supply chain to be in line with circular economy principles, it is necessary for supply chain members to focus on reducing dependence on non-renewable inputs and new raw materials, as well as reducing pollution and waste. The clothing's industry reverse supply chain aim to let the supply chain regenerative, ensuring the clothing materials won't end up in waste. To this end, companies are innovating ways to reuse garments through rental and secondary markets, as well as through repair services.

[21] Abbey J. D., Guide D. R., *A Typology of Remanufacturing in Closed-Loop Supply Chains International,* Journal of Production Research, 56, (1–2), 2018, pp. 374-384

For example, H&M has recently introduced a recycling machine in one of its Stockholm stores that converts old clothing brought in by a customer (e.g., a sweater) into something new (e.g., a hat)[22].

Reverse supply chain of the apparel industry also involves the development of chemical processes to turn used polyester and other apparel materials in raw materials so as not to depend on natural resources. These two-way or at closed-loop supply chains focus on preventing natural resource depletion and environmental degradation through product recovery, reuse and recycling of products, while addressing at the same time social issues such as social inequalities along the front and reverse supply chains.

In this regard, computer manufacturer Dell Inc. provides a good example of a closed-loop supply chain. Historically, Dell didn't focus on a sustainable supply chain and consumers of its products discarded them, many of which ended up in landfills. Today, Dell designs its PC and its component in a way that can be easily reused and upgraded. In addition, the company has set a goal to use 50 million pounds of recycled-content plastics and other sustainable materials in its products by the end of 2020 and recovering 2 billion pounds of used electronics in the same period[23].

Although the two-way flow of material makes the supply chain more circular, it is not only important the material's flow. The flow of information equally, or even more, important to create and provide opportunities for sustainable practices and to help channel members coordinate.

In addition to environmental benefits, the circular economy and two-ways flows of materials and information can provide opportunities to promote global social justice by addressing social and wags inequalities. It can also help and accelerate the human development, improving health in societies facing pollution and environmental degradation and providing workers around the world better health and safety conditions.

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[22] H&M, *Recycling System 'Looop' Helps H&M Transform Unwarranted Garments into New Fashion Favourites,* 2020, in: https://about.hm.com/news/general-news-2020/recycling-system--looop--helps-h-m-transform-unwanted-garments-i.html]

[23] Hardcastle J. L., *Reducing Waste with Closed Loop Supply Chains Environment+Energy,* Leader, 2017.

1.3 Realization of the circular economy through the tree R rules: reduction, reuse, recycle

Achieving circular economy comprehend 3 principles or the tree R: Reduce, Reuse, Recycle[24].

Reduce focuses on the reduction of the inputs such as resources, energy and materials during the production phase, as well as reducing emissions and waste in the supply chain. This includes the application of new technologies and processes to reduce the negative impact of the production and consumption on the environment. Humans, and society while keeping an eye on financial returns.

Companies can also redesign products to reduce the packaging needed to protect them when they are shipped. Tide e Seventh Generation, meanwhile, have introduced redesigned laundry detergents that are several pound lighter, reducing plastic in the packaging and making the detergent more concentrated[25]. Similarly, Modelez has pledged to eliminate 65,000 tons of packaging[26].

Reuse means recycling the entire products or its components after its his firs life cycle, that is, initial use by the original consumers. Reuse can take the form of remanufacturing the product into new products or repairing products to extend their life. Consider the fashion industry. The global clothing consumption is around 80 billion items, but, on average, each item is worn three to seven times depending on the country examined[27].

Yet, in a single year, fashion contribute to the use on 9 trillion liters of water, 3.3 billion tons of CO2 emissions and 1,074 billion of kWh of electricity[28].

Rent the Runway, an e-commerce retailer, rents fashion garments and leverages reduction and reuse principles to reduce total clothing production and consumption by facilitating reuse.

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[24] United States Environmental, *Protection Agency Reduce, Reuse, Recycle*, 2020, in: https://www.epa.gov/recycle]

[25] Pisani J., *Lighter Load: Laundry Detergents Shrink for Amazon,* Associated Press News, 2018.

[26] Chief Packaging Officer, *10 Brands with Sustainable Packaging,* 2019, in: https://www.chiefpackagingofficer.com/which-brands-are-committing-to-sustainable-packaging/]

[27] Thomas D., *The High Price of Fast Fashion,* Wall Street Journal, 2019.

[28] Gwozdz W., Nielsen K. S., Müller T., *An Environmental Perspective on Clothing Consumption: Consumer Segments and their Behavioral Patterns,* Sustainability, 9, (5), 2017, p. 762

Reuse involve converting and transforming materials that otherwise would be considered waste into new materials or usable products. Retailers can encourage recycling by offering consumers a convenient place to return products at the end of the initial life cycle, and even incentivize them to do so.

The shoe Futurecraft Loop di Adidas is the first high-performance running shoe designed for a circular lifecycle. Adidas takes back worn-out shoes to make new ones. The North Face apparel retailer is offering a discount on the purchase if customers bring in used clothing for recycling.

By telling customer that materials collected for the recycling will be turned into new products, retailers can increase their recycling behavior[29].

Achieving a circular economy through the 3R involves both upstream suppliers and consumers can have a main role in facilitating, disseminating, and enforcing the 3Rs in the retail supply chain.

Retailers can improve their supplier' sustainability efforts by helping them reduce the amount of raw materials and natural resources (e.g., wood, water, energy) used in the production of products they sell. Retailers can, for example, encourage their suppliers to use reusable packaging or returnable transport items in place of carboard shipments or pallets. The use of this type of packaging, can encourage buyers to send material back to manufacturers[30].

Retailers can also encourage their suppliers to reuse waste, used products and discarded materials to manufacture products, reducing the amount of material that ends up in landfills. A critical aspect of this process is the provision of infrastructure, information and training to suppliers, who often lack these means to implement sustainability initiatives. This is especially true for the small, indigenous and local suppliers in developing or underdeveloped geographies.

One of the main challenge that upstream suppliers face in implementing the circular economy, is creating a process for acquiring products that have been already used to re-

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[29] Winterich K. P., *Sustainability Marketing Teaching Note, Collaborative for Customer-Based*, Execution and Strategy, 2019.

[30] Glock C., Kim T., *A Joint Economic Lot Size Model with Returnable Transport Systems International,* Journal of Integrated Supply Management, 9, (3), 2015, pp. 202-224.

enter the reverse cycle of the supply chain. On this side, distributors can motivate, enable, and facilitate consumers to reduce, reuse, and recycle and thus facilitate the adoption of the circular economy in several ways. First, retailers listen to costumer demands for products that meet the environmental and social sustainable goal and change the allocation of the shelf space for companies that meet these demands. Second, retailers enable consumers to reduce waste by encouraging them to buy products less aesthetically[31] pleasing or with less packaging. Third, the circular economy success depends on consumers returning used products through various product acquisition[32] management programs.

Retailers can increase convenience for consumers through simple efforts such as clearly labeled recycling bins at each store. Fourth, consumers need to be open to reused and remanufactured products. Retailers can promote reuse and remanufacturing options to increase their attractiveness, thereby addressing this concern. Finally, retailers are the face of the product for many consumers and are best suited to meet consumer demand for social initiatives through a better treatment of the employees and charitable initiatives.

Retailers can use basic strategic levers (product, place, promotion and price) and *packaging* to ensure that consumers and suppliers adopt sustainable objectives. Retailers can, for example, encourage product rentals rather then product ownership and, at the same time, encourage suppliers to produce more durable products. Retailers can use price promotions to incentivize consumers to recycle and suppliers to adopt more recycled products as part of their product line. Similarly, retailers can use advertising to improve the perception of sustainable products while simultaneously communicating to suppliers the need to focus on such products.

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[31] Grewal L., Hmurovic J., Lamberton C., Reczek R. W., *The Self-Perception Connection: Why Consumers Devalue Unattractive Produce,* Journal of Marketing, 83, (1), 2019, pp. 89-107

[32] Amin H. S., Zhang G., *A Three-Stage Model for Closed-Loop Supply Chain Configuration under Uncertainty International,* Journal of Production Research, 51, (5), 2012, pp. 1405-1425

1.4 *Retailers* role in promoting circular economy

Retailers can assume a guide role in the promoting sustainability through the concept of circular economy for different reasons. Retailers are the central and critical link between upstream and downstream actors in a supply chain[33]. They can lead and support the supply chain that connects raw material producer, manufacturers, wholesalers, transporters, warehousemen, and other supply chain elements involved in the customers service[34]. Upstream actors comprehend natural and resource producers, suppliers (manufacturers, wholesalers, transportation vendors, among others), technology partner, NGOs, and other elements that interact with retailers before ta customer purchase a product.

Downstream actors include customers that purchase the product from a retailer, retailer employees who interface with customers, consumers who consume the products, households and communities where consumption occurs, and potential stakeholders who influence and are influenced by the consumption process. These include, but are not limited to, the local organizations that facilitate the recycling efforts, suppliers that help consumers in the consumption process, such as household service providers (lawn mowing, cleaning. Housekeeping, etc.), and so on. Retailers are the focal point of the interaction between the myriad upstream (e.g., suppliers) and downstream (e.g., customers) actors in the supply chain.

1.4.1 The impact of retailers on upstream suppliers..

A retailer's supply chain can be responsible for four times as many gas emissions as the main company. The supply chain of a typical consumer goods company is responsible for more than 80% of greenhouse gas emissions and 90% of the impact on the natural resources such as air, land, and water[35]. There is growing evidence that all the successful sustainable efforts involve suppliers and other upstream members of the supply chain,

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[33] Grewal D., Levy M., *Retailing Research: Past, Present, and Future,* Journal of Retailing, 83, (4), 2007, pp. 447-464

[34] Ellram L. M., La Londe B. J., Weber M. M., *Retail Logistics International,* Journal of Physical Distribution & Logistics Management, 29, (7), 1999, pp. 477-494

[35] Bove A.T., Swartz S., *Sustainability at the Source: Sustainability,* in Supply Chains McKinsey & Company, 2016.

with one-third of companies planning to choose more sustainable suppliers and partners. Getting upstream suppliers to adopt sustainability initiatives is a challenging and resource-intensive task for most retailers.

Retailers can partner with suppliers to address compliance challenges in human right and labor[36]. One of the reason why companies try to reduce costs through the supply chain, when customers ask for cheap and disposable products, is to reduce wages and create unsafe work environment. In some unfortunate cases, these practices encourage the modern slavery. Retailers face conflict, as the increase of the consume drives economic growth, but it also provoke the environmental degradation and human rights violations in marginalized communities[37]. For this reason, all the sustainable efforts take into consideration the working condition of low-wage labor, especially in developing countries, who expect to receive a basic wage, safe and hygienic working conditions, and opportunities for growth. This increased awareness, prompts retailers to manage their supply chain partners in ways that support sustainability values important to customers and community *stakeholders*.

Because of the unique position of the *retailer* that link suppliers and customers*, retailers* can motivate suppliers to adopt sustainability goals by implementing standards, norms, and guidelines to guide suppliers' sustainability efforts[38]. Retailers can also educate members of their upstream supply chain about customers' sustainability needs, willingness to pay for a sustainable product, and on the way to effectively communicate with them. Although in some case, *retailer* may consider canceling relationships with supply chain partners because of environmental or human rights violations, it may actually be beneficial for both parties to continue the relationship. By investing in supply chain relationships, upstream partners can gain necessary resources to implement appropriate compliance strategies to mitigate environmental and social deficiencies. If

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[36] Nidumolu R., Prahalad C. K., Rangaswami M.R., *Why Sustainability is Now the Key Driver of Innovation,* Harvard Business Review, 87, (9), 2009, pp. 56-64

[37] Trentmann F., *Multiple Spaces of Consumption: Some Historical Perspectives,* Michael K. Goodman, David Goodman (Eds.), Consuming Space, Routledge, New York, 2016, pp. 55-70

[38] Gielens K., Geyskens I., Deleersnyder B., Nohe M., *The New Regulator in Town: The Effect of Walmart's Sustainability Mandate on Supplier Shareholder Value,* Journal of Marketing, 82, (2), 2018, pp. 124-141

retailers were to completely sever relationships with channel partners, they could diminish sustainability improvements due to lack of necessary resources or compliance oversight.

Walmart's Project Gigaton is a comprehensive example of how a retailer leverage its position in the supply chain to improve the supply chain sustainability. Project Gigaton aim to delete (reduce) 1 billion metric tons (one gigaton) of greenhouse gases from the global value chain by 2030. Walmart require suppliers who agree to participate in this initiative to be part of the sustainability hub, and to establish the objectives and report their impact to other members.

Walmart incentivizes participants not only by exercising their position in the supply chain, but also by recognizing participating suppliers. The consortium provides the opportunity to educate Walmart's suppliers on the benefits of sustainable practices and equip them with the tools to adopt sustainability goals. Perhaps as indicator of its success, at the last count, more than 1,600 suppliers had joined this initiative. Beside the environmental benefits, the Gigaton Project produce advantage for the society, including improved air quality and working conditions for supplier employee, job creation and better consumption experience for Walmart's customers.

Blueland, for example, in order to offer "Forever" bottle to reuse with cleaning tablets, must work with suppliers to develop durable bottles and cleaning solution that dissolve in water and require minimal packaging. Retailers can also serve as distribution point for reused products, remanufactured or recycled by suppliers. Nordstrom's "See You Tomorrow" retail store, for example, sell returned and damaged clothing, which represents a shift in supplier relationships, as Nordstrom no longer returns these items to suppliers or puts them in landfills.

1.4.2 …and on downstream customers

Consumer participation is critical to closing the sustainable circle. Previous research has documented an "intention-action" gap in consumers' sustainability efforts and their adoption of sustainable products. Not all consumers who say they have a positive behavior towards sustainable products and services, then put their hands in their wallets.

In a 2019 survey, the 65% said they would buy sustainability-oriented brands, but only 26% did[39]. In addition, the 31% of the consumers says that the lack of support from the companies is a barrier to circular economy and the 27% admit that they do not know how to participate in the circular economy[40].

These statistics indicate that clients may not have the motivation, ability, and opportunity to support sustainability goal. Retailers have tried to answer these concerns with end-customer sustainability efforts through many initiatives. Unilever, on the other hand, has partnered with Walmart and Hilary Duff to develop the *"bring it to the bin"* campaign. Designed to motivate shoppers to recycle in all areas of the home, this campaign aims to educate and incentivize consumers to recycle all packaging, including bathroom plastics. Lush Cosmetics, a bath and body products brand, is offering free products to customers who bring in empty product packaging to be recycled and is producing solid shampoo bars that help reduce packaging waste by offering "naked" or packaging-free product.

Other retailers are helping to educate customers about sustainable products by creating entire section dedicate to sustainable products in their store or websites (for example, REI allow consumers to filter the results based on sustainability elements such as recycled materials, animal welfare, and organically grown cotton). Loop, the company that is bringing back the "milkman" model by offering traditional consumer products in refillable packages, will have an aisle in retail stores[41].

Other retailers are educating consumers by developing unique labeling systems that label products as eco-conscious, socially responsible or sustainable (for example, Net-a-Porter and Selfridges use proprietary labels).

Retailers have included customers in their circular economy. Consumers can rent clothing from retailers such as Rent the Runway or repair electronic items through service such as BestBuy's Geek Squad. Retailers also educate consumers on how to recycle, as in the case with Preserve's partnership with Whole Foods. Whole Foods collect plastic cutlery

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[39] White K., Habib R., Hardisty D. J., *How to SHIFT Consumer Behaviors to be More Sustainable: A Literature Review and Guiding Framework,* Journal of Marketing, 83, (3), 2019, pp. 22-49

[40] Sharma R., *How Consumer Engagement Can Drive Circularity Report,* GlobeScan and GreenBiz, 2020.

[41] Pierce L.Mc.T., *Loop Reusable Packaging Shopping Platform Launches in the U.S,* 2019, in: https://www.packagingdigest.com/sustainability/loop-reusable-packaging-shopping-platform-launches-us]

that is returned to their distribution centers and Preserve turns into products that goes from recycled toothbrushes to tableware. In addition, some retailers no sell used products in their stores. This enhances not only the acceptability of consuming used products, but also makes it easier for consumers to purchase and return them. Specific examples of these initiatives include Nordstrom's "See You Tomorrow" that sells reused and damaged clothes, and Walmart's recent partnership with ThredUp to give its customers an exclusive access to ThredUp's used brand products.

1.5 Main behavioral mechanism to enable a sustainable retail supply chain

1.5.1 Mechanisms for the allocation of incentives

There is an extensive marketing literature that shows the effect of incentive alignment on the behavior of consumers, retailers, manufacturers, wholesalers, and other[42]. To the extent that actors maximize value and/or profit, their behavior can be influenced by aligning their motivation and opportunities with sustainability goal. Retailers such as Amazon, Walmart and Target can have a main role in aligning the incentives for the supply chain actor to promote sustainability. In fact, aligning incentives is the surest way to promote sustainable goals along the supply chain.

Best Buy, in fact, offers promotions to encourage customers to recycle used appliances and computer equipment, while Henkel provides unique tokens that individuals can redeem if they bring in used plastic. Retailers can provide monetary and non-monetary incentives to their suppliers and partners to promote sustainability practices in their supply chain. Target, both in-store and online, label its formulated products without a group of commonly unwanted chemicals, incentivizing suppliers not to use them.

[42] Alba J., Lynch J., Weitz B., Janiszewski C., Lutz R., Sawyer A., Wood S., *Interactive Home Shopping: Consumer, Retailer, and Manufacturer Incentives to Participate in Electronic Marketplaces,* Journal of Marketing, 61, (3), 1997, pp. 38-53

1.5.2 Infrastructures and investment development to foster long-term sustainable behavior

Sustainability initiative such as recycling, reuse, and reduction require large investments in infrastructure (e.g., recycling bins, green investments) and careful coordination among multiple entities for optimal use[43]. Because most sustainability efforts require rethinking the way the companies operate, infrastructure investments are often the difference between the success and failure of sustainability efforts. Best Buy's recycling infrastructure has collected more than 2 billion pounds of electronics and appliances through its recycling programs, which involves closely coordinating processes such as picking up appliances at customers' homes, helping customers clean hard drives, and offering promotions to incentivize customers to recycle and to educate them about buying greener electronics. Similarly, to meet its 100% renewable energy goals, Starbucks has invested in solar farms in North Carolina.

1.5.3 Mechanisms for the development and application of the regulations

Regulations play a key role in helping to structure economically efficient between independent parties. Retailers can not only contribute to develop norms conducive to promoting sustainability, but also enforce them through mutual reinforcement. Studies demonstrate that promoting norms like *"75% of guests reuse towels"* has led to a major use of towels by hotel's guests[44]. Consumers are also more likely to reduce energy use when their value is compared with that of their neighbors. Sustainability rules affect also suppliers, as individual companies and industry organizations set new standards with which suppliers must comply. The Cleaning Insitute's Cleaning Product Ingredient Safety Initiative, for example, provides specific guidelines to its members. These non-binding

[43] Yudelson J., *Sustainable Retail Development: New Success Strategies,* Springer Science & Business Media, Berlin, 2009.
[44] Terrier L., Marfaing B., *Using Social Norms and Commitment to Promote Pro-Environmental Behavior Among Hotel Guests,* Journal of Environmental Psychology, 44, 2015, pp. 10-15

guidelines provide industry-wide standards that are accepted and followed by manufacturers of cleaning products sold in retail stores.

1.5.4 Governance mechanism

Developing, maintaining, and sustaining sustainability initiatives requires an adequate governance at many levels: from local, state, and national governments to shareholders and even customers[45]. Some corporate governance mechanism, such as those related to ESG (environment-social-governance), have led to specific actions that are documented and disseminated widely to shareholders and customers.

However, while companies have shown improvements in addressing the impact of social and labor issues within their operations, they may be neglecting the risks that exist among their suppliers.

The 2019 *Business Sustainability Risk and Performance Index* report, that analyzed more than 40,000 companies, found that 80% of the suppliers lacked due diligence measures in the supply chain, 57% failed to monitor the work condition and 44%lacked health and safety training, revealing the need for proper governance and monitoring mechanisms throughout the supply chain[46]. Governance mechanism are not limited within the supply chain. Retailers are also impacted by state or local governments, such as bans on single-use plastic bags. At the same time, retailers can design and pursue internal governance, such as the conducting periodic audits and publishing reports that value their sustainability efforts and using ethics committees to resolve dilemmas related to their sustainability initiatives.

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[45] Young O. R., *On Environmental Governance: Sustainability, Efficiency, and Equity,* Routledge, New York, 2016.

[46] EcoVadis, *Business Sustainability Risk and Performance Index,* 2020, in: https://resources.ecovadis.com/whitepapers/ecovadis-index-2020]

1.5.5 Information and training exchange

The importance of information and education exchange is crucial from different point of view. The Retail Sustainability Survey conducted by Suston-EOG[47] found that store managers and small retailers have from low to intermediate knowledge of key sustainability issues, such as product CO2 footprint, microplastics, and the Higg index. Similar concerns are widespread regarding suppliers, their lack of knowledge and incapacity to meet the sustainability goals imposed on them[48]. Retailers use many avenues to spread their knowledge in sustainability and their efforts to face it. Walmart's 2019 Environmental, Social and Governance Report provides important information to its shareholders, while Walmart's sustainability consortium spreads knowledge among suppliers. Best Buy's recycling infrastructure provides customized information to residents of each state to help them recycle appliances and electronic devices coherent with state and local laws. Another example is the Center for Retail Compliance[49], that cares about educate consumers and retailers about environmental impact of products, greenhouse gases, chemicals, toxins and waste.

1.5.6 Usage of the five mechanisms to increment sustainability

Retailers can use all five mechanisms to ensure widespread adoption and embedding of sustainability in their supply chain, although the relative effectiveness of these behavioral mechanism may vary depending on various contextual factors, such as the goal of the sustainability initiative, the size of the company undertaking the sustainability effort, and the resources available to the focal company.

Retailers who use several mechanisms simultaneously and systematically are believed to have more success with respect to those who use a single method sporadically. Setting

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[47] Suston-EOG, *Survey Retail Sustainability Insights,* 2019, in: http://sustonmagazine.com/wp-content/uploads/2019/07/Suston-EOG-Retail-Survey-2019.pdf]

[48] Villena V. H., Gioia D. A., *A More Sustainable Supply Chain,* Harvard Business Review, 2020.

[49] Center for Retail Compliance, *Top 5 Sustainability Issues in Retail,* 2018, in: https://medium.com/retailcrc/top-5-environmental-sustainability-issues-in-retail 815aa0310779]

standards, aligning incentives, and applying governance mechanism that fail to align participants' incentives.

The basic strategic levers of 5P marketing are used to discuss about retailers allow consumers and suppliers to achieve the sustainability goal associated with the 3Rs and social outcomes through 5 mechanisms previously discussed. The Walmart's Gigaton Project example explain how these 5 mechanisms can be used to promote circular economy. In terms of infrastructure and coordination, Walmart provide a well-defined process and website that can be used from suppliers to document their sustainability progress.

Suppliers are recognized for their efforts, and this established social and economic norms that can be followed by others. By declaring that more than 1,000 suppliers have committed in the Gigaton Project, Walmart is building and supporting a social norm for sustainability[50]. Walmart uses voluntary and non-voluntary governance mechanism to support sustainability. Walmart has committed to support only suppliers whose textile factories uses the Sustainable Apparel Coalition's Higg Index Facility Environmental Module (FEM) to measure and help improve environmental performance by 2022[51]. The module helps standardize the ways apparel, footwear and textile manufacturing sites share information with brands that purchase their products[52]. Finally, Walmart holds an annual summit to facilitate the information and training exchange between retailers and employee community. This is added to all the updated information available on the Gigaton Project website. By incorporating alle the 5 mechanisms of the Gigaton Project, Walmart ensures that all its sustainable efforts are making the intended impact throughout the supply chain.

[50] Boynton J., *Walmart Inches Toward Audacious Project Gigaton Goal,* GreenBiz.com., 2019.
[51] Ibidem.
[52] Clancy H., *Supply Chain Traceability Steps Up a Level, With Gap, Target, Others on the Map,* GreenBiz.com., 2018.

CHAPTER 2. CIRCULAR SUSTAINABILITY WITHIN AN IN PROGRESS CIRCULAR FASHION INDUSTRY

2.1 Fashion initiatives for the implementation of the circular economy

Sustainability aims to create resilient systems that respect the limit of ecological viability and capacity and are able to balance the environmental, economic and social dimensions or aspects of sustainability, the *triple-bottom-line approach*[53].

The sustainable development also requires changes in multiple areas, including individual, organizational, institutional and systemic levels, as well as business model innovations for sustainability, taking into account the interests of multiple stakeholders[54].

The textile industry, about fashion and apparel is responsible for enormous sustainability problems along its value and supply chains, given the prevailing principles of a linear economy model. This includes environmental harms such as increased global carbon emissions, huge water consumption, non-recoverable materials, soil pollution or increased landfills. Social impacts concern fair and decent working and living conditions in the countries of production, as well as consumption patterns, the relationship with clothing or prevailing[55] design standards.

The circular economy promotes new cyclical ways of using and treating resources from an environmental and economic perspective and is part of the holistic adaptation of existing business models or the creation of new ones[56].

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[53] Arnold MG., *Combining conscious and unconscious knowledge within human-machine-interfaces to foster sustainability with decision-making concerning production processes,* J Clean Prod 179, 2018, pp.581–592.

[54] Tolkamp J., Huijben JCCM., Mourik RM., Verbong GPJ., Bouwknegt R., *User-centred sustainable business model design: the case of energy efficiency services in the Netherlands,* J Clean Prod 182, 2018, pp.755–764.

[55] Brydges T., *Closing the loop on take, make, waste: investigating circular economy practices in the Swedish fashion industry,* J Clean Prod, 293, 2021.

[56] Ellen MacArthur Foundation, 2022, in https://ellenmacarthurfoundation.org/topics/circular-economyintroduction/overview.

Based on closed-loop flows of materials and energy, it aims to create a green, restorative and regenerative economy, including the creation of new business models and job opportunities[57].

Based on a reformulation of the core principles of the circular economy, previous research has identified values, attributes and enabling factors, relevant to the design of the circular and closed-loop supply chains, of the reverse logistics and product recovery. These includes cascading orientation, waste elimination, economic optimization, maximization of retained value, environmental awareness, loss minimization, systems thinking, circularity, embedded resilience, collaborative networking, shift to renewable energy, change optimization, technology orientation, market readiness, and innovation[58].

The circular economy is thus a concept that promotes alternative strategies and tools to address global sustainability challenges. Although is closed related to the concept of sustainability, a precise definition of the two ideals is still subject to scientific debate[59].

Circular economy of textiles and fashion represents *"an industrial system that produces neither waster nor pollution, by redesigning fibers so that they can circulate at high quality within the production and consumption system for as long as possible and/or by reintroducing them into the bio or technosphere to restore natural capital or by providing secondary resources at the end of use"*[60].

Circularity principles should cover the entire life cycle of textile and fashion items and involve the responsibility of producers and consumers[61]. Among other things, this includes the criteria for fashion design and production (e.g., disassembly and separation, non-toxic and high-quality materials), as well as for consumption (e.g., multiple users) and end-of-life (e.g., recycling stations)[62].

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[57] Geissdoerfer M., Morioka SN., Monteiro de Carvalho M., Evans S., *Business models and supply chains for the circular economy,* J Clean Prod, 190, 2018, pp.712–721.

[58] Ripanti EF., Tjahjono B., *Unveiling the potentials of circular economy values in logistics and supply chain management,* Int J Log Manag, 30(3), 2019, pp.723–742

[59] Suárez-Eiroa B., Fernández E., Méndez-Martínez G., Soto-Oñate D., *Operational principles of circular economy for sustainable development: linking theory and practice,* J Clean Prod, 214, 2019, pp.952–961

[60] GIZ., (Deutsche Gesellschaft für Internationale Zusammenarbeit), *Circular economy in the textile sector,* 2019, in https://www. adelphi.de/de/system/files/mediathek/bilder/GIZ_Studie_Kreislau fwirtschaft

[61] Brismar A., *What is circular fashion?,* 2015, in https://www.greenstrategy. se/what-is-circular-fashion-2/.

[62] Jia F., Yin S., Chen L., Chen X., *Circular economy in textile and apparel industry: a systematic literature review,* J Clean Prod, 2020.

In this context, the circular economy concept has been considered an important driver to facilitate the transformation toward sustainability within this sector[63].

Business examples of circular strategies often cited include Nike's ColourDry technology or Patagonia's Worn Wear[64] initiative.

However, most academic publications have mainly considered environmental and economic dimensions, political and legal issues, or technological and production aspects[65]. The social aspect of sustainability is presented as a side effect, secondary and indirect rather than being equally incorporated or deliberately taken as a starting point for research.

2.2 The lack of a social pillar of sustainability in the circular economy

The circular economy and related business model (e.g., product-service systems) are considered to offer social values and to achieve social sustainability, social progress and social growth. This is done through job opportunities, new work procedures and relationships, consumer comfort, skill development and promotion, appreciation of corporate reputation and image, or social cohesion and integration[66].

Probably, the solidarity economy and the sharing economy involve deeper changes in the values, practices and social paradigms underlying the economic system and activity. It implies the promotion of changes in prevailing cultural categories and social practices and the promotion of mindsets and behaviors oriented toward sufficiency, non-ownership, low consumerism, social awareness and emotional attachment, and a sense of community and shared responsibility, to the redefinition of product and management care, to a

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[63] Pedersen ERG., Earley R., Andersen KR., *From singular to plural: exploring organisational complexities and circular business model design,* J Fash Mark Manag 23, 2019, pp.308–326

[64] Ki CW., Chong SM., Ha-Brookshire JE., *How fashion can achieve sustainable development through a circular economy and stakeholder engagement: a systematic literature review,* Corp Soc Responsib Environ Manag, 27(6), 2020, pp.2401–2424

[65] Shirvanimoghaddam K., Motamed B., Ramakrishna S., Naebe M., *Death by waste: fashion and textile circular economy case,* Sci Total Environ 718, 2020.

[66] Leder N., Kumar M., Rodrigues VS., *Influential factors for value creation within the circular economy: framework for waste valorisation,* Resour Conserv Recycl, 158, 2020.

stronger engagement in partnerships and cooperation, participation and empowerment of diverse *stakeholders*, or increasing labor-intensive based on diverse and decent work[67].

Hirscher and collogues[68] focus explicitly on the role of social production in the fashion industry and emphasize the importance of empowering consumers in alternative design strategies.

Analyzing digital sharing platforms, in the fashion environment, Schwanholz and Leipold[69] study underline the importance of an integrated view of the sustainability (social) in strategies and innovations that promote a circular fashion economy. other case studies have analyzed social enterprises or social enterprises in the fashion industry that integrate the principles of sustainability and circularity[70]. Further research on social and cultural aspect in a circular textile and fashion industry has analyzed specific assumptions and practices, such as human perceptions of recycled garments, *upcycling* or *soul-shopping*, that could encourage changes in consumption[71] behaviors and patterns.

However, experts have repeatedly criticized a subordinate and under-theorized role of social aspects in conceptualizing the circular-economy[72].

Ludeke-Freund and colleagues[73] point to the limited uptake of socially oriented concepts, beliefs, behaviors and ideals such as sufficiency or slowing down consumption.

Millar and colleagues[74] describe the lack of clarity and consensus regarding the exact nature and extent of social-level impacts in the circular economy. there is a lack of an appropriate indicator that takes into account social aspects (i.e., social equity) and also includes other sustainability dimension in the circular economy[75].

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[67] Bauwens T., Hekkert M., Kirchherr J., *Circular futures: what will they look like?,* Ecol Econ, 175, 2020.
[68] Hirscher AL., Niinimäki K., Joyner ACM., *Social manufacturing in the fashion sector: new value creation through alternative design strategies?* J Clean Prod, 172, 2018, pp. 4544-4554.
[69] Schwanholz J., Leipold S., *Sharing for a circular economy? An analysis of digital sharing platforms' principles and business models,* J Clean Prod., 2020.
[70] Fischer A., Pascucci S., *Institutional incentives in circular economy transition: the case of material use in the Dutch textile industry,* J Clean Prod, 155, 2017, pp.17–32.
[71] Hudson-Miles S., *Soul-shopping: autoethnography, upcycling, and post-growth fashion. In: State-of-the-art upcycling research and practice,* Springer, Cham, 2021, pp. 55–59.
[72] Galvão GDA., Homrich AS., Geissdoerfer M., Evans S., Scoleze Ferrer PS., Carvalho MM., *Towards a value stream perspective of circular business models,* Resour Conserv Recycl, 162, 2020.
[73] Lüdeke-Freund F., Gold S., Bocken NMP., *A review and typology of circular economy business model patterns,* J Ind Ecol, 23, 2018, pp. 36–61.
[74] Millar N., McLaughlin E., Börger T., *The circular economy: swings and roundabouts?* Ecol Econ, 158, 2019, pp. 11–19.
[75] Ibidem.

Thus, a marginal role of moral and ethical aspects such as diversity, inter- and intra-generational, financial equality, or equality of social opportunities ends up hindering even an explicit representation of the circular economy in line with the three-pillar of sustainability[76].

Reflecting on the negative impact of the consume and production of *fast fashion,* it's necessary to encourage changes in the human relationship with raw materials and garments, review sustainability communication at the company-consumer interface, or adopt new approaches, processes and standards in design and in the respective training programs, to improve product longevity, reduce absolute levels of resource consumption and textile waste[77].

Therefore, social dimension in a circular economy requires more differentiated theoretical and conceptual academic investigations.

2.3 Circular and social transformation

There are numerous studies, reports, and policy papers from external *stakeholders* that call for circularity to foster the transformation of the fashion industry[78]. They emphasize individual values and aspects linked to social sustainability, such as the industry's potential to empower and egage consumers in order to promote sustainable consumption behavior based on reuse and sharing networks, swapping, Do-It-Together, and collaborative consumption platform[79].

Additional social issues addressed include the citizen's role as both designers and community members, as well the characteristics of the circular fashion consumer,

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[76] Murray A., Skene K., Haynes K., *The circular economy: an interdisciplinary exploration of the concept and application in a global context,* J Bus Ethics, 140(3), 2017, pp.369–380.

[77] Saha K., Dey PK., Papagiannaki E., *Implementing circular economy in the textile and clothing industry,* Bus Strat Env 30(4), 2021, pp.1497–1530

[78] Business of Fashion McKinsey & Company The state of fashion, 2019, in https://www.mckinsey.com/industries/retail/our-insights/ the-state-of-fashion-2019-a-year-of-awakening.

[79] GFA—Global Fashion Agenda., *A manifesto to deliver a circular economy in textiles,* 2019a, in https://globalfashionagenda.com/leadingorganisations-partner-to-launch-new-manifesto-on-circularity/.

sufficiency and servitization as two type of circular business model or the need for system-level change[80].

As for the corporate perspective, the two globally operating fashion companies, H&M and C&A, they will represent the corporate side because of their transitional activities. Although they based their initial business models on fast fashion, both companies have continuously communicated their efforts to promote the implementation of sustainability and circularity concepts in the fashion industry.

Therefore, critical and comparative identification and juxtaposition of social issues communicated through different fashion-related players, can groups perspectives and drive integrative transformation. Using a triangulation approach, the primary goal is to gather and merge diverse information to enable a more comprehensive and holistic understanding of the integration of a social pillar into the circular economy concept, by contrasting practice-oriented and more theoretical viewpoints[81].

2.4 Corporate strategies for sustainable change

Currently, the business models of the fashion and textile field are characterized by high and low margins, enabled by complex global supply chains and unsustainable use of key resources[82]. They are therefore inherently unsustainable and require rather rapid reform.

To date, companies' efforts to make "green" business operations, are limited and often considered insufficient to achieve value in terms of true sustainability.

The approaches to improve business models and practices, can be broadly classified into supply chain and production-based strategies and customer-centric strategies.

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[80] Ellen MacArthur Foundation., *A new textiles economy: redesigning fashion's future,* 2017, in https://www.ellenmacarthurfoundation. org/publications/a-new-textiles-economy-redesigning-fashionsfuture

[81] Jick TD., *Mixing qualitative and quantitative methods: triangulation in action,* Adm Sci Q 24(4), 1979, pp.602-611.

[82] Bocken N.M.P., Short S.W., *Unsustainable business models—Recognising and resolving institutionalised social and environmental harm,* Journal of Cleaner Production, 312, 2021.

Heikkurinen and colleagues[83] divide supply chain- and production-based strategies into eco-efficiency and eco-sufficiency, and customer-centered strategies into extended eco-efficiency and extended eco-sufficiency.

In its most basic form, eco-efficiency describes quality improvement of the productive processes, while eco-sufficiency describes the voluntary restrictions of the production processes.

The eco-efficiency techniques were criticized as being too limited, as they focus only on product improvements, which critics say are insufficient in an attempt to close the material *loops*[84], as incremental product improvements in eco-efficiency are usually dwarfed by increases in sales[85].

Eco-efficiency, in turn, is not sufficient as a business strategy, as consumers can go from one company to another, making the strategy futile and risking seriously undermining the financial sustainability of companies. This is the specific case of the *fast fashion* brands that are based on high volume of production.

Recognizing the shortcomings of conventional approaches to eco-efficiency, it's been proposed an extension that includes customers in order to address production and consumption issues. There is a growing idea that, in addition to companies and governments, consumers and its consumption models play an important role in efforts to make industries more sustainable, and that companies should also engage on the consumption side[86].

At the same time, consumer interest in sustainable solutions is enhancing in the latest years, offering fertile ground for advances in the circular economy.

Focusing on the customer, extended eco-efficiency aims to influence customers to consume less. Eco-efficiency extension to customers, shift the focus to fewer but better-

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84 Braungart M., McDonough W., Bollinger A., *Cradle-to-cradle design: Creating healthy emissions—A strategy for eco-effective product and system design,* Journal of Cleaner Production, 15(13), 2007, pp.1337–1348.

85 Stuchtey M. R., Enkvist P.A., Zumwinkel K., *A good disruption: Refining growth in the twenty-first century,* Bloomsbury, London, 2016.

86 Elf Patrick., Isham A., Gatersleben B., *Above and beyond? How businesses can drive sustainable development by promoting lasting pro-environmental behaviour change: An examination of the IKEA Live Lagom project,* Business Strategy and the Environment, 2020.

quality products and services, to facilitate the needed shift away from fast *fashion* approaches.

Extended eco-efficiency aims to influence the customer to consume better. It actively recognizes that the underlying promise of conventional approaches to eco-efficiency to provide an opportunity to decouple business practices from material addiction is not only insufficient but is, at best, unrealistic.

Moreover, both the eco-efficiency and the extended eco-efficiency, alone may risk causing a rebound effects in which customers use the money saved for other potentially more carbon-and/or energy-intensive[87] products or services. A combination of strategies is related and corresponds to the idea of simultaneously slowing down loops or narrowing flows, which aims to extend the life of products to minimize resource use, and closing loops, which, in turn, relates to recycling to close the loop between end-of-life product stages and manufacturing processes[88].

Another relevant strategy, focused on the production of environmentally friendly products and product systems, is the one of the eco-efficiency[89]. Eco-efficiency has been developed in response to some of the limitations of eco-efficiency, and "proposes the transformation of the products and associated material flows, in such a way to form a supportive relationship with ecological systems and future economic growth"[90]. The goal thus is to do good rather than to do "less harm". However, a common criticism concerns the fact that it seems to propose the possibility of absolute decoupling, arguing that sustainability and continued and unlimited growth in consumption are compatible[91].

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[87] Figge F., Young W., Barkemeyer R., *Sufficiency or efficiency to achieve lower resource consumption and emissions? The role of the rebound effect,* Journal of Cleaner Production, 69,2014, pp. 216– 224.

[88] Geissdoerfer M., Savaget P., Bocken N. M. P., Hultink E. J., *The circular economy—A new sustainability paradigm?* Journal of Cleaner Production, 143, 2017, pp.757– 768.

[89] Braungart M., McDonough W., Bollinger A., *Cradle-to-cradle design: Creating healthy emissions—A strategy for eco-effective product and system design,* Journal of Cleaner Production, 15(13), 2007, pp.1337–1348.

[90] Ibidem.

[91] Lorek S., Fuchs D., *Strong sustainable consumption governance—Precondition for a degrowth path?* Journal of Cleaner Production, 38, 2013, pp.36– 43.

2.5 Circular economy and approaches based on business models of the circular economy

Although there is no general agreement on the concept of business models, a key underlying component is that of "value". Value, however, can have different meanings and can refers to, among other things, customer value or economic value[92]. Business models, therefore, commonly describe and capture the underlying means and logic of how businesses operate and, in the process, create and deliver value.

Unlike linear business models, in which the value associated with a product or service is lost after its use by customers, business models of the circular economy (*circular economy business models* – CEBM) aims to preserve the value by preserving maximum product value through slowing down resource cycles (e.g., clothing rental business models) or by preserving material value through closing the loop, as in the case of *cradle-to-cradle*[93] models.

Circular economy thinking is not new and can be traced back to the 1960s[94]. the concept of circular economy is based on the idea that the economy and the environment should coexist. Concepts inspired by this thinking include "industrial ecology"[95], the "self-reproducing economy"[96], which was later further developed into "performance economics"[97], the "natural capitalism"[98], and the Pearce and Turner[99] work, who first contrasted natural (circular) systems with economic (linear) system and stressed the importance of distinguishing between exhaustible and renewable resources.

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[92] Chesbrough H. W., Appleyard M. M., *Open innovation and strategy,* California Management Review, 50(1), 2007, pp.57– 76.

[93] Lüdeke-Freund F., Gold S., Bocken N. M. P., *A review and typology of circular economy business model patterns,* Journal of Industrial Ecology, 23(1),2019, pp. 36– 61.

[94] Spilhaus A., *Resourceful waste management,* Science News, 89(25),1966, pp. 486– 498.

[95] Bocken N. M. P., Olivetti E. A., Cullen J. M., Potting J., Lifset R., *Taking the circularity to the next level: A special issue on the circular economy,* Journal of Industrial Ecology, 21(3), 2017, pp.476– 482.

[96] Stahel W. R., Reday-Mulvey G., *Jobs for tomorrow: The potential for substituting manpower forenergy,* Vantage Pres, 1981.

[97] Stahel W., *The performance economy,* (2nd ed.). Palgrave MacMillan, London, 2006.

[98] Lovins A. B., Lovins L. H., Hawken P., *A road map for natural capitalism.* In M. Lucas (Ed.), Understanding business: Environments. Routledge, London, 1999.

[99] Pearce D., Turner R., *Economics of natural resources and the environment,* Harvester Wheatsheaf, 1990.

The concept of the circular economy proposes a transformative economy that actively seeks to redefine production and consumption patterns through resource efficiency, sustainable economic growth, environmental protection, and social development that eliminates waste. Attempts to define the circular economy are numerous, with different emphases but also with considerable overlap.

Focusing on the socioeconomic aspects, Preston[100] defines the circular economy as *"an approach that would transform the function of resources in the company. Factory waste would become a valuable input for another process, and products could be repaired, reused or improved instead of being thrown away".*

Applying a systems perspective, the Ellen MacArthur Foundation defines the circular economy as *"an industrial system that is reparative or regenerative by intention and design… It replaces the concept of 'end of life' with that of restoration, moves toward the use of renewable energy, eliminates the use of toxic chemicals, which prevent reuse, and aims for waste elimination through superior design of materials, products, systems and, within these, business models"*[101].

Webster[102] went on simplify this definition, saying that the circular economy is an economic model that is *"restorative by design, and aims to keep products, components and materials at their maximum utility and value, at all times".*

Kirchherr and colleagues[103], reviewing 114 definitions of circular economy, synthesized existing definitions into one comprehensive definition arguing that *"[A circular economy is] an economic system that replace the concept of 'end of life' with reduction, alternative reuse, recycling and recovery of materials in production/distribution and consumption processes. It operates at the micro level (products, companies, consumers), meso (eco-industrial parks) and macro (city, region, nation and beyond) levels, with the goal of achieving sustainable development, simultaneously creating environmental quality,*

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[100] Preston F., *A global redesign? Shaping the circular economy,* Chatham House, 2012.
[101] Ellen Macarthur Foundation., *Towards the circular economy,* (Vol. 1), Cowes, 2013.
[102] Webster K., *The circular economy: A wealth of flows,* Ellen MacArthur Foundation Publishing, 2015.
[103] Kirchherr J., Reike D., Hekkert M., *Conceptualizing the circular economy: An analysis of 114 definitions,* Resources, Conservation and Recycling, 127, 2017, pp.221– 232.

economic prosperity and social equity, for the benefit of current and future generations. All made possible by new business models and responsible consumers"[104].

Blomsma e Brennan[105] understand the circular economy as an "umbrella concept" that tent to *"extend the life span of resources, such as: the reuse, recycling, remanufacturing, servitization, repair, waste-to-energy, product longevity approaches, and substance cascading (i.e., the transformation of material through various stages of use)".*

Define the circular economy such as an umbrella concept allows to consider many potentially important factors (e.g., behavioral aspects) that could have the potential to advance circular economy efforts.

According to Blomsma and Brennan[106], the circular economy *"articulates (more clearly) the ability to extend the productive life of resources as a means of creating value and reducing value destruction"* [107].

Lüdeke-Freund and colleagues[108] argue that social and environmental resource issues require firms to rethink existing supply chains and adopt new business models.

Drawing on and expanding on the work of the Ellen Macarthur Foundation and others, the autors identified 26 CEBMs in the literature ranging from technology-driven approaches that seek to promote efficiency, to sufficiency approaches such as sharing models, and proposed a typology of six main models of CEBM, namely, (i) repair and maintenance, (ii) reuse and redistribution, (iii) refurbishment and remanufacturing, (iv) recycling), (v) *cascading and repurposing*, and (vi) organic commodity business models[109].

Hoever, while the concept of circularity is now understood as an important opportunity to achieve sustainability throughout the fashion industry, by using more commercially viable approaches to guide design strategy and practice, established companies still show a strong reluctance to incorporate circular thinking into their existing business models[110].

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[104] Ibidem.
[105] Blomsma F., Brennan G., *The emergence of circular economy: A new framing around prolonging resource productivity,* Journal of Industrial Ecology, 21(3),2017, pp. 603– 614.
[106] Ibidem.
[107] Ibidem.
[108] Lüdeke-Freund F., et al., op.cit.
[109] Ibidem.
[110] Ibidem.

According to Evans and colleagues [111], one of the factors beginf the lack of progress is the complexity of long value chains when trying to shift existing models to sustainable business model such as CEBMs, an issue particularly pertinent in the fashion industry often characterized by global supply chains. Recognizing the inherent complexity of business model innovation, Jaeger-Erben and colleagues [112] suggest taking a system approach with a societal focus that actively involves all stakeholders, including consumers.

Indeed, with a few notable exceptions[113], behavioral elements are often overlooked in circular economy research, which has focused predominantly on technical advances, as consumers are mostly seen as passive stakeholders with little or no influence on business processes.

However, several steps in the circular fashion model extend to consumer use, collection, recycling, and reuse of garments, and most CEBMs rely on consumers input to slow, shrink, and close resource cycles.

Although their implementation ca be quite functional, the advancement of CEBMs is an extension of corporate sustainability efforts.

Minelgaitė e Liobikienė[114], for example, underline the importance of reduction, reuse and recycle behaviors as effective tools for solving the waste problem, thus drawing attention to the behavioral components needed to fully close the loop and enable effective circular practices.

Similarly, the OECD [115] emphasizes the importance of behavior such as reuse and repair and, more generally, changed consumer behaviors in an effort to advance the circular economy, making it an important area of research that requires further attention. In addition, recent research has shown that fashion consumers exhibit positive attitude

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[111] Evans S., Vladimirova D., Holgado M., Van Fossen K., Yang M., Silva E. A., Barlow C. Y., *Business model innovation for sustainability: Towards a unified perspective for creation of sustainable business models,* Business Strategy and the Environment, 26,(5),2017, pp. 597– 608.

[112] Jaeger-Erben M., Jensen C., Hofmann F., Zwiers J., *There is no sustainable circular economy without a circular society,* Resources, Conservation and Recycling, 168, 2021.

[113] Tunn V. S. C., Bocken N. M. P., van den Hende E. A., Schoormans J. P. L., *Business models for sustainable consumption in the circular economy: An expert study,* Journal of Cleaner Production, 212,

[114] Minelgaitė A., Liobikienė G., *Waste problem in European Union and its influence on waste management behaviours,* Science of the Total Environment, 667, 2019, pp.86– 93.

[115] McCarthy A., Dellink R., Bibas R., *The macroeconomics of the circular economy: A Critical Review of Modelling Approaches. OECD Environment Working Papers, No. 130.* OECD Publishing, Paris, 2018.

towards recycling textile waste to produce new clothes[116], providing potentially fertile ground for CEBM adoption and innovation.

As argued by Urbinati and colleagues[117], CEBM can only progress toward a fully circular approach when both upstream and downstream actions are considered, requiring an overall reduction in resources and unsustainable consumption practices.

2.6 The role of the dynamic capacities and of the micro-foundations in the progress of the circular economy practices

Another important factor to be considered for the successful adoption of CEBM models, is the presence or absence of (dynamic) capabilities within firms. Dynamic capabilities were initially conceptualized as the *"ability of firms to integrate, build and reconfigure internal and external competencies to cope with a rapidly changing environment"*[118].

Teece[119] then developed the concept further, suggesting that dynamic capabilities are underpinned by micro-foundations in the form of distinct competencies, processes and organizational activities and can be described as the fundamental ability of companies to respond to the rapidly changing environment in which they operate, providing the respective company with a competitive advantage. To successfully respond to changing circumstances, a company must *"(1) perceive and shape the opportunities and threats, (2) seize opportunities and, (3) maintain competitiveness by enhancing, combining, protecting and, when necessary, reconfiguring the company's intangible and tangible assets"*[120]. The dynamic capabilities then can play a potentially important role in the innovation of business models for sustainability.

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[116] [116] Kaisa V., Anne R., Pirjo H., Ali H., Aino M., *Consumer attitudes and communication in circular fashion,* Journal of Fashion Marketing and Management: An International Journal, 22(3),2018, pp. 286–300

[117] Urbinati A., Chiaroni D., Chiesa V., *Towards a new taxonomy of circular economy business models,* Journal of Cleaner Production, 168, 2017, pp.487– 498.

[118] Teece D. J., Pisano G., Shuen A., *Dynamic capabilities and strategic management,* Strategic Management Journal, 18(7), 1997, pp.509– 533.

[119] Teece D. J., *Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance,* Strategic Management Journal, 28(13), 2007, pp.1319– 1350.

[120] Ibidem.

Although the concept was developed in an attempt to provide an overarching framework to complement the literature on strategy and innovation, with a focus on multinational companies, it provides equally important insights for micro and small enterprises on how to address the challenges of corporate change towards sustainability[121].

Emerging research, such as the work on business models innovation by Filser and colleagues[122], has shown the potential of dynamic capabilities for the sustainability ambitions of smaller companies.

Wu and colleagues[123] even argue that the success of a company in adapting to changing circumstances and realizing its sustainability ambitions lies in the development and application of its dynamic capabilities.

Similarly, Khan and colleagues[124] show how micro-foundations of dynamic capabilities facilitate the implementation of CI, providing empirical evidence that demonstrates how sensing, capturing and reconfiguring activities can advance circular economy opportunities.

While existing research on dynamic capabilities and their relevance for sustainability has been confirmed by recent meta-analyses and systematic literature reviews[125], only a few studies have applied a dynamic capabilities framework to the circular economy[126]. however, with the Covid-19 pandemic posing unprecedented contextual challenges, companies must demonstrate resilience, agility and high levels of flexibility if they are to promote the sustainability of their business during the Covid-19 health crisis and future crises[127] .

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[121] Filser M., Kraus S., Breier M., Nenova I., Puumalainen K., *Business model innovation: Identifying foundations and trajectories,* Business Strategy and the Environment, 30(2), 2021, pp.891– 907.

[122] Ibidem.

[123] Wu Q., He Q., Duan Y., *Explicating dynamic capabilities for corporate sustainability,* EuroMed Journal of Business, 8(3), 2013, pp.255– 272.

[124] [124] Khan O., Daddi T., Iraldo F., *Microfoundations of dynamic capabilities: Insights from circular economy business cases,* Business Strategy and the Environment, 29(3), 2020, pp.1479– 1493.

[125] Buzzao G., Rizzi F., *On the conceptualization and measurement of dynamic capabilities for sustainability: Building theory through a systematic literature review,* Business Strategy and the Environment, 30(1), 2021, pp.135– 175

[126] Khan O., et al., op.cit.

[127] Helfat C. E., Finkelstein S., Mitchell W., Peteraf M., Singh H., Teece D., Winter S. G., *Dynamic capabilities: Understanding strategic change in organizations,* Blackwell Publishing, London, 2007.

CHAPTER 3. SUSTAINABLE FASHION RETAIL IN THE FASHION INDUSTRY AND RESUSE-BASED SALES MANAGEMENT

3.1 Sustainable retail in the disposable fashion, in the *fast fashion* and *slow fashion*

Retail is a complex activity involving long and diverse supply chains including production, raw materials, fabric manufacture, garment making, shipping, retailing, use and final disposal of the garment. Retail, as part of the supply chain, is facing dramatic changed in consumption. In some ways, consumerism has become a defining characteristic of modern societies, while at the same time sustainability has been a major issue that has raised social concerns worldwide. In modern times, shopping is increasingly becoming a leisure activity, done not out of necessity, but rather out of luxury[128]. This consumerism is in direct conflict with sustainability.

Shopping malls, fashion magazines, catalogues and Internet advertisement bombard consumers with shopping opportunities. The *"fast fashion"* has encouraged this rampant consumerism. In *fast fashion*, designs are usually based on the latest trends presented twice a year by Fashion Week magazine[129]. The rapid passage of fashion trends from catwalks to markets is based on the optimization of certain aspects of the supply chain, including the design and production of clothing collections[130]. Optimizing the supply chain aims at enabling mainstream consumers to buy the trendiest garments at a lower price. In addition, the supply chain of the *fast fashion* creates new styles more frequently, making fashion cycles faster than ever before.

Faster fashions and more affordable prices tempt consumers to buy and dispose of clothes more frequently. Consequently, *fast fashion* has also become associated with disposable

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[128] Babin B.J., Darden W.R., Griffin M., *Work and/or fun: Measuring hedonic and utilitarian shopping value*, J. Consum. Res. 1994, 20, pp.644–656.
[129] Hines T., Bruce M., *Fashion Marketing—Contemporary Issues,* 2nd ed, Routledge, London, UK, 2007.
[130] Hines T., *Trends in textile global supply chains,* Textiles, 2010, 37, pp.18–20.

fashion. Today, *fast fashion* leads the wat in disposable clothing. However, this is particularly worrying for sustainable development, because it creates a demand for cheap clothing and then ultimately, produces and places on the market a constant and enormous amount of textile waste, accelerating carbon emissions and global warming[131].

In existing studies, researchers from different countries have examined consumer reactions to the paradoxical peculiarity of "sustainable fashion" in various markets. According to the research Bly and colleagues[132], consumers treats the fast fashion model as the very antithesis of sustainability. Consistently, based on a survey of students who had purchased *fast fashion* garments, Joung[133] found that although *fast fashion* consumers were interested in the environment, they did not participate in recycling. However, as Thomas[134] points out, the pioneers of sustainable fashion consumption express their scepticism towards the sustainability efforts of major fashion retailers. Similarly, Faurschou[135] argues that although fashion manufacturers and retailers offer *one-off* sustainable options, they still rely on hyper-consumption and low prices to achieve their business goals.

In order to solve the problems related to the lack of sustainability of disposable and *fast fashion*, some famous *fast fashion* brands have launched sustainability programs.

The famous Swedish brand H&M, for example, a typical fast fashion brand actively involved in *eco-fashion*, has attracted the interest of researchers[136]. As a pioneer of sustainable fast fashion, H&M produces a *"Conscious Collection"* line made of environmentally friendly and recycled materials, creates glossy advertising campaigns to encourage the recycling of clothes and has a voucher program offering discounts to those

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[131] Where Does Discarded Clothing Go? in: https://www.theatlantic.com/business/archive/2014/07/where-does-discarded-clothing-go/374613/

[132] Bly S., Gwozdz W., Reisch L.A., *Exit from the high street: An exploratory study of sustainable fashion consumption pioneers,* Int. J. Consum. Stud. 2015, 39, pp.125–135.

[133] Joung H.M., *Fast-fashion consumers' post-purchase behaviours*, Int. J. Retail Distrib. Manag. 2014, 42, pp.688–697.

[134] [134] Thomas S., *From green blur to ecofashion: Fashioning an ecolexicon,* Fash. Theory J. Dress Body Cult. 2008, 12, pp.525–540.

[135] Fletcher K., *Slow fashion: An invitation for systems change,* Fash. Pract. 2010, 2, pp.259–266.

[136] Shen B., *Sustainable fashion supply chain: Lessons from H&M,* Sustainability 2014, 6, pp.6236–6249.

who donate their old clothes to its shops[137]. In addition to the Conscious Collection, that represents a small part of H&M's total collection, H&M has committed to sustainability in more products[138]. Although H&M's efforts to be eco-friendly have raised doubts about its real effectiveness in mitigating the massive and growing environmental pollution of its *fast fashion* business, the investment in eco-friendly programs demonstrate H&M's interest in sustainability.

The *slow fashion* movement arose in opposition to *fast fashion*. The aim of *slow fashion* is not to slow down the textile and clothing supply chain, but to place a more holistic emphasis on creating a more sustainable process.

According to Clark[139], *slow fashion* offers more sustainable and ethical ways to be fashionable.

Unlike the greedy consumption, extremely low prices and labour exploitation that *fast fashion* relies on, *slow fashion* values quality and long-term thinking.

Usually, slow fashion products are made from durable, recycled or organic materials and feature timeless designs that can be worn all year round and od not go out of fashion quickly, so that consumers can keep an item of clothing longer than a season if they feel emotionally or culturally attached to it. This logic suggests that the production and manufacturing process, as well as the final product, should all be sustainable. However, *slow fashion* items are usually priced higher than *fast fashion* items, which discourages most consumers from appreciating them.

In short, it is a challenge for the fashion industry to enable the mass market to enjoy sustainable fashion, especially in developing markets where consumers are more price sensitive.

Existing studies on sustainable fashion (including disposable fashion, fast fashion and *slow fashion*) present a consumer-sustainability paradox. The results show that consumers are in favour of the terms "sustainable fashion" but believe that sustainability and fashion

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[137] H&M Conscious Action Sustainability Report. In: http://sustainability.hm.com/content/dam/hm/about/documents/en/CSR/reports/Conscious%20Actions%20Sustainability%20Report%202013_en.pdf

[138] Behind the Label: H&M's Conscious Collection. In: http://ecosalon.com/behind-the-label-hms-conscious-collection/

[139] Clark H., *Slow + Fashion—An oxymoron—Or a promise for the future…? Fash.* Theory 2008, 12, pp.427–446.

are incompatible and can create mistrust and confusion[140]. Furthermore, consumers' understanding and evaluation of sustainability in fashion retailing differ between developed and developing markets.

3.1.1 Ethical brands of fast fashion retailers, sustainability and legitimate

In the last decade, the fashion industry and, specifically, the *fast fashion* sector have realized that easy access to a large amount of cheap and trendy clothes can cause ethical problems. Considering the increasing social and environmental sensibility of their main target group (e.g., the younger generation), this sector has decided to implement changes in their business model and along the entire value chain in order to behave more ethically[141].

The *fast fashion* industry is a competitive and dynamic market, characterized by complex brand perception and *stakeholder* activism. Consumers expect a low price, a wide range of products, trendy designs and, at the same time, respect for the environment and human rights[142]. On the other hand, the fashion industry focuses on rapid product life cycles to satisfy consumers' need for novelty and variety, thus leading to the impulsive purchase of new garments and the irresponsible disposal of old ones. Because of these characteristics, *fast fashion* is considered one of the most polluting and socially irresponsible industries[143]. The continuous demand of low prices and quick responses to new trends increases the negative impact on outsources producers and the phenomenon of planned obsolescence invites increasing consumerism and generates a huge amount of disposal.

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[140] Bly S., Gwozdz W., Reisch L.A., *Exit from the high street: An exploratory study of sustainable fashion consumption pioneers,* Int. J. Consum. Stud. 2015, 39, pp.125–135.
[141] McKeown C., Shearer L., *Taking sustainable fashion mainstream: Social media and the institutional celebrity entrepreneur,* Journal of Consumer Behaviour, 18(5),2019, pp. 406–414.
[142] Amed I., Berg A., Kappelmark S., *The sate of fashion 2018. The business of fashion and McKinsey & Company,* 2017, in https:// cdn.businessoffashion.com/reports/The_State_of_Fashion_2018_v2.pdf
[143] Karaosman H., Morales-Alonso G., Brun A., *From a systematic literature review to a classification framework: Sustainability integration in fashion operations,* Sustainability, 9(1),9, 2017.

Fast fashion retailers, including H&M and Zara, have revolutionized the fashion industry by democratizing high fashion and providing consumers with affordable and trendy clothes in the shortest possible time. the traditional "designer-push" model, in which the designer determined what was "*in"* and *"out"*, has been replaces by an "opportunity-pull" approach, in which fast fashion retailers adapt to trends at short notice, create rapid prototypes and offer small batches combined with efficient delivery to shops[144].

Fast fashion retailers have combined their own production facilities with a labour-intensive activity carried out by contractors all over the world, especially in emerging and developing countries. The *fast fashion* industry has struggled to manage the complex supply chain in a sustainable, transparent and responsible manner. Low-priced clothing entices consumers to buy trendy products instinctively, satisfying instant gratification and thus raising the global waste problem.

Over the past decade, these practices have provoked criticism of the industry, accusing companies of being socially irresponsible and environmentally unsustainable[145].

Ethics and sustainability in this industry are considered an oxymoron[146]. Consumers, especially young ones, are starting to choose environmentally and socially sustainable brands and the *"slow fashion"* movement is undermining the business model and goals of *fast fashion*. In reality, the *"slow fashion"* movement is not an opposition to the fast fashion industry, but a social demand to push the industry to implement good working conditions and reduce environmental destruction.

In response to consumer demand, the sustainable fashion market has continued to flourish even during the economic crisis, reinforcing the concept of "ethical fashion", a new *business* model that produce sustainable garments while respecting workers' rights, taking care of environmental issues and properly managing stakeholders'[147] needs and expectations.

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[144] Joy A., Sherry J. F., Venkatesh A., Wang J., Chan R., *Fast fashion, sustainability, and the ethical appeal of luxury brands,* Fashion Theory, 16 (3), 2012, pp.273–295

[145] Ibidem.

[146] Rutter C., Amstrong K., Blazquez Cano M., *The Epiphacic sustainable fast fashion Epoc: A new fashion, ethical fashion mandate.* In C. E. Henninger, P. J. Alevizou, & H. Goworek (Eds.), Sustainability in fashion: A cradle to upcycle Approach (pp. 11–30). Palgrave Macmillan, Cham, 2017.

[147] Lundblad L., Davies I. A., *The values and motivations behind sustainable fashion consumption,* Journal of Consumer Behaviour, 15(2), 2016, pp. 149–162.

The concept of sustainable fashion is not unambiguously defined, as there are no strict industry standards yet. Sustainable fashion is a part of the fashion industry that applies higher standards on labour rights environmental damage control and resource management, including policies against animal cruelty, eco-friendly materials, standards against worker exploitation and environmentally sustainable supply chain management practices. this business model is based on the concept of the *triple bottom line (People, Planet and Profit)*: maximizing positive impacts and minimizing negative impacts for stakeholders in the social, environmental and economic dimensions[148].

Ethical fashion brands are characterized by *"respect for people (at all levels of the organization), the community and its supply chain; respect for the planet, recognizing that resources are finite; and the generation of profits from adherence to these principles"*[149].

Pro-environmental consumerism is a typical example of purchasing driven by personal, social and cultural values, which has recently transformed into ecological awareness and eco-friendly social influence and behaviour. But toda's consumers are not only concerned about ecological impact. They demand ethics based on environmentally and socially responsible business management. For this reason, fashion houses and retailers have started to take action on sustainability and many operators have started to offer sustainable options in their product lines[150].

Until now, consumers have complained about the lack of sustainable fashion consumption, claiming that sustainable clothing choices are limited, prices are significantly higher, options are not aesthetically appealing and environmentally responsible products are difficult to purchase.

In response, *fast fashion* retailers such as H&M and Zara, have begun to embrace emerging philosophies such as *"eco-fashion"*, *"slow fashion"* or "sustainable fashion"

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[148] Elkington J., *Cannibals with forks: The triple bottom line of 21st century business,* Capstone, Oxford, England, 1997.

[149] Langenwalter G. A., *Planet first (incorporating sustainability in corporate strategy),* Strategic Direction 26(2), 2010, pp. 10-18.

[150] Hill J., Lee H. H., *Sustainable brand extensions of fast fashion retailers,* Journal of Fashion Marketing and Management, 19(2), 2015, pp. 205–222.

by launching sustainable collection, that respects fitting, appearance and cost (e.g. "H&M conscious", "Zara Join Life")[151].

Brands that have chosen to embrace sustainable fashion aim to be perceived as ethical brands, as they claim that their clothes are ethically and ecologically designed and manufactured.

In the fashion industry, consumers have recently been shifting from a predominantly utilitarian approach to an ethical one, and incremental changes have been made to meet these expectations and strike a balance between the needs and rights of *stakeholders* and the economic profits of companies.

Nevertheless, there is still a gap between attitudes towards sustainable fashion and the behaviour and purchase of sustainable fashion, and further investigation is needed to bridge this disparity.

Consumption, especially in clothing, is influenced by the desire to identify with values and meanings and to create a personal identity. Unethical behaviour is condemned by consumers, but few of them actually embrace buying sustainable fashion, as the drive to be "fashionable" is stronger then the drive to be ethical and sustainable[152]. Ethical consumers are motivated by individual and societal values, ideas and ideologies, and identification with ethical brands reinforces a positive symbolic feeling of advantage and self-representation. However, in the global clothing industry, consumers are not interested in ethical purchasing if it entails inconvenience or higher prices.

Although ethical fashion consumers are willing to do the right thing and choose the most responsible and sustainable brands, they may sometimes be less committed and loyal than food consumers, as they do not perceive a negative effect on non-sustainable clothing brands on their health.

A mix of perceived psychological functional and emotional benefits motivate consumers to buy sustainable fashion products, such as biospheric values (higher prices for more durable and long-lasting garments, health related to the use for natural materials, respect for the environment); altruistic values (social justice); selfish values (self-esteem and self-

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[151] Lundblad L., Davies I. A., op.cit.

[152] McNeill L., Moore R., *Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice,* International Journal of Consumer Studies, 39(3), 2015, pp.212–222

expression related to brand value). Sustainably produced garments and sustainable collection may represent an ethical purchasing option and, at the same time, a fashionable source to build a positive identity throuw consumption for conscious consumers, representing a dilemma between accessible and fashionable clothing and an altruistic interest in environmental sustainability[153].

3.1.2 Reasons for sustainable collections: altruistic reasons against reasons of service to the company

According to attribution theory, consumers are expected to infer two different motivations for sustainable collections: altruistic motivations and motivations of service to the company.

Since companies are profit-drive, consumers may attribute the cause of sustainable collections to reasons of service to the company, such as increased revenue or advertising, which is an extrinsic factor[154].

When consumers see sustainable collections as self-promotional, they tend to be sceptical about companies' sustainability activities, which reduces consumers' perception of corporate legitimacy. On the contrary, consumers may see the sustainable lines of *fast fashion retailers* as altruistic because they believe that companies care about workers and/or the environment, which is an intrinsic motive. With this attribution, consumers are more likely to trust companies' sustainability practices, which increases their competitive advantages.

Miotto and Youn's[155] study argues that different types of consumer attributions (e.g. intrinsic or extrinsic attributions) can influence the impact of sustainability collections on corporate legitimacy and other competitive advantages[156].

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[153] McNeill L., Moore R., op.cit.

[154]

[155] Miotto G., Youn S., *The impact of fast fashion retailers' sustainable collections on corporate legitimacy: Examining the mediating role of altruistic attributions*, J. Consumer Behav, 2020.

[156] Edinger-Schons L. M., Sipilä J., Sen S., Mende G., Wieseke J., *Are two reasons better than one? The role of appeal type in consumer responses to sustainable products,* Journal of Consumer Psychology, 28 (4), 2018, pp.644–664.

When consumers attribute the cause of *fast fashion* retailers' sustainable collections to the company's altruistic motivations (e.g. concern for the environment, employees and consumers), they will respond to sustainable collections more favourably, resulting in enhanced corporate legitimacy.

Based on this rationale, altruistic attribution of motivations for sustainable collections are believed to be an important psychological factor mediating the influence of the sustainable collections on perceived corporate legitimacy and other positive outcomes. Indeed, the mediating role of altruistic attributions has been found in existing studies on socially responsible[157] business practices. It was found, for example, that altruistic attributions of *cause-related marketing* (CRM) motives, mediate the influence of CRM time duration on purchase intention[158]. Similarly, the effect of a combination of extrinsic and intrinsic recall on purchase intention appears to be mediated by consumers' altruistic attributions of the company's motives for producing sustainable products[159].

3.2 *Green branding* and *eco-labeling*

The rise of green consumption makes people focus more on the sustainability of fashion products and are more willing to pay a premium for sustainable offerings. Driven by these trends, fashion companies are striving to build an environmentally friendly and socially conscious brand identity. As a result, *green branding* has been an important topic for both industry and academia in recent decades.

Green branding refers to *"active public communication and brand differentiation from competitors through ecological attributes"*[160]. Companies can build green branding by demonstrating environmentally friendly attributes or by providing a warm feeling to its customers. In the fashion industry, companies apply several labels to implement the *green branding* strategy, such as "ethical", *"eco-friendly",* "organic", "natural" and "fair-

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[157] Ibidem.

[158] Youn S., Kim H., (2018). *Temporal duration and attribution process of cause-related marketing: Moderating roles of self-construal and product involvement,* International Journal of Advertising, 37(2), 2018, pp.217–235.

[159] Edinger-Schons L. M., et al., op.cit.

[160] Hartmann P., Ibáñez V.A., Sainz F.J.F., *Green branding effects on attitude: Functional versus emotional positioning strategies,* Market. Intell. Plan. 2005, 23, pp.9–29.

trade"[161]. The misuse of the words "green", however, leads to confusion for both companies and consumers. Among these labels, eco-fashion and ethical fashion are the most commonly cited terms in research. Although they are considered interchangeable in most searches, there are some key differences.

Eco-fashion refers to a production process of textiles and clothing that takes into account environmental impact. Ethical fashion is defined as a fashion product whose production processes follow fair trade principles, such as exploitation-free working conditions, and reduce harmfulness to the environment[162].

The focus on sustainable or renewable materials is an eco-fashion strategy. Fashion products made from environmentally friendly materials and under fair trade conditions fall into the category of ethical fashion. Therefore, *green branding* in the fashion industry should cover both eco-fashion and ethical fashion.

Although previous *marketing* research has obtained inconsistent results on the relationship between environmental attitudes and consumption behaviour, a positive relationship between a higher level of environmental concern and favorable attitudes towards environmentally friendly products has been supported by several studies[163].

Furthermore, in fashion research, some studies indicates that customers' environmental attitudes have an impact on their intention to purchase environmentally friendly fashion products[164]. Therefore, marketing efforts for green fashion will promote a positive brand image and increase purchase intentions by existing or potential customers who are concerned about environmental issues. When considering green fashion brands, customers usually focus on two aspects: the "intrinsic features" of products, such as sustainable materials and production processes that concern the environment, and the extrinsic business practices that support environmental causes. Fashion brands can build

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[161] Beard N.D., *The branding of ethical fashion and the consumer: A luxury niche or mass-market reality? Fash,* Theory 2008, 12, pp.447–468.

[162] Joergens C., *Ethical fashion: Myth or future trend? J. Fash,* Mark. Manag. Int. J. 2006, 10, pp.360–371.

[163] Van de Velde L., Verbeke W., Popp M., Van Huylenbroeck G., *The importance of message framing for providing information about sustainability and environmental aspects of energy,* Energy Policy 2010, 38, pp.5541–5549.

[164] Yoo J.J., Divita L., Kim H.Y., *Environmental awareness on bamboo product purchase intentional: Do consumption value impact green consumption?* Int. J. Fash. Des. Technol. Educ. 2013, 6, pp.27–34.

their green image from the outset or by transforming existing brands to include the principles of ecological and ethical fashion.

Resent research also provides insights for fashion companies to optimize their *green marketing* efforts. According to Lee and colleagues[165], for example, consumers' perception of green campaigns is positively associated with their sustainability behaviour through the mediating effect of their green consciousness. Bly and colleagues[166] examine the effect of motivational and contextual factors on sustainable consumer behaviour in the field of fashion, such as the purchase of second-hand articles. They indicate that personal style is a critical factor in influencing consumers' sustainable fashion behaviour. Goworek and colleagues[167] point out that consumers' sustainable fashion behaviour is largely dependent on their habits, rather than their awareness of sustainable business practices.

Ritch[168] explores the application of sustainability in the fashion industry and finds that sustainability concepts have been transferred to fashion retail in the UK and are beginning to influence consumer decision-making. He[169] also surveys consumer perceptions of sustainable fashion consumption and identifies some barriers to sustainable consumption in the fashion industry.

Ha-Brookshire and Norum[170] suggest that consumers' willingness to pay for high quality or sustainable fashion products is positively influenced by their attitudes towards sustainable products and brands, but negatively by consumers' attitudes towards the environment, age and price.

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[165] Lee N., Yun J.C., Youn C., Lee Y., *Does green fashion retailing make consumers more eco-friendly? The influence of green fashion products and campaigns on green consciousness and behavior,* Cloth. Text. Res. J. 2012, 30, pp.67–82.

[166] Bly S., et al., op.cit.

[167] Goworek H., Fisher T., Cooper T., Woodward S., Hiller A., *The sustainable clothing market: An evaluation of potential strategies for UK retailers,* Int. J. Retail Distrib. Manag. 2012, 40, pp.935–955.

[168] Ritch E.L., *Consumers interpreting sustainability: Moving beyond food to fashion,* Int. J. Retail Distrib. Manag. 2015, 43, pp.1162–1181.

[169] Ibidem.

[170] Ha-Brookshire J.E., Norum P.S., *Willingness to pay for socially responsible products: Case of cotton apparel,* J. Consum. Mark. 2011, 28, pp.344–353.

Kumar[171] describes sustainable retailing practices in India an identifies nine main groups of sustainable retailing practices, such as promoting sustainable business practices, raising awareness and engaging consumers.

Ritch and Schröder[172] explore the fashion consumption behaviour of professional women in the UK and find that these consumers apply heuristics to their fashion consumption hebaviour.

3.3 Retailing of the second-hand fashion

Second-hand consumption has developed as a growing trend over the past two decades in both Western and developing countries.

Research by the Ellen MacArthur Foundation indicates that fashion consumption creates enormous pressures on the environment; over 15 million tonnes of clothing[173] are landfilled each year. It is widely recognized that the promotion of second-hand fashion plays a key role in changing customers' purchasing behavior and disposal habits, and that second-hand fashion companies contribute significantly to sustainable consumption[174].

Since 1960s, second-hand fashion retailing has become a formal business model with multi-million dollar revenue through retail shops, consignment shops and charity shops. One of the main operations of this business is recycling. The recycling of fashion products can be classified into three types: *"up-cycling"*, *"down-cycling"* and *"reusing"*.

Second-hand fashion retailing mainly refers to "reusing", which represents the collection, sale and exchange of used fashion products.

Two parallel and interconnected terms are used in second-hand fashion consumption, with similarities and differences in their definitions. One term refers to second-hand fashion, which is defined as previously owned and used fashion products. Second-hand fashion categories any fashion product that has been previously used, regardless of the

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[171] Kumar P., *Greening retail: An Indian experience,* Int. J. Retail Distrib. Manag. 2014, 42, pp.613–625.

[172] [172] Ritch E.L., Schröder M.J., *Accessing and affording sustainability: The experience of fashion consumption within young families,* Int. J. Consum. Stud. 2012, 36, pp.203–210

[173] Towards the Circular Economy Vol. 2: *Opportunities for the Consumer Goods Sector.* In: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/TCE_Report-2013.pdf

[174] Choi T.M., Cheng T.C.E., *Sustainable Fashion Supply Chain Management from Sourcing to Retailing,* Springer International Publishing, Cham, Switzerland, 2015.

age of the product. Consumer decision to buy second-hand fashion products are mostly motivated by lower prices and are often associated with sustainable consumption behaviour. The other term is *vintage* fashion, defined as *"a rare and authentic piece representing the style of a particular couturier or era"*[175]. Compared to second-hand fashion, the value of vintage fashion products is more related to their age, era and even condition.

Some studies have covered the motivations for second-hand fashion consumption. These studies indicate that second-hand fashion consumption is not only motivated by saving money[176]. Carrigan and colleagues[177], for example, indicated that compared to cheap fashion, which represents disposable fashion, luxury fashion brand constitute a more sustainable and conscientious type of fashion.

Many consumers, for example, are driven by the excitement of consuming second-hand luxury fashion and appreciate its tradition and quality.

Cervellon and colleagues[178] found that the motivations for consuming *vintage* fashion are quite different from those for consuming second-hand fashion. The two main motivations driving vintage fashion consumption are nostalgia and fashion involvement, both of which influence vintage fashion consumption directly and indirectly through treasure hunting. However, the main motivation for second-hand fashion consumption is frugality, which influences second-hand fashion consumption through bargain-hunting.

Guiot and Roux[179] show that second-hand fashion consumption is motivated by the rarity of the good and nostalgia. Joung and Park-Poaps[180] generalize that environmental concerns might motivate customers to resell and donate fashion products, but economic benefits are the main consideration for reuse and purchase.

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[175] Gerval O., *Fashion: Concept to Catwalk,* Firefly Books, Buffalo, NY, USA, 2010.

[176] Turunen L.L.M., Leipämaaleskinen H., *Pre-loved luxury: identifying the meanings of second-hand luxury possessions,* J. Prod. Brand Manag. 2015, 24, pp.57–65.

[177] Carrigan M., Moraes C., McEachern M., *From conspicuous to considered fashion: A harm-chain approach to the responsibilities of luxury-fashion businesses,* J. Mark. Manag. 2013, 29, pp.1277–1307.

[178] Cervellon M.C., Carey L., Harms T., *Something old, something used: Determinants of women's purchase of vintage fashion vs. second-hand fashion,* Int. J. Retail Distrib. Manag. 2012, 40, pp.956–974.

[179] Guiot D., Roux D., *A second-hand shoppers' motivation scale: Antecedents, consequences and implications for retailers,* J. Retail. 2010, 86, pp.355–371.

[180] Joung H.M., Park-Poaps H., *Factors motivating and influencing clothing disposal behaviours,* Int. J. Consum. Stud. 2013, 37, pp.105–111.

In this area, there are a limited number of studies focusing on second-hand fashion from a retail perspective. Fuentes[181], for example, analyses the sustainability of retail at Myrorna, Sweden's largest second-hand retailer. Beh and colleagues[182] examine second-hand fashion from the perspective of *reverse retailing*. They show that second-hand fashion retailers use a *business* model to extend product life. Based on the Business Model Canvas and mapping approach of reverse retailing, they[183]

Study the business models of two second-hand fashion retailers and analyze the future plans of the models.

In addition, second-hand fashion retailing has the potential to positively influence companies' revenue by increasing their customer base and customer loyalty. Fashion companies could apply two broad strategies to this activity. First, they could launch an in-store product collection program to encourage customers to return used products.

In 2013, for example, H&M imitated the conscious clothing collection campaign and collected more than 39,000 tonnes of used textiles through its retail shops[184]. Secondly, they could develop resale channels to capture the residual value of used fashion products. Eileen Fisher, for example, sells second-hand products in Green Eileen[185] second-hand shops.

To address thess challenges, the researchers made several suggestions. In particular, second-hand fashion retailers should focus on product quality; create a loyalty program and educate customers to develop an eco-friendly attitude; provide transparent information on the benefits of second-hand shopping; raise awareness and of fashion recycling and encourage consumers to engage in second-hand[186] shopping; and collaborate with charitable organisations to promote the reuse of second-hand products.

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[181] Fuentes C., *Images of responsible consumers: Organizing the marketing of sustainability,* Int. J. Retail Distrib. Manag. 2015, 43, pp.367–385.

[182] Beh L.S., Ghobadian A., He Q., Gallear D., O'Regan N., *Second-life retailing: A reverse supply chain perspective*, Supply Chain Manag. 2016, 21, pp.259–272.

[183] Ibidem.

[184] H&M Group Sustainability Report 2016. In: http://sustainability.hm.com/content/dam/hm/about/documents/en/CSR/2016%20Sustainability%20report/HM_group_SustainabilityReport_2016_FullReport_en.pdf

[185] Hvass K.K., *Post-retail responsibility of garments—A fashion industry perspective,* J. Fash. Mark. Manag. 2014, 18, pp. 413–430.

[186] Wilson J.P., *The triple bottom line: Undertaking an economic, social, and environmental retail sustainability strategy,* Int. J. Retail Distrib. Manag. 2015, 43, pp. 432–447.

3.4 Reverse logistics in fashion retail distribution

Reverse logistics is a process of returning goods or materials for reuse or recycling. It is an efficient and sustainable strategy that has been widely used in the fashion supply chain. By using reverse logistics, the value of returned fashion products is increased, and they are resold to other markets or recycled in a sustainable manner. One type of reverse logistics refers to the return policy between retailers and suppliers, defined as monetary support that retailers receive from suppliers for returning unsold products, subsidizing some losses at the end of the selling season. In the US, for example, big warehouse (Kohl's) receives buy-back credits from some fashion suppliers (Ralph Lauren) for returning unsold products.

Researchers on return policy between retailers and suppliers have found that return policy can be used to achieve supply chain coordination. Wang and Webster[187], for example, demonstrate that the return policy between retailers and suppliers can improve the supply chain and the performance of their agents. Kurata and Yue[188] noted that the combination of such return policy with a commercial *scan-back* agreement helps the supply chain to achieve coordination and benefit both the retailer and the supplier. Furthermore, studies on return policy between retailers and suppliers indicate that return policy is associated with sustainability.

In the fashion industry, Delai and Takahashi[189] first identified sustainability issues in the Brazilian retail sector (including clothing and shoe retailing). They conducted a content analysis of retailers' practices and found that Brazilian retailers identified very few reverse logics. Shen and Li[190] examined a fashion supply chain with a return policy between a retailer and a supplier and observed that if the logistical cost of returning products is low, the return policy might not benefit the sustainability of the supply chain.

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[187] Wang C.X., Webster S., *Markdown money contracts for perishable goods with clearance pricing,* Eur. J. Oper. Res. 2009, 196, pp.1113–1122.

[188] Kurata H., Yue X., *Trade promotion mode choice and information sharing in fashion retail supply chains,* Int. J. Prod. Econ. 2008, 114, pp.507–519.

[189]Delai I., Takahashi S., *Corporate sustainability in emerging markets: Insights from the practices reported by the Brazilian retailers,* J. Clean. Prod. 2013, 47, pp.211–221.

[190] Shen B., Li Q., *Impacts of returning unsold products in retail outsourcing fashion supply chain: A sustainability analysis,* Sustainability 2015, 7, pp.1172–1185.

Beh and colleagues[191] examined the impact of the entrepreneurial business models of two *off-price* retailers on the reverse supply chains of fashion retailers in Malaysia. They used the Business Model Canvas to explain the characteristics of second-hand retailers that reduce waste and democratize consumption in the reverse supply chain. Beh and colleagues[192] pointed out that retailers in developing countries have peculiarities that mark both traditional and *off-price* retail business models. Shen and colleagues[193] analyzed the effect of *markdown money* (MMP), a policy similar to returns/purchases, on sustainable retailing and found that retailers in China are more likely to offer MMP than retailers in the US.

Another type of reverse logistics occurs between consumers and retailers, which can vary across five different dimensions, including time, money, commitment, reach and exchange. Studies on return policy between consumers and retailers focus on two aspects: the effect of policy on customer behaviour and loyalty, and the effect of policy on retailer profitability[194]. Most studies on customer behaviour show that this type of return policy can attract more consumers and create more loyal customers[195]. The return policy, for example, can reduce risks for consumers and thus increase demand. It can also reduce transaction costs and increase customer value. Moreover, this return policy increases consumer trust in the retailer. However, research from the perspective of profitability indicates that the return policy between consumers and retailers may not maximise profitability. Hjort and Lantz[196], for example, found that offering the same return condition to all customers may not maximise profitability. Therefore, they show how, from an economic point of view, such a return policy is not recommendable. Lantz and

[191] Beh L.S., Ghobadian A., He Q., Gallear D., O'Regan N., *Second-life retailing: A reverse supply chain perspective,* Supply Chain Manag. 2016, 21, pp.259–272.
[192] Ibidem.
[193] Shen B., Choi T.M., Lo K.Y., *Enhancing economic sustainability by markdown money supply contracts in the fashion industry: China vs. U.S.A,* Sustainability 2016, 8, p.31
[194] Lantz B., Hjort K., *Real e-customer behavioural responses to free delivery and free returns,* Electron. Commer. Res. 2013, 13, pp.183–198.
[195] Hjort K., Lantz B., *The impact of returns policies on profitability: A fashion e-commerce case,* J. Bus. Res. 2016, 69, pp.4980–4985.
[196] Hjort K., Lantz B., *(R) e-tail borrowing of party dresses: An experimental study,* Int. J. Retail Distrib. Manag. 2012, 40, pp.997–1012.

Hjort[197] attest how free returns can reduce the average order value. They[198] also showed that the free return policy does not contribute to the long-term profitability of retailers, whereas repeat customers can generate higher contributions. However, is noteworthy that some researchers[199] argued that although the return policy does not increase profitability, it is still valuable for retailers.

In the fashion industry, Hvass[200] examined reuse and recycling practices in the global fashion industry using a qualitative approach of multiple and exploratory case studies. The author finds that reuse and recycling strategies vary from case to case. Some brands (e.g. Jack & Jones, Boomerang, Jackpot, Marks & Spencer and Levi's) ask consumers to donate used products directly to charities or use the in-store take-back process. Some brands (e.g. Filippa K, Eileen Fisher, Boomerang and Katvig) are trying to develop new retail channels to collect used products. Hvass[201] also indicates that the use of a gift voucher or discount voucher is popular among these brands to encourage consumers to return used products. Shen[202] conducted a case study on H&M, a Swedish fast fashion company. He indicates that H&M promoted sustainable retailing in 54 countries through its return program. According to this policy, consumers can return any old clothing product to H&M shops and receive a 15% discount voucher in return.

3.5 Emerging retail opportunities in e-commerce

The development of information technology contributes strongly to the sustainability of fashion *e-retailing*. The literature on *fashion e-retailing* has provided in-depth

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[197] Lantz B., Hjort K., *Real e-customer behavioural responses to free delivery and free returns,* Electron. Commer. Res. 2013, 13, pp.183–198.
[198] Hjort K., Lantz B., *The impact of returns policies on profitability: A fashion e-commerce case,* J. Bus. Res. 2016, 69, pp.4980–4985.
[199] Yan R., *Product categories, returns policy and pricing strategy for e-marketers,* J. Prod. Brand Manag. 2009, 18, pp.452–460.

[200] Hvass K.K., *Post-retail responsibility of garments—A fashion industry perspective,* J. Fash. Mark. Manag. 2014, 18, pp.413–430.
[201] Ibidem.
[202] Shen B., *Sustainable fashion supply chain: Lessons from H&M,* Sustainability 2014, 6, pp.6236–6249.

examinations of various forms of *fashion e-retailing*, such as traditional *fashion e-retailing* and blog shops.

Traditional *fashion e-retailing*, mostly operated by established online fashion retailers, uses two main strategic approaches*: "Clicks-and-Mortar"* (CAM) and *"Pure-Play"*.

Whereas *"Clicks-and-Mortar"* has both online and offline shops, *"Pure-Play"* operates only through online shops. Compared to traditional fashion e-commerce, *blog shops* are largely unregulated and run by inexperienced entrepreneurs selling products through blogs. Yeung and Ang[203] compared the main differences between the two forms of fashion e-commerce.

Regarding the impact of *e-retailing* on the fashion industry, there are two different schools of thought. Some researchers argue that *e-retailing* threatens customer loyalty and creates confusion, and that fashion is reluctant to "embrace" *e-retailing*[204]. On the contrary, most researchers believe that *e-retailing* can reduce costs, grow a loyal customer base and provide an opportunity to accumulate new business and develop international markets[205]. The majority of studies report that small and medium-sized fashion retailers in particular can benefit from improved *e-retailing*[206]. However, many small and medium-sized enterprises (SMEs) in the fashion industry have avoided *e-retailing* and only use fashion websites to provide information. Therefore, designing a path for sustainable and profitable *e-retailing* is of great importance for fashion retailers, especially for SMEs.

Several scholars have explored strategies to develop sustainable fashion *e-retailing*. Ashworth and colleagues[207], for instance, used a comparative case study approach and reported a five-step *e-retailing* framework for both CAM and "Pure-Play", which shows how fashion *e-retailing* can be sustained and demonstrates the benefits of *cyber-selling*.

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[203] Yeung G., Ang K.L., *Online fashion retailing and retail geography: The blogshop phenomenon in Singapore,* Tijdschrift Voor Economische En Sociale Geografie 2016, 107, pp.81–99.

[204] Marciniak R., Bruce M., *Identification of UK fashion retailer use of websites,* Int. J. Retail Distrib. Manag. 2004, 32, pp.386–393

[205] Jones P., Clarke-Hill C., Hillier D., *(R)etailing in the UK,* Mark. Intell. Plan. 2002, 20, pp.229–233.

[206] Barsh J., Crawford B., Grosso C., *How e-tailing can rise from the ashes,* McKinsey Q. 2000, 3, pp.98–109.

[207] Ashworth C.J., Schmidt R.Ä., Pioch E.A., Hallsworth A., *An approach to sustainable 'fashion' e-retail: A five-stage evolutionary strategy for 'clicks-and-mortar' and 'pure-play' enterprises,* J. Retail. Consum. Serv. 2006, 13, pp.289–299.

These authors[208] used a three-step approach to analyse the key factors of developing a profitable and sustainable fashion e-retailing business through a qualitative case analysis. Ashworth[209] conceptualised the development of "Pure-Play" fashion e-retailers in the UK using a six-step process. Shen[210] examined H&M's *e-retailing* practices in several developed countries and highlights how H&M considered human and economic well-being in its *e-retailing* practices, rather than the environment. Bly and colleagues[211] indicated that the development of the Internet has changed the way consumers engage in negotiating sustainable fashion consumption in their daily lives. Finally, Yeung and Ang[212] clarified how *blog shops* can be extended from online platforms to brick-and-mortar shops in Singapore and outlined a generalised development path for *blog shops*.

3.6 Shopping center logics

The main objective of a shopping centre is economic sustainability through profit. The strategy is to create a system of market transactions in which goods, services and money are exchanged.

The shopping centre is adapted to target to certain groups, such as tourists or local shoppers, and is sometimes given a certain profile or theme[213].

In the development of a shopping centre, the management and the operators are the main agents and collaboration and coordination between them are important for success. However, integration and coordination between the mall management and *tenants* vary from one centre to another. Management may be very active, thoroughly managing the commercial aspect of operations, or act more marginally, like a tenant.

The core of a shopping centre's practices concerns the creation of an attractive commercial site. The essential basis is a good location with a surrounding commercial environment, convenient access and a shopping area that generates sufficient financial

[208] Ibidem.
[209] Ibidem.
[210] Shen B., op.cit.
[211] Bly S., et al., op.cit.
[212] eung G., et al., op.cit.
[213] Pitt M., Musa Z. N., "Towards Defining Shopping Centres and Their Management Systems." Journal of Retail and Leisure Property 8 (1), 2009, pp.39–55.

profitability[214]. The co-location of shops creates the possibility for each tenant to sell products for its own customers and those of other tenants. Shared location also promotes control over the interior environment and the movements of visitors. Access is also facilitated by generous opening hours, communications, parking and high visibility. In addition, architectural design and property management must ensure that the spatial and non-spatial factors of the shopping centre are attractive and offer a unique shopping experience. Promotional activities to attract customers, such as events, in-house marketing and advertising on various marketing channels, are another key practice.

Further practice is to refine the target group of operators in the shopping centre, which is managed through the leasing strategy and lease terms.

The combination of operators does not only concern shops, but also catering and entertainment possibilities. Cinemas, amusement rides, children's play areas and sports activities can also be used to expand the range of activities, as recreation is an important benefit for visitors. A wide range of experiences attracts customers, and a key aspect is the reference shop, usually a well-known one with a wide assortment[215].

3.7 The logic of reuse

The objective of re-use is to create environmental sustainability by extending the life cycle of products. This is achieved by organising a production system that collects used goods and puts them back into the consumption path.

In fashion reuse systems, the main actors are organised in networks, but the composition of the actors varies. Collectors, sorters, reprocessors and retailers are the primary actors, although there are variations: a collector may be an individual waste collector, a company, a charity or a municipal organisation.

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[214] LeHew M. L. A., Fairhurst A. E., *"US Shopping Mall Attributes: An Exploratory Investigation of Their Relationship to Retail Productivity,"* International Journal of Retail & Distribution Management 28 (6), 2000, pp.261–279.

[215] Damian S., Diana J., Curto D., Pinto J. C., *"The Impact of Anchor Stores on the Performance of Shopping Centres: The Case of Sonae Sierra,"* International Journal of Retail & Distribution Management 39 (6), 2011, pp.456–475.

The core of the practices of a fashion reuse system is the organisation of production processes and the development of products to be processed and then sold, i.e. retail.
The process starts with the collection of discarded products, and convenient consumer access to collection sites is crucial to maximise donations[216].
The next step is sorting, where the waste and different fractions of clothes are separated simultaneously with the categorisation of the products.
The sorting and categorisation of fashion items is complex due to the great variety of materials and products and the dependence of the operators on the interpretation of each item. A good connection between collection and sorting facilities improves efficiency, as do facilities with the correct capacity and optimal location.
Product development, or reprocessing, such as repairing, redesigning and washing, can improve or restore the functionality and value of a product.
Cost reduction during reprocessing is important, but the distribution of responsibility for operations, the skills of personnel and the types of equipment available also influence product development.
Processed products can be resold to consumers for consumption or to companies for further product development. In the case of a consumer-oriented company, a niche assortment, multiple sales channels and a developed visual display and *merchandising* can increase the value of the products[217].

3.8 The logic of the work integration

Work integration aims to create social sustainability by developing and reintegrating individual participants outside the labour force. To reintegrate workers, a strategy based on training and mentoring programmes is used, together with business-related work tasks. People who have been unemployed for a long time, for example, are hired to produce

[216] Bianchi C., Birtwistle G., *"Sell, Give Away, or Donate: An Exploratory Study of Fashion Clothing Disposal Behaviour in Two Countries,"* The International Review of Retail, Distribution and Consumer Research 20 (3), 2010,pp. 353–368.
[217] Pal R., *"Value Creation through Reverse Logistics in Used Clothing Networks,"* The International Journal of Logistics Management 28 (3), 2017, pp.864–906.

goods and services to be sold on the market[218], or immigrants are offered the opportunity to practise their language skills while participating in a business activity. Thus, the objective of a business may be the production of commercial products and services or the integration of workers into the labour force, to different degrees.

The main figures in work integration are workers, tutors, managers, volunteers and sometimes technical staff. Participants are always present, but the mix of other actors depends on how the activity is organised. In addition, there are public, private and non-governmental organisations running work integration activities, and part of the funding is often subsidies as compensation for the integration parts of the activity. This situation creates cross-border enterprises where public, private and civil society meet.

Work integration practices focus on the development of the individual participant and the focus is on active participation in work tasks.

The worker is trained both in the tasks themselves and in general work-related skills such as social interaction and empowerment through work. Workers are thus both employees and customers of the company and management must balance these two roles. Consequently, it may be necessary to adapt tasks, training and the working environment to the level of the worker. Active participation may also be supported by training (e.g. language or computer skills) and mentoring.

3.9 ReTuna shops and sales of reused products

ReTuna's shops sell reused products, but apart from this unconventional supply of goods, ReTuna aims to be a traditional shopping centre, with individual outlets, pop-up shops and a cafeteria serving lunch and snacks to visitors.

The total area of the shopping centre is 5,000 square metres on two floors, 3,600 of which can be rented. It is located next to a waste recycling station in an industrial area five kilometres from the city. The car is the most convenient means of transport for both customers and donors, as public transport is limited. On average, 400 visitors dispose of

[218] Pache A.C., Santos F., *"Inside the Hybrid Organization: Selective Coupling as a Response to Competing Insitutional Logics,"* Academy of Management Journal 56, 2013, pp.972–1001.

products at the waste recycling station and 750 people visit the shopping centre every day.

The number of shops and pop-up shops varies around fourteen and most of them are managed by the owner(s) and, in some cases, by an employee, who generally has no previous experience or training in retail or fashion and participates in a vocational or similar training programme.

All tenants purchase their products at the collection and sorting centre. Those wishing to donate products go to a covered gate, where centre staff help unload the products onto trolleys that are pushed into the sorting centre. There, clerks from each clothing shop open the parcels, sort the clothes briefly, place the children's clothes in the warehouses of the shops that sell them, and select the clothes they want. The sorting is based on the judgement of individual staff members as to what can be sold and what is missing in the shop. The lack of a sorting facility, the limited stocking possibilities and the variation in the influx of clothing lead to disparities in the assortment of each shop with regard to size, quality and types of clothing. Since the influx of donated fashion has exceeded what the shops are able to reprocess and/or sell, unsorted items are sent to two national charitable organisations, which incorporate them into their processes.

Some of the shops reprocess clothing and textiles, and each owner reprocesses products differently in terms of what processes are performed and how they are performed. The shop owners and/or assistants perform the reprocessing in the shop, in an external facility, at home or in the collection and sorting centre. During the first year, one of the clothes shops rented extra space with domestic equipment within the shopping centre to wash, iron and repair the donated clothes.

The shopping centre organises activities such as 'Crazy Monday', with special offers, and reuse workshops to attract customers and inform about sustainable consumption. In addition, social media and web pages are the main marketing channels. An unexpected but important marketing channel has been the large number of conferences and study visits hosted by the shopping centre. Many of the participants at these events shop at the mall, then spread the word and in some cases return with family and friends.

Most of the shops are decorated gradually, often with donated items, so most do not have a unifying theme. Each shop has to design and organise itself, including music, but only

three of the interviewees described an internal strategy. Overall, ReTuna is constantly changing its appearance due to the actions of the shopping centre management and shop owners[219].

[219] Hedegard L., et al., *Management of sustainable fashion retail based on reuse– A struggle with multiple logics,* 2019, in https://www.tandfonline.com/doi/full/10.1080/09593969.2019.1667855

CHAPTER 4. H&M CASE STUDY

4.1 Short introduction

Swedish *fast fashion* giant Hennes & Mauritz is working hard to build a reputation as an environmentally friendly, affordable and sustainable brand. In its latest marketing campaign 'Close the Loop', H&M encourages consumers to recycle clothes they no longer need. The fashion retailer also launched the Global Change Award: a competition for the most innovative ideas that make the fashion industry's production process more sustainable.

The H&M Group is a family of brands that aims to make great design accessible to all, keeping sustainability at the heart of its operations and business development worldwide[220].

The group emphasises environmental protection, empowerment of people and industrial transparency as key elements of its corporate perspective.

It constantly works to make the business model as sustainable as possible in order to ensure long-term growth, while creating a positive contribution on a global scale through the employment of a diverse workforce and job creation.

H&M's sustainability vision is mainly oriented towards circularity, creating climate-positive fashion, equity and balancing the ability to address the three pillars of sustainability.

H&M aims to be climate-friendly (i.e. with negative net carbon emissions) along the entire value chain using circularity on a large scale by 2040[221].

To achieve this, H&M has implemented circularity at every stage of the value chain.

Currently, circularity focuses on five key stages for the implementation of the circular economy: design, choice of materials, production processes, use of products and their reuse and recycling.

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[220] Anon, 2017. H&M Annual Report, H&M Group; Anon, 2018. H&M Group Annual Report, H&M Group; Anon, 2019. H&M Group Annual Report, H&M Group.

[221] Anon, 2017. H&M Group Sustainability Report, H&M Group; Anon, 2018. H&M Group Sustainability Report, H&M Group; Anon., 2019. H&M Group Sustainability Performance Report, H&M Group.

Circulose

The Swedish fashion group's goal is to use only recycled or sustainably produced materials in its collections by 2030. The strategy to achieve this goal rests on three pillars: in addition to Looop and the Green Machine, the collaboration with the Swedish textile recycling company Re:newcell, which uses a new technique to recycle cotton, viscose and other used cellulose fibres into a sustainable dissolving pulp, resulting in the recently patented material Circulose.

In 2020, the brand presented the first garment made of Circulose: a dress made of 50% Circulose from recycled jeans and 50% viscose from FSC-certified wood (pictured below).

In the future, the H&M Group plans to use Circulose in 'millions of garments'. Sounds impressive but given that the company produces around 3 billion garments per year, this is more of a drop in the ocean until it decides to turn those millions into billions of garments.

Fig.3 First garment made of Circulose

Looop

H&M launched its in-store recycling machine Looop in its flagship store Drottninggatan in Stockholm in October 2020 (pictured below). In eight steps, the machine turns old garments into new ones, without the use of water or chemicals. "The system recovers the valuable raw materials in the recycled clothes and turns them into fibres that are spun into new yarns and knitted into new clothes," explains H&M, which explains the process, which takes about five hours.

Fig.4 Recycling machine Loop of H&M

"It is important to make our customers part of our journey towards sustainability, showing them the value of textiles and inspiring them to extend the life of their garments. Looop is a great way to visualise this and a great platform to draw attention to the H&M Group's other recycling and repair initiatives. Looop is not the solution, but an important part of our journey to become a circular company", adds Felicia Reuterswaerd, head of sustainability at H&M Sweden.

Although this sounds promising, the process is slow and how many of these machines would it take to really make a difference? At the moment, it seems only a gimmick for H&M customers who want to throw away their old clothes and clean their conscience before buying more.

Moreover, Looop does not only work on old clothes. Already in the third stage (after washing and shredding the old fabric), new material is added to *"reinforce the material"*. It is not clear what the exact ratio of old to new is, H&M says it only strives to make the 'old' part 'as small as possible'.

The Green Machine

Last but not least is the Green Machine, which seems the most promising of the H&M Group's circularity initiatives. It was developed by a research collaboration between the H&M Foundation and the Hong Kong Research Institute of Textiles and Apparel (HKRITA) and a major supplier of the Monki brand, also part of the H&M Group.

Using an industrial-scale, hydrothermal process, the recycling machine separates cotton and polyester blends in a closed loop without loss of quality. The machine uses heat, water and less than five per cent biodegradable chemicals to recycle large quantities of clothes. *"The Green Machine is a real breakthrough for fabric upcycling in the brand's production,"* said H&M. Monki offered the first garments made with this new technology late last year, a grey hoodie and matching sweatpants.

"To close the loop, we need to be able to recycle recycled clothes on a large scale. This is nothing new, but to do so requires a technical revolution. The fact that we can use this machine in our production means we can increase the scale and solve one of the problems we have to overcome to learn more about circularity," adds Jenny Fagerlin, director of sustainability and transformation at Monki.

In summary, the H&M Group aims to use only recycled or sustainably sourced materials in the collections of all its brands by 2030 and to be fully circular and climate-positive by 2040, which is 20 years from now. Until then, what matters is how 3 billion items of

clothing are produced, sold and eventually partially discarded each year or when this number will be reduced, if at all[222].

4.2 Extraction of virgin raw materials and textile production

Textile companies have imposed strict policies regarding the sourcing of materials and fibres[223]. H&M purchased 100% of its fibre volumes from organic cotton crops.

Examples include acetate fibres partially sourced from plastic waste, natural fibres sourced from low-value agricultural waste, biobased and biodegradable substitutes for polyurethane foams in clothing, technologies to transform cellulose-rich materials into biodegradable and fully circular fibres, and research into ionic solutions for separating natural and synthetic components.

The companies reported several indicators relevant to this category. Examples are the percentage of cotton, viscose and polyester per source, the equivalent number of PET bottles in the composition of recycled polyester.

In relation to its strategy, H&M has set several targets on the sourcing and utilisation of materials and fibres. Examples are the percentage of materials (cotton, viscose, cellulose, nylon, polyester) from renewable sources by 2030 and the percentage of packaging made from recycled or sustainably sourced materials by the same date.

Regarding product production, production processes in the clothing sector are usually outsourced by large retailers[224]. *Fast fashion* companies have contracts with hundreds of suppliers on whom they impose circularity policies in their production processes. Therefore, this phase is strongly linked to auditing and related certification. In this respect, H&M mentioned its policy concerning restricted chemicals, production waste in the supply chain, water efficiency, dyeing processes, the use of sustainable raw materials and regular audits of the factories.

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[222] Welk effect hebben de duurzaamheidsinspanningen van H&M?, in https://fashionunited.nl/nieuws/mode/welk-effect-hebben-de-duurzaamheidsinspanningen-van-h-m/2021022448505

[223] Hansen E.G., Schaltegger S., M*ainstreaming of sustainable cotton in the German clothing industry*, Environ. Footprints Eco-Design Product. Process. 2016, pp. 39-58.

[224] Wen X., Choi T.M., Chung S.H., *Fashion retail supply chain management: A review of operational models,* Int. J. Prod. Econ., 207, 2019, pp. 34-55.

Reducing environmental impact is important, especially when entire collections are created and marketed to consumers. Water use seems to be an important concern in the production phase[225]. The principles of circularity also apply to water consumption, reuse and purification. Advanced production processes reduce the amount of water needed to produce popular materials such as denim[226]. The company has implemented several solutions to achieve these goals: the introduction of technologies to reduce water consumption, such as denim washing programmes that save water in the laundry phase, rainwater harvesting systems, and regular testing and auditing of waste water.

Circularity in the fashion value chain is significantly strengthened by third-party certification of supplier practices, together with audits conducted by retailers at supplier facilities[227]. In this way, fast fashion companies seek to expand their control over supply chain processes and monitor compliance with quality standards[228]. H&M, in this respect, mapped the production processes of printing, dyeing and washing denim in order to assess the environmental and social impacts in these areas.

Most research and development initiatives in this area have focused on environmental impact. H&M collaborated with the WWF to study water risks in the river basins affected by the value chain.

Another relevant certification is the CDP score for water use and discharge in the production process (H&M). H&M collaborated with the ZDHC to improve chemical management and comply with restrictions on chemicals in waste water.

Packaging is a step in the value chain that creates a strong environmental impact due to the amount of waste it generates, both in shops and in the customer's home[229]. Regarding how H&M has addressed this issue, it has created a set of Circular Product Development Guidelines to disseminate packaging best practices throughout the organisation. In

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[225] Oliveira Neto G., Cesar da Silva P., Tucci H.N.P., Amorim M., Reuse of water and materials as a cleaner production practice in the textile industry contributing to blue economy, J. Clean. Prod., 305, 2021.

[226] Zhao M., Zhou Y., Meng J., Zheng H., Cai Y., Shan Y., Guan D., Yang Z., *Virtual carbon and water flows embodied in global fashion trade - a case study of denim products*, J. Clean. Prod., 303, 2021.

[227] Pui-Yan Ho H., Choi T.M., *A Five-R analysis for sustainable fashion supply chain management in Hong Kong: a case analysis*, J. Fash. Mark. Manag., 16 (2), 2012, pp. 161-175.

[228] Lueg R., Pedersen M.M., Clemmensen S.N., *The role of corporate sustainability in a low-cost business model - A case study in the Scandinavian fashion industry, Bus*. Strateg. Environ., 24 (2015), pp. 344-359.

[229] Caniato F., Caridi M., Crippa L., Moretto A., *Environmental sustainability in fashion supply chains: An exploratory case based research*, Int. J. Prod. Econ., 135, 2012, pp. 659-670; Da Giau A., Macchion L.,

addition, the company itself adopted a circular packaging strategy to minimise the use of plastic. The company has also committed to Canopy's Pack4Good initiative to responsibly source wood-based packaging as well as committing to replacing single-use plastic with FSC-certified paper or eliminating it altogether. This policy has been applied to plastic hangers, labelling elements or display packaging.

Regarding circular packaging, examples include the percentage of recycled packaging materials in the total materials used, new packaging made from recycled or sustainably sourced materials, labels and shuttles made from recycled materials.

In relation to their strategy on circular packaging solutions, H&M proposed a number of targets: to reduce packaging throughout the value chain, to design packaging to be reusable, recyclable or compostable, to recycle 100 per cent of plastic packaging in the supply chain and to eliminate virgin, single-use plastic in offices, distribution centres and shops.

4.3 Achieving sustainability capacity through the circular economy at H&M

H&M achieves different levels of sustainability capability in different circular economy activities. H&M achieved the level of fully sustainable company (i.e. the highest of the six levels of sustainability capability) in four of the six activities, namely design, material choice, production and reuse and recycling. Regarding the other two EC activities, product use and transport and distribution, H&M operates at the fourth SC level, i.e. as a consistently sustainable company in selective areas.

Circular economy	**Sustainability capacity level**
Design	Level 1: perfectly sustainable company
Choice of material	Level 1: perfectly sustainable company
Production	Level 1: perfectly sustainable company
Product use	Level 4: consistently sustainable company in specific areas

Reuse & Recycle	Level 1: perfectly sustainable company
Transportation & Distribution	Level 4: consistently sustainable company in specific areas

Design: the design phase is a pre-production phase. H&M's design professionals are trained to choose sustainably sourced, closed-loop materials that are produced in a manner beneficial to human rights, natural systems and biodiversity, thus ensuring the well-being of the people associated with the production of the materials, as well as their longevity, reusability and recyclability. This is achieved through an approach that addresses multiple aspects of the ecosystem in which the materials are produced, including pollination, water purification and carbon recovery in forests, wetlands and other natural systems. Designers are also concerned with reducing material use and waste during the design phase, as well as the aesthetics of the garments. H&M therefore implements environmental, economic and social sustainability throughout the design phase as an 'absolute must'.

Furthermore, H&M has specific goals in all areas of sustainability.

The circular design goals have been set in accordance with the GLOBAL FASHION AGENDA 2020[230], which will have positive environmental, economic and social effects throughout the entire value chain.

Goals include training on circular design in both H&M and supplier offices, integrating circularity into design briefs and sourcing more sustainable materials. For example, for supplier training, H&M has developed a high-level training institute in Bangladesh, which is a key sourcing point, and the company organises training workshops for supplier employees on topics relevant to the circular economy such as design, technical aspects, market dynamics, sustainability issues, compliance standards, quality and productivity, business models and management aspects.

H&M manifests short- and long-term objectives in relation to sustainability and supplier development. The company has a well-defined structure and strategies in all dimensions of sustainability. Designers (both those working directly for H&M and those working for

[230] Global Fashion Agenda, 2018. 2020 CIRCULAR FASHION SYSTEM COMMITMENT.

its suppliers) are trained to choose sustainably sourced materials from designated component suppliers.

3D visualisation is used in design to reduce sample turns and material usage, and robotic technology is used to produce design prototypes. H&M's COS brand has embarked on the *Repurposed Cotton Project* with the aim of reducing material waste and using offcuts to produce new garments.

H&M also introduced an integrated information system to share design information between its suppliers. These practices demonstrate that design, as a sustainability activity at H&M, fulfils sustainability as a perfect duty, has specific sustainability goals and has a well-defined structure and strategies in all dimensions of sustainability, thus achieving the highest level of sustainability, i.e. a perfectly sustainable company, in terms of circular design activities.

Choice of materials: H&M sources sustainable and recyclable organic materials.

Material sourcing policies include third-party certification schemes such as those established by the Forest Stewardship Council and the Responsible Wool Standard, which guarantee organic and recyclable standards.

H&M focuses on the production of environmentally friendly cotton and the fair treatment of actors in the cotton value chain, including farmers and workers, with policies to purchase materials at fair prices and to ensure the welfare and safety of workers. These sourcing policies indicate that sustainability is performed as a 'perfect duty' in the sourcing of materials.

H&M has a specific goal to use 100 per cent recycled, closed-loop or other sustainably sourced materials by 2030. To achieve this goal, the company has implemented some well-defined strategies and structures.

In particular, it follows a sustainable sourcing strategy that respects people, animals and the environment by promoting human rights, biodiversity and the natural ecosystem.

In addition, H&M works with tanneries and suppliers to reduce health and environmental risks from the production of raw materials for its products. The process of eliminating cashmere wool, which will be replaced by economically and ecologically viable artificial fibres, has been initiated.

In addition, H&M awarded grants to three recycling technology developers (WornAgain, Moral Fiber and Tyton BioSciences) to help accelerate the availability of sustainable materials. These practices, targets, structure and strategies confirm that H&M's material sourcing activities have achieved the highest level of SC, i.e. fully sustainable business as part of the EC activity according to the *Circular Economy Mediated Sustainability Capability Measurement* (CEMSCM) framework.

Circular production: Sustainability is performed as a perfect duty at the production stage through the systematic use of recycled materials, which ensure environmental and economic sustainability.

Social sustainability, on the other hand, is ensured at the production sites through fair labour policies, responsible management and occupational health and safety management, which includes fair compensation and a safe, healthy and dignified workplace.

In addition, H&M aims to maintain decent living conditions for workers in supplier factories, and therefore encourages major suppliers to offer childcare services, set up outlets with discounts for everyday products such as food and medicine, and provide free medical facilities for workers. However, such activities are often described by suppliers as corporate social responsibility (CSR) activities.

The aim of H&M is to be a leading water management company in the fashion industry. For this reason, it implements a water management strategy throughout the supply chain to address the large-scale environmental and social impacts of water use at production sites around the world.

Another key water management strategy includes Water Stewardship Criteria for Suppliers, part of a five-step strategy involving water awareness, impact knowledge, internal action, stakeholder engagement and influencing governments.

H&M sets multiple sustainable production goals to address all dimensions of sustainability.

The toxicity of all products on the 'positive list' (i.e. a guide for suppliers to choose chemicals from a list that does not release hazardous materials) is assessed to ensure toxic-free fashion by 2030.

In addition, H&M also aims to increase the use of renewable energy. The sustainability structure and strategies include waste water control policies, which have been implemented using a ZDHC *(Zero Discharge of Hazardous Chemicals)* approach, and 272 suppliers have already been tested.

H&M has also introduced stricter rules for the sourcing and use of recycled materials, which both suppliers and material sources are required to comply with. This is implemented in collaboration with ChemSec (a non-profit organisation working to ensure the use of sustainable chemicals through knowledge sharing and collaboration).

These sustainable production practices and policies place H&M's SC in the area of production at the highest level, that of a fully sustainable company.

Product use: This stage of the circular economy is mainly about customer involvement. Companies promote a sustainable lifestyle for their products by encouraging customers to make sustainable choices and providing information on garment care. They can also take measures to extend the life of a garment and offer customers the opportunity to reuse and recycle their garments, thus reducing the environmental impact of products in the use phase. H&M intends to spread the *"Take Care"* concept to more markets and extend it to as many brands as possible. H&M has introduced "*Clevercare"* labels on products, containing guidelines for product care.

It also offers opportunities and incentives for reuse and recycling and launched the *Take Care* app for smartphones to engage customers through digital customer relationship management.

The company in question makes sustainability a perfect duty only in terms of environmental sustainability in the product use phase. It has clear objectives to achieve environmental sustainability, as well as a well-defined structure and strategies to reach its stated goals. However, social and economic sustainability has not been adopted as a perfect duty, nor have clear targets been set or well-defined structures or strategies created to achieve sustainability in these dimensions. Consequently, H&M achieves the fourth SC level, i.e. a consistently sustainable company in selective areas, in the use of products.

Reuse & Recycling: H&M has adopted an integrated scheme to increase the number of recycled and refurbished garments it produces through reuse, repurposing and remaking. It has set up a garment collection initiative aimed at environmental, economic and social

sustainability and has collected over 29,000 tonnes of garments in 2019; the volume is set to increase in the years to come. H&M aims to use 100 per cent recycled or other sustainable materials by 2030 and to collect 25,000 tonnes of unwanted clothing per year by 2020.

H&M has a circular economy implementation partnership with I:CO to collect, reuse and recycle clothes and turn them into new garments.

In terms of reuse and recycling, H&M does a perfect job in all dimensions of sustainability, has specific targets and has a well-defined corporate structure and strategies to achieve its goals. These initiatives enable it to achieve the highest level of sustainability in terms of reuse and recycling activities.

Transport & Distribution: H&M works to reduce CO2 emissions in the transport and distribution of its products and in the supply of components, thus reducing negative environmental impacts and fulfilling environmental sustainability obligations. H&M aims to achieve fossil fuel-free heavy commercial transport by 2050.

The company has also set the goal of eliminating carbon emissions and pursuing the electrification of transport.

H&M has adopted various strategies and structural changes to achieve environmental sustainability goals in transport and distribution. It is a member of *Clean Shipping Network, Green Freight Asia and Network for Transport Measure Pathways*. A key component of the company's sustainability strategy is supporting the use of electric vehicles and second-generation biofuels.

The company is also increasing the use of electric vehicles for last-mile deliveries. H&M is working with the *Global Logistic Council* (GLEC) to find a global standard.

In addition, H&M co-founded the *Pathways Coalition* with Scania, Eon and Siemens to develop fossil fuel-free heavy commercial transport.

In this EC activity, H&M only performs a “perfect duty” from an environmental point of view, with clearly defined objectives and supported by a clearly defined structure and strategies. Therefore, this circular economy activity belongs to the fourth level of sustainability, i.e. a consistently sustainable company in selective areas, according to the CEMSCM framework.

4.4 New H&M *flagship store*

H&M's new flagship store in Amsterdam's iconic Bonneterie building has it all: clothes can be rented, customised and repaired, and there is space for local clothing manufacturers.

The shop was designed in line with H&M's new retail concept, which aims to make shopping for H&M clothing more sustainable and personal.

With regard to circularity - as often highlighted in the previous pages - more and more people are becoming more conscious of their clothes and are looking for new, more sustainable ways to buy and use fashion. With its new circular services, H&M hopes to inspire customers to make different choices.

Fig.5 H&M flagship store in Amsterdam

With regard to rental at H&M, top garments from previous and current collections are available for hire. In the repair and makeover area, you can have your old clothes repaired or altered. The shop also has shop-in-shops of local brands such as Ateljé and Atelier des Femmes. For the collection of old clothes, there are also “smart recycling bins” that “reward” donations through interactive screens.

Fig. 6 H&M repair and makeover area in-store

In this shop, H&M mixes online and offline ("phygital"). It already starts with a "postal service" in the basement of the building, where parcels can be picked up or returned. The new shop will also broadcast regular shopping streams: live video shopping with shop employees as influencers and, of course, the possibility of ordering the advertised goods at the push of a button[231].

[231] Alles klopt in de nieuwe H&M flagshipstore , in https://stylink.nl/retail/h-m-flagship-store-bonneterie-nieuwe-winkelformule

4.5 Challenges associated with sustainability and circularity at H&M

The goal of sustainability is linked to challenges that make the operational tasks of companies difficult, especially in the clothing industry, which boasts a complex global value chain.

These challenges vary in nature and impact between leading companies and suppliers.

The adoption of the CE approach to achieve sustainability goals poses certain challenges for companies. Below, we identify the challenges that companies, and primarily leading companies, face in achieving sustainability goals through the practice of CE.

In the following, the challenges will be discussed from the perspective of the company to be examined.

a) *Humanistic and occupational health issues:* the social or human aspect of sustainability is often neglected when carrying out CE practices in production and distribution chains.

   This is clearly seen in the case of H&M, which focuses more on environmental and economic sustainability goals. To address this challenge, H&M has adopted a 'fair labour' policy that includes fair labour standards, occupational health and safety standards, fair and competitive remuneration, inclusive grievance procedures and cooperative dialogue in the workplace[232].

   H&M constantly monitors working conditions in all supplier factories to ensure safe and fair workplaces. In addition, H&M has a stand-alone social sustainability strategy that addresses human rights issues in a meaningful and comprehensive way to ensure fair workplaces for all.

   For example, DBL, H&M's main supplier in Bangladesh, offers childcare, free medical care, discounted basic food, medicines and baby food at the company's shops. DBL has also introduced the HER project as part of CSR, which focuses on the welfare of female factory workers.

[232] Anon, 2018. H&M Group Sustainability Report, H&M Group

b) *Global value chains. Governance & control*: Global companies such as H&M have hundreds of suppliers around the world.

Differences in laws, priorities and understanding of standards in different institutional contexts create governance problems for achieving sustainability.

Supplier malpractices can hinder the sustainability initiatives of leading companies. For example, suppliers often source cellulosic fibres from ancient or endangered forests and deliver them to leading companies, which poses a sustainability challenge due to improper governance initiatives.

However, H&M has a strict governance policy to avoid this problem, as it only accepts cellulosic fibres from low-risk suppliers who have completed audits conducted by CanopyStyle, a forest conservation collaboration among leading apparel manufacturers, and who have a 'green jersey' score in the Hot Button Ranking (a tool for conserving the world's forests).

H&M has many similar standards and tools to address sustainability challenges related to governance. Other important control mechanisms used by H&M are Responsible Wool Standards to protect animals and the environment during wool sourcing; Screened Chemistry to regulate the use of chemicals and guide suppliers to use chemicals from a positive list; Water Stewardship Strategy and Effluent Treat Plants (ETP) for water management; and Fair Living Wage policies to ensure fair wages for workers.

c) *Inequality and institutional set-up:* Inequality and institutional set-up: There are also a number of sustainability challenges that H&M faces at the industry level that relate to institutional conditions and policy implications. These include inequality and fair wage policies, which mainly depend on institutional governance, trade rules and regulations in place in a supplier's home country. Although this challenge appears simple from the perspective of the developed world, it is complex and difficult to address since most production takes place in developing countries with weak or dysfunctional institutional frameworks. This is not only evident in the area of social sustainability; related challenges also emerge in the other dimensions of sustainability. To address these challenges, H&M collaborates with policy makers and stakeholders.

H&M is one of the signatories of the Fashion Industry Charter for Climate Action, promoted by the United Nations Framework Convention on Climate Change. This allows the company to address some of the issues that contribute most to the climate crisis, including supply chain impacts and raw material sourcing, to develop legislation, thus contributing to a low-carbon future.

In addition, H&M works with the European Commission through the Policy Hub for Circular Economy to accelerate the circular economy agenda within the EU. H&M also works with various government institutions and policy makers in developing countries, including Vietnam, Cambodia and other Southeast Asian countries, to address the challenges associated with achieving SC from an environmental and social perspective.

d) *Quality of recycled materials and production technologies:* companies following the EC cannot recycle 100% of the materials used in products already in use, and this represents a major challenge for the circularity of production. This is the kind of CE challenge that the garment industry faces and which requires technological expertise and innovation to overcome. This is often seen as the logical consequence of the dynamic capabilities of companies. For example, the technology to recycle mixed fibres at scale has not yet been realised, which hinders companies in making new products from as many old ones as they would like. Together with the dispersion of microfibres, this is one of the major limiting factors for the SC of garment companies. The Hong Kong Research Institute of Textiles and Apparel (HKRITA) of the H&M Foundation is working to Q1find innovations and innovative solutions to these problems. This initiative has so far launched a recycling plant using the hydrothermal method, a promising solution to transform cotton and polyester blends into new fibres.

e) *Understanding circularity and waste management:* companies with dislocated global value chains and global operations often face the challenge of implementing a single policy in every location.

This can particularly arise when communicating the correct circularity policy to distant suppliers and operating entities. Misunderstandings about circularity and inconsistencies in waste management policies can be a challenge in achieving SC.

H&M has so far developed a two-pronged solution to this challenge.

First, to improve waste management within internal operations, it has developed the Sustainable Workplace Standard (SWS), which provides waste management and recycling standards for H&M offices, distribution centres and shops. This also includes waste management of defective products.

Secondly, the company aims to improve waste management in supplier production facilities worldwide and, to this end, provides suppliers with guidance on waste management procedures using the concepts of reduce, reuse and recycle. This ensures the communication of common procedures and standards for waste management and circularity on a global scale.

f) *Economic and financial sustainability:* Economic and financial sustainability: Achieving SC often involves financial challenges, especially when suppliers of different sizes are connected in a GVC.

Upgrading CE systems in supplier companies around the world involves considerable costs and requires advanced capabilities.

For many suppliers, such an upgrade is not economically viable and, in some countries, bank financing is not readily available.

Therefore, suppliers are often not motivated to spend money or time on this upgrade.

H&M has found some solutions to this problem, including incentivisation through innovative financing models and educating its channel partners on the benefits and results of a higher SC.

g) *Uncontrollable user behaviour:* consumer behaviour after purchase is difficult to control and irresponsible customer behaviour can cause considerable difficulties in achieving sustainability goals.

Users depend on the rules, social norms and awareness of people in a given country or area. H&M's circularity policy offers a functional solution to this problem, but it is limited to raising awareness.

Among many initiatives, the 'Take Care' initiative helps H&M to influence customers' behaviour regarding the use of products, in particular by guiding them to take care of their garments in a sustainable way. It also provides washing

guidelines and care instructions for clothes, which keep them usable for a long time. In addition, H&M runs a large garment collection initiative that complements the limitations inherent in trying to implement CE by customers.

CHAPTER 5. *THE RING*

5.1 Idea

Starting from this awareness, there are therefore few fashion brands that adhere to sustainable practices in order to move in an increasingly green and ecological direction, while maintaining a quality product with care and respect for the environment. This is because there is a lack of empirical research that can guide companies towards supply chain sustainability. This is because respecting the environment can impose limits on fashion brands, failing to adapt and meet the requirements of the consumer, who is always at the centre, constantly looking for the latest pieces in line with current fashions.

The limit for a company, in meeting the parameters of sustainability, in fact also depends on the use of materials, the frequency of production and the large amount of waste that a fashion company sustains on a daily basis, and this would require a huge effort from companies. Sustainability for a company also concerns the network of suppliers, distributors and retailers that make up the supply chain, and this would mean constant improvement in environmental and social issues[233] for the company.

But a company that is fully integrated in social and environmental practices can be truly competitive in its sector. So the choices it makes with regard to sustainability are important, because it could also contribute to an improvement in overall brand image, business performance, and in particular financial indicators[234].

Clearly a company must be cautious, because is also subject to limits when approaching sustainable practices, with the risk of compromising its image with consumers.

This is why we came up with the idea of creating this space that can collaborate 100%with fashion brands, to protect them from hypothetical criticism and make them choose the right path consistent with their vision.

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[233] Laura Macchion, Alessandro Da Giau, Federico Caniato, Maria Caridi, Pamela Danese, Rinaldo Rinaldi & Andrea Vinelli (2017): Strategic approaches to sustainability in fashion supply chain management, Production Planning & Control, DOI: 10.1080/09537287.2017.1374485.

[234] Ibidem.

But together with the company, it is strongly needed the collaboration of the consumer, as they too are responsible for a huge waste of garments. This is because we are compulsive in buying clothes, often when we don't even need them, and we leave them to rot and gather dust in our wardrobes, triggering an increase in production in the company.

How can we work together to reduce this waste?

Thus, was born the initiative to create a retail space that would be a glue between the consumer and the company, establishing a relationship of trust and exchange to contribute to the sustainability of the planet at 360 degrees.

This retail space will be directly in contact with all the stores that have decided to participate in the initiative of regenerate unused garments. The consumer will be incentivized to return garments, by a small voucher which will depend on the weight of the garment, material and condition at the moment of the return. These will be all those garments that are no longer used, have been sitting in the wardrobe for some time and no longer conform to or are in line with current fashions. At this point, the garments will be delivered to the retail space where they will be regenerated and reworked before being sold again in the exclusive event.

5.1.1 Market Analysis

In order to better understand people's relationship with the world of clothing and how willing they are to return their clothes, a questionnaire (https://docs.google.com/forms/d/1IVDNvxJ4SQToCcWreNiCAdga5XCmE9jXg7Lk1TK6GBQ/edit) was carried out from which the following data emerged. European males and females feel that 93.3% consider their look important in their daily lives. It is therefore essential for them to follow fashion and always have fashionable and trendy clothes because this makes them feel good about themselves. For the majority, their daily clothes also include second-hand clothes, only a small percentage of people do not buy second-hand. The parallelism with second-hand was chosen to understand how people feel about buying second-hand clothes and whether they know the difference between a reconditioned garment and a second-hand one. The graphs show that there is a percentage

of people, 52.9%, who would buy reconditioned clothes but 47.1% do not know if they would buy them. Why is this? Because they would have the perception of second-hand which, however, in the reconditioned, would no longer be there. Rather, they would be dealing with a clean, almost new, remanufactured product. This analysis was important to define the relationship of consumers between the ages of 25 and 50 with their clothes. Considering an overall care and attention towards their clothes, people are divided between those who keep their clothes in their wardrobes, and those who either sell them or give them away.

In both cases, it is possible to avoid a bubble of unused clothes, the production of which has been vain. So, in addition to the illusion of perfection that a new garment can confer, buying regenerated garments also has an ethical and environmental meaning, because it would replace the purchase of a new product.

And indeed, people's perception of a company that regenerate garments in exchange for small vouchers, is positive and rather encourages them to be curious to try what it is all about. However, it remains uncertain whether they would buy a reconditioned garment, they are open to this initiative, but there are many factors that influence this choice, such as style, size, but above all whether the product is clean and in good condition.

That is why it is very important during the remanufacturing process that the new product is literally put back together to give the consumer the perception that the product is not used, and in this way it is possible to reach also the whole niche of people who would not buy second-hand stuff.

So clearly this is a great opportunity for fashion brands to make their contribution to the environment and grow at the same time. It is important in the mission towards the sustainable approach that the company is always transparent with its consumers, clear about all the steps it is taking so that the consumer can fully understand its processes and decide whether or not to embrace it.

5.2 *The Ring*

A key point in retail design, concerns the creation of an environment capable of eliciting the right reactions or feelings from customers. Consequently, several retailers have started

to consider the customer experience as one of the components to be managed in their offer: the shop no longer exists to sell only products, but increasingly as a place to attract and retain customers[235].

All this, compatible with fashion companies' goal of being increasingly green and meeting sustainability parameters, and maintaining their image gives birth to *The Ring, make it last.*

The Ring was created as a retail space that gives new life to all the unused merchandise of fashion consumers. This is because fashion brands have a negative impact on the environment from a sustainability point of view and necessarily need to adhere to sustainable practices to be, as much as possible, less polluting to the planet.

The Ring will therefore be a warehouse that will collaborate with fashion chains, and a place where all the unused clothes, provided by consumers in the store after being redesigned by a Stilyst or Designer, are regenerated (e.g. H&M collects all unused clothes from its consumers and sends them to *The Ring's* warehouse which will regenerate them and then put them back on sale during an exclusive event dedicated to all partner brands). This initiative will ensure that all the consumers will contribute to the reduction of the brand's production, as his unused will be regenerated, but he will also have exclusive access to the collection for the new regenerated garments.

This event will clearly not only be the place where the remanufactured is sold, but will also influence the brand experience, stimulating favourable brand perceptions as well as being a marketing tool to generate positive brand experiences[236]. This space represents the retail format that allows fashion retailers to combine branding and sales policies, providing a place to spread brand identity and communicate brand values. This initiative will therefore be possible thanks to the active consumer participation. From what emerged from the questionnaire[237] in fact, we all have clothes or garments in our wardrobes that we no longer use after a specific period of time for various reasons. Because we have changed size, because we no longer identify with the style of that garment, or because it has gone out of fashion, or because it has colours that no longer match our palette, in

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[235] Journal of Retailing and Consumer Services, The flagship stores as sustainability communication channels for luxury fashion retailers Elisa Arrigo

[236] Ibidem

[237] https://docs.google.com/forms/d/1IVDNvxJ4SQToCcWreNiCAdga5XCmE9jXg7Lk1TK6GBQ/edit

short, for various reasons. But why should that garment be considered one of the causes of waste and pollution? Instead, we can give it a second life and make a difference. However, we should first make a distinction with the concept of second-hand[238], which means used, no longer new and passed through intermediaries. The term reconditioned or remanufactured, on the other hand, means the process of extending the life of a component in a second life cycle and consists of restoring a product to good working order by replacing or repairing the main components. The result will therefore be a product that is comparable to new in terms of performance and use, which after an overhaul and repair process is put on sale again exclusively for all consumers who have delivered their garments, thus adhering to and contributing to the sustainability of the brand.

The Ring therefore gets in touch with all those companies that decide to start making a difference, engaging in sustainable practices, with the aim of offering them services for the regeneration of used garments, contributing to the reduction of a company's garment production, and always protecting and supporting the brand's image and culture.

Among the various services that *The Ring* will offer we will find the cut and sew service, which involves either transforming one garment into another or repairing it (e.g. I have a long denim skirt, now out of fashion, and I make it into a denim mini-skirt and with the leftover denim either patches or shirt sleeves will be made, or crop-top shirts; repairing holes, seams, etc.), addition service, i.e. I can take a shirt and sew on it, use needle and thread to make a writing on a basic shirt that no longer had much character and so on Another service will be the colour bath [239], which consists on the creation of pigment powder using textile fibres from used garments and offcuts. This powder can then be used as a dye pigment for fabrics and garments made of cotton, wool, nylon or other natural fibres and can be applied by various methods: dyeing by exhaustion, dipping, spraying, screen printing and coating.

[238] Def.: indiretto, passato attraverso intermediari: *informazione, notizia di seconda mano*

[239] Recycrom.com

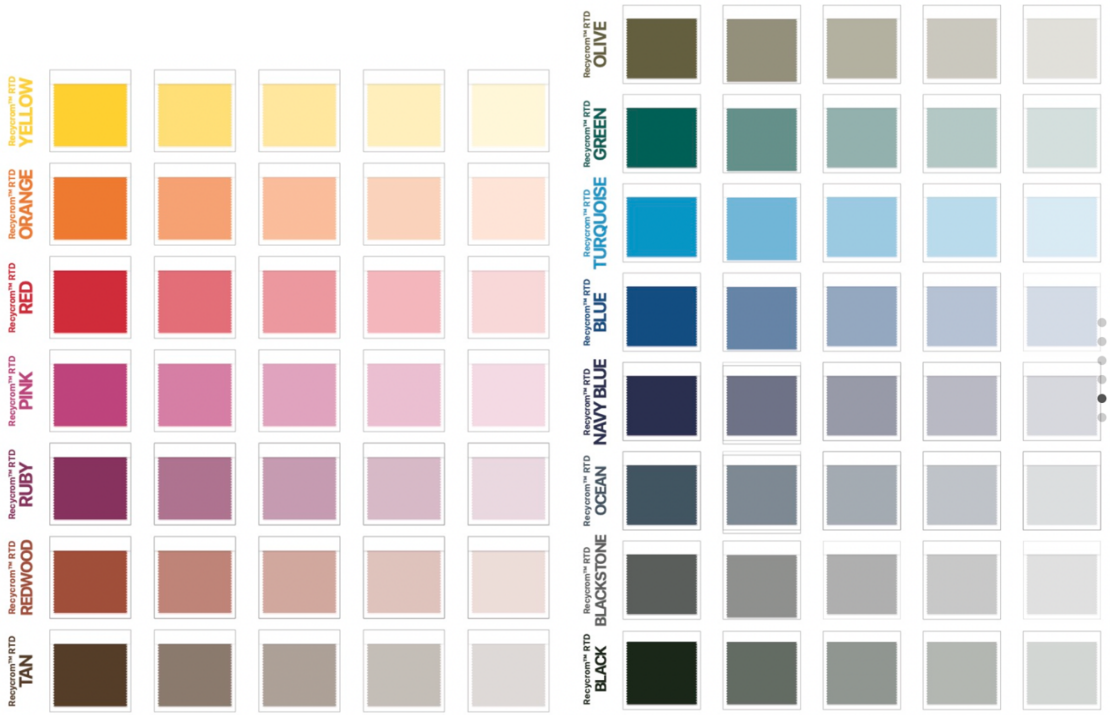


Fig.7 Colour Palette made from garment fiber powder

The last service offered will be printing on garments using washable organic paints that, thanks to a specific wash, can be washed and ready to be regenerated for the new user. *The Ring's* initiative is therefore to reduce waste in the houses of consumers, giving a big help to companies to produce less by encouraging sustainable production.

Among the companies already committed to promoting more responsible and sustainable consumption are Rifò[240] founded in 2017, with the basis of a project in which old cashmere jumpers are shredded into a new yarn and repackaged into new garments; and the initiative of Atelier Riforma[241] which aims to recover and transform every piece of clothing after its use, preventing it from becoming waste. They have thus created a network of tailors, designers and social tailors to transform discarded garments into garments with greater value.

[240] Rifò is circular economy, they made high quality accessories and garments, using recycled and recyclable textiles fibers.

[241] Atelier Riforma is an innovative startup with a social vocation with the aim to reduce the negative environmental impact within the fashion industry, through the circular economy.

The Ring therefore commits the companies to two annual collections that will take place during two events on 15 April and 15 October of each calendar year, in the city where the most items have been collected. Each brand will join the initiative with only one store per city to be chosen by the brand itself. Therefore, the garment collection shop will be one and only one per brand. The summer collection will be launched on the 15th of April and consumers will be able to take advantage of all the reconditioned garments collected between 15th of October and 15th of April of the previous year.

The winter collection, on the other hand, will be available on 15th of October with all garments collected between 15th of April and 15th of October of the previous year. For both collections there will be an event in which all those who have contributed by returning garments during the year can participate.

Each consumer who returns a garment will be asked to download the free brand app of the returned garment in which he/she will receive a personal invitation to the event where he/she can purchase the exclusive collection of refurbished garments (if he/she is not interested in participating in the event, a change of name will be possible). Together with the return of the garment, it will also be possible for the consumer to leave a small thought of that garment which will be an integral part of the entertainment during the event.

The event will therefore be dedicated not only to the purchase of all the reconditioned garments from the winter/summer collection, but also to a real party to showcase the initiatives of the brands working together for greater sustainability.

5.3 Brand Identity

The Ring wants, with its name, to emphasise the importance of circularity, which means exactly that anything (matter, energy, waste) that comes out of one process becomes a resource for another process.

The brand image is represented by 3 fragments of circles forming a single circle. Circularity in this initiative is at the heart of everything and it is important and necessary to immediately give the consumer the idea of cyclicity, continuity and phases, all of which converge in the shape of the logo.

Fig.8 Application of the logo

The logo was created by means of a cutout mask (Fig. 9) in which there were arrows in the 'blank' points (see figure below), which convey the idea of the process, the steps and the so-called circularity.

The logo can also be used with the circle shape alone and can be used as a stamp to mark sheets or business cards. The logo can also be used with the circle shape alone, and can be used as a stamp to mark sheets or business cards.

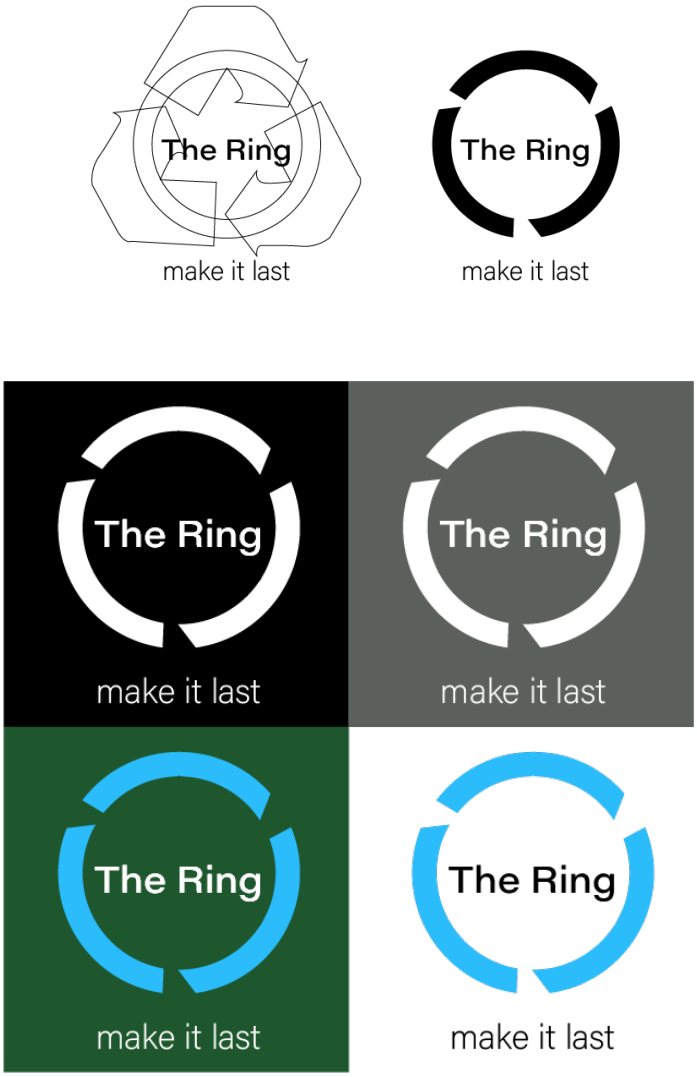


Fig.9 Logos and color of application

5.3.1 *The Ring* and Fashion brand partnership

For a fashion company, adhering to *The Ring's* policies and processes means embracing the concept of sustainability, and a company in this way commits to respecting all sustainable parameters by adopting the initiatives proposed by *The Ring*.

So each store will have an area reserved for all garments/products regenerated by *The Ring* in collaboration with the brand, within which each consumer will be able to buy and

discover the new regenerated garments. This area will have the name of the "brand x *The Ring"*, which will signify the collaboration of that brand with the initiative. The company, therefore, can obtain *The Ring* certification if it manages within a calendar year to recycle at least 3000 of its garments and the presence of the label will identify them as a sustainable brand.

Fashion brands can thus take advantage of the wave of expansion in this sector, playing ahead and positioning themselves as leaders of an important cause, as the one of sustainability.

But how can this be achieved? 3 strategies [242] can lead us down this path: bridging the information gap, engaging consumers on the durability and impact of products, and making sustainable purchases more convenient and attractive. And considering the daily negative impact of the fashion industry, the companies must take on a new meaning that encompasses durability, quality and impact.

This is a very important aspect because it is through this that awareness is raised among consumers, who unfortunately lack information about brand and sustainability. And considering the laziness of the consumer, who says he is interested in sustainability, but fails to apply such an attitude, it is easier to return a garment than to investigate the history and activity of the brand.

Fig.10 Brand partnership

[242] How Brands Can Embrace the Sustainable Fashion Opportunity, By Claudia D'Arpizio, Federica Levato, Matteo Capellini, Benedetta Flammini, Payal Luthra, and Giuliana Improta, 2022.

5.4 *The Ring* Journey Map

The company will therefore be a retail space, located outside the store it is partnering with, and will receive all goods returned by customers every 2 weeks through a courier paid by the partner. The garments will then be regenerated over a period of 2 to 3 months and then re-sold during the event.

After the consumer leaves the garments at the dedicated in-store corner "Xbrand x *The Ring*", the garments will be weighed and checked by a Designer/Stylist. To support the Designer/Stylist there will be a catalogue that will allow him/her to define the amount of the voucher for the customer in real time, thanks to information modularized within it. Then he/she will collect information about the weight, material and condition of the item(s) and then determine the price of the voucher to be delivered to the customer as an incentive for participation in the initiative (the price varies from 1€ up to a maximum of 12€).

The voucher will be redeemable by the customer within a period of 60 days from the moment the voucher is issued and cannot be combined with other returns.

The in-store Designer/Stylist, who will have a direct relationship with *The Ring's* tailors and designers, must have an in-depth knowledge of sustainability in fashion, as he/she needs to collect all information regarding the garments (fabric, condition of the garment, size and any modifications). He/she will in fact decide what kind of changes to make to the garments, thanks to pre-established guidelines in a section of the catalogue including prints, patches, shapes, colours and use of material. He/she will then leave these guidelines on the garment so that when it arrives at the company, the alteration process will be faster.

Once the garments arrive at the company, they will be washed and then divided into the corresponding sections according to the process they will undergo. Once the various processes have been completed, the garments will be labelled again, this time with a label that will also feature *The Ring's* logo, and then sold during an event organised directly by *The Ring* at which all partner brands will be present.

The garments at the event will be exclusive, unique garments considering that the garment returned by the customer will no longer look the same at the moment of regeneration. It

will be a completely different garment in terms of colour, style and even shape, but always consistent with the brand's fashions.

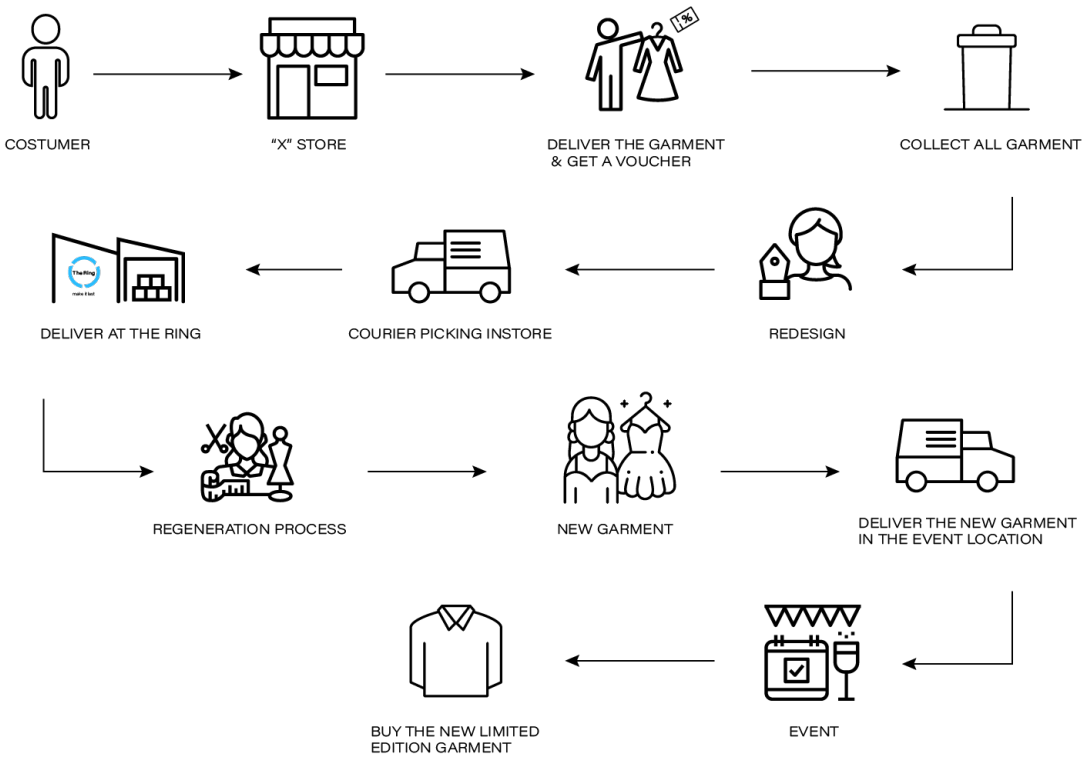


Fig.11 The Ring journey map

5.4.1 The Redesign Catalogue

As mentioned above, the decision of which modifications to implement on the garment will be made by a Designer/Stylist with the help of the catalogue in which all information on the most sustainable shapes, materials and respectively processes to be implemented on that garment to be remanufactured, is collected.

The catalogue is subdivided by materials and for each material all three types of processes that *The Ring* carries out (cut and sew, colour bath and printing) and they will be placed side by side with an evaluation of the impact of that process with that material. The catalogue will therefore be full of elements that the Designer/Stylist can use to design the

new garment. He/she will be able to choose patches, needle and thread lettering, colour palettes to choose the colour bath, shapes and designs to print.

These informations collected are pre-determined, the designer will have to select them according to the degree of consumption that process implies, and the coherence of that change at a stylistic level with the brand.

And that is why the presence of a specialised figure is very important, both in terms of sustainability, to be able to judge which process is better, but also in terms of brand knowledge, to be able to give the correct indications and regenerate products that are coherent both with the fashions of the moment and with the brand itself.

Within the catalogue, however, there will not only be stylistic information, but also a price list that will help the Designer/Stylist to define the correct amount of the voucher to be delivered to the customer. A hierarchy will be defined, as the price will vary according to material, weight and condition. Clearly a product with a fine material (satin, wool, cashmere etc.) will be more valuable than a product with a less fine material (cotton, polyester, elastane etc.). The condition of the garment will also make a difference, as a damaged or washed-out garment will need a more complex and costly regeneration process, while a garment in good condition will take shorter to regenerate. Finally, the weight will also affect the amount of the voucher since the more garments delivered, the greater the weight and therefore the more material potentially available for regeneration.

Each regenerated product will therefore be unique in its style, shape and colour. In fact, the skill of the Designer/Stylist will consist precisely in making unique a garment that no longer had much commercial or stylistic value. He will regenerate garments that will be unique and available at the event only for those who have returned them.

Fig.12 Redesign Catalogue

Fig.13 Label The Ring in collaboration with hypothetical brand

5.4.2 The event

Once the regeneration process has come to an end, after a period of about two to three months from the time the used garments are collected from the store, they will be sold during a special event.

This event will be held twice a year to celebrate the new summer and winter collections in the Italian city that has collected the most garments.

The event will be held on 15th of April and will display the summer collection of the regenerated garments collected the previous year (from 15th of April to 15th of October of the previous year); while the winter collection will be available at the 15th of October event with the regenerated garments collected the previous year (from 15th of October to 15th of April of the previous year).

Already since 2022, following the pandemic, there has been an incredible boom in the organization of events by brands with the presence of influencers, celebrities and others.

Despite the exponential growth of online businesses, events are becoming very popular, giving consumers the opportunity to enjoy a unique and special brand experience. All this is made possible through eye-catching marketing campaigns, by creative techniques and social media advertising to maximize traffic during the event and consequently incentivize people to buy.

This occasion will clearly be a great opportunity for the brand to attract their audience and showcase the latest news and products that the brand is currently offering.

Creating an event to showcase the new collection can be a great strategy for the brand to captivate new consumers and create a greater connection with their community who, during a festive, sharing atmosphere, immediately feel incentivized to buy.

This is also because the products that the customer will find during that event will be a unique, special piece, the result of an incredible collaboration of Designers and Tailors who have given new life to garments that were by then devoid of personality, appeal and style.

What seemed to be lost can find a life and uniqueness that it never had before. So the consumer in this way will not only have a memorable experience, but also the ownership of a unique piece.

The event will feature music and entertainment with the aim of generating more attention and visibility on social media from all participants.
In fact, several brands in recent years have organised events to increase their awareness, generate knowledge and esteem for the brand, leading them to desire that product so much because it is unique.
The event will be open to all customers who have returned their unused garments during the year and there they will be able to purchase the new collection exclusively for them.
The invitation to the event will be provided via the brand's app, and together the consumer can have the opportunity to leave a thought about that garment, which will be completely transformed from that moment on (if the person is not interested in participating in the event, he or she may substitute the name of the participant).
We often let go of garments that may have an emotional value for us, because someone important to us has given them to us, or because perhaps that garment was part of an important moment in our lives, it marked something beautiful but also something ugly, but it may also simply not have a specific value, but remind us or be linked to some experience. This card will then represent the memento, signed with the name of the returner. Each card will be pasted on a colourful wall, which will be part of the entertainment at the event, in front of which people will be able to record content and make stories on social media sharing the evening.
At the time of the in-store return, the customer will be asked to register for free on the brand's app where they will receive all the news and updates about *The Ring* and the events in which they can participate.
One week before the event, the customer will receive a newsletter with both a reminder with the details of the event, and a small sentence that will be the clue that will reveal the name of the famous person who will be present during the event.
This celebrity will be selected by the brand on the basis of monthly questionnaires that the brand does to understand the interests of its customers.
His presence will be crucial at the event as all participants will have the opportunity to put an extra touch on the garment they want to buy with his signature, an inscription, a cut, the addition of a button, whatever he considers to be an extra touch branded with his name.

So during the event, it will be possible to buy all the garments regenerated by *The Ring* only for the customers themselves who have decided to commit to and support the circularity of the process.
This is clearly also an incentive for a brand's customers to return unused garments, so that they can get rid of the unused and at the same time have the opportunity to buy exclusive garments and own unique pieces in their wardrobe.
However, it may also happen that we do not find anything that matches either our taste or our size. It is obvious that creating such a place, making unique, non-industrial, special and limited garments, means that the likelihood of finding the right one that fits us is also reduced.

5.4.3 Omnichannel Strategy

Our customers will meet indications and installations in their everyday life. In this way they can be aware of our presence and activities.
The event will be sponsored through online channel and in-store panels. As for online channel will be used newsletter, mainly for customer who already take back their garments and are already involved into the regeneration process with the brand and so invited at the event; while the Instagram and website of the brand will be used for commercials and to improve awareness in people about the commitment you are doing as a brand and show your initiatives.
While as offline channel, we will have in-store panels that will show the same marketing commercial of the online's one. This will be helpful for the brand to generate more and more customers and engagement. People who see the initiatives and can feel the transparency of the action of a brand, will be more interested and curious to go deep into your process and became potential supporter of your objective.
So people who didn't take back their clothes and didn't participate to this initiative, will know about the events thanks to the in-store communication and through social platforms such as Instagram, brand website and brand app.

Be part of the Ring will be the claim of the event, with the aim to involve people in this process as much as possible, because is exactly thanks to them that this can be possible. So people engagement is very important, and so the communication for it.

The communication will start in the city that has collected more garments and it will consists in: a billboard advertising campaign within the city. The billboards will be scattered around the city and will all be different from each other, so as to convey the message more effectively and build a storytelling between each campaign. All this will be supported by the claim “Be part of the Ring”, which is precisely inviting consumers to take part in *The Ring*, where by The Ring metaphorically we mean the circle, i.e. the circular process of regenerating garments.

This offline commercial wants to try to incentives people to recycle by taking back their garments to its origin stores (if partner with *The Ring*) and take part of the circularity of the process.

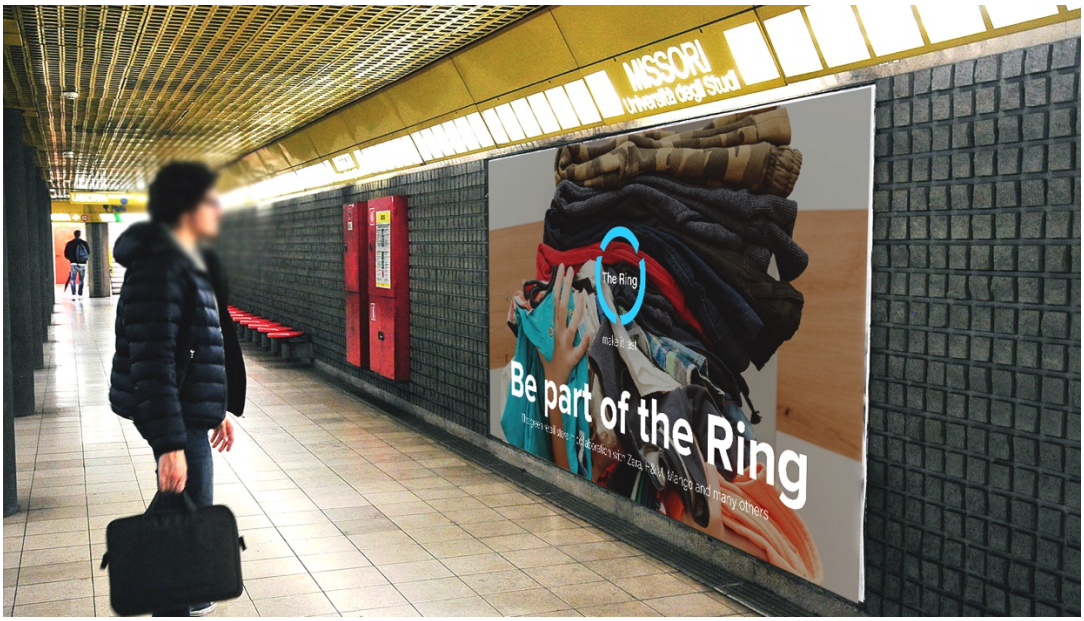
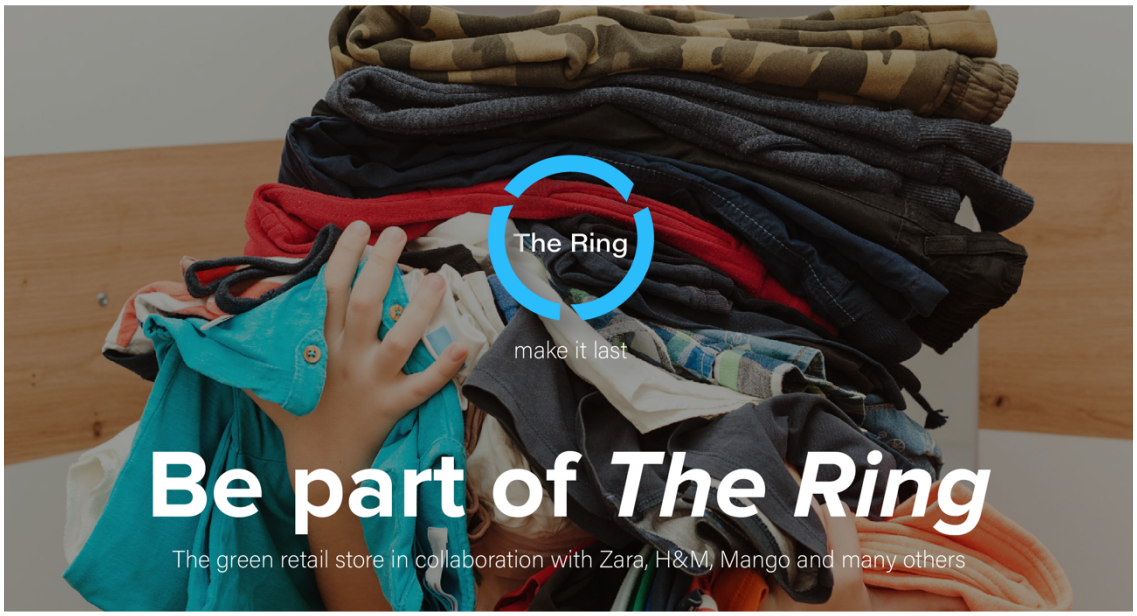


Fig. 14 Offline Commercial



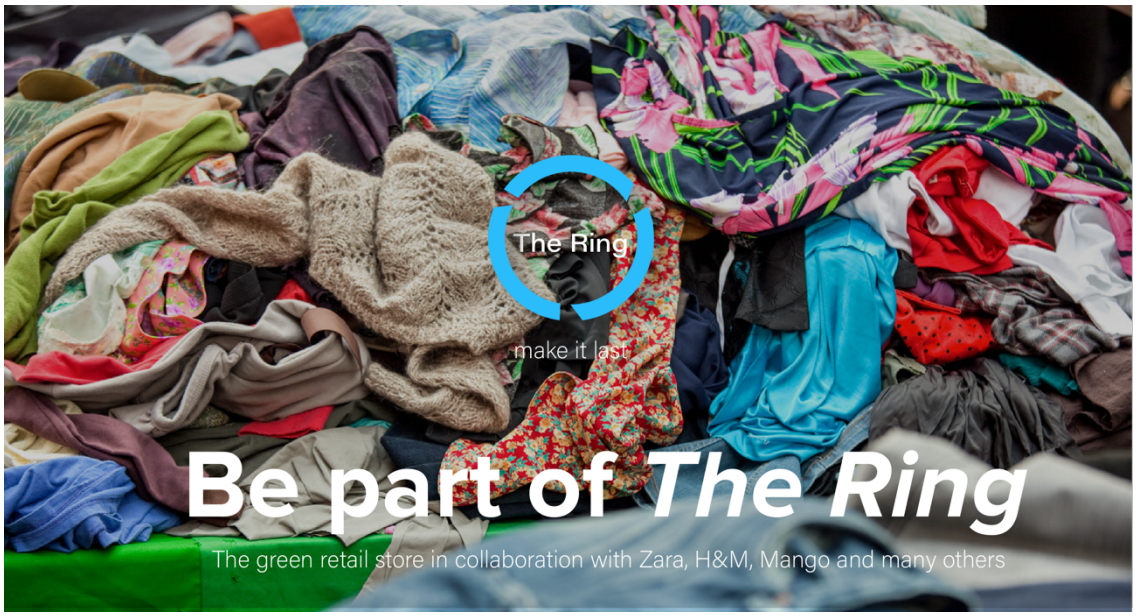


Fig.15 City billboards around the city

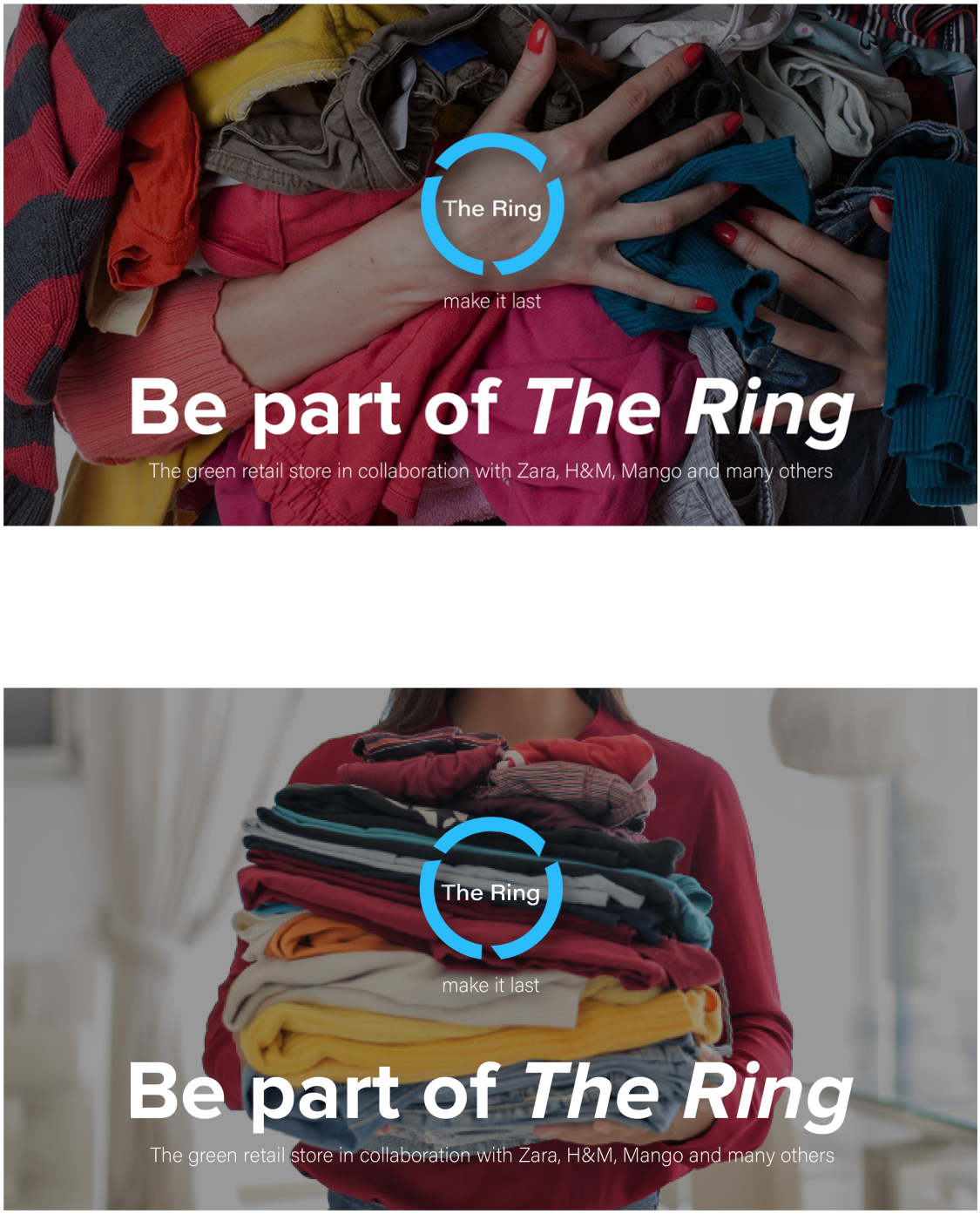


Fig. 15.1 City billboards around the city

The consumers can understand more about the process both by going instore and taking information from the Designer/Styler in the *The Ring* corner or through website and application in the *The Ring* section. Since this initiative is born thanks to the partnership of the fashion brand with *The Ring*, is required that all the brands has both a section and a space dedicated to them.

Fig. 16 The Ring typic Corner in the store

For what concern the web site and the app of the brand there will be a dedicated section (Fig.1) where there will be collected all the information about *The Ring*. When brands

start the partnership with *The Ring* is important that they give space to them in the communication because in that way they can improve the awareness of the brand and its initiatives. People are interested about brands doing great towards some matter such as sustainability one.

In this section there will be different content: we will have a part dedicated to all the information about the process, so how *The Ring* works close to the brand, what is its mission and specifically how it works, and how people can participate and give their contribute to the process; a part dedicated to the event linked to the initiative that explains how people can participate to the event and what they can exploit from that event, and all the benefits linked to the *The Ring* process that consumers can understand.

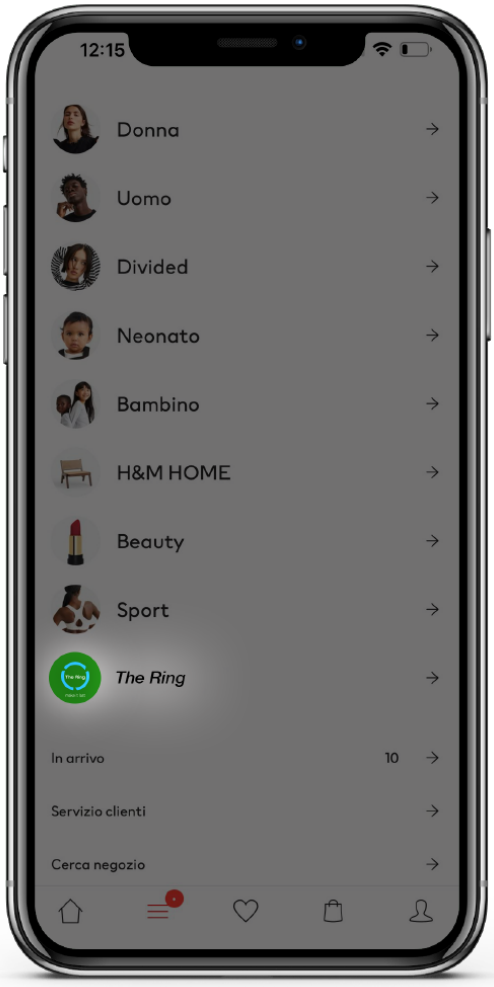


Fig. 17 The Ring section webapp

The mockups show different sections of the mobile app. At first you will have the homepage (Fig.17) of the brand where it will be dedicated a specific section for *The Ring*. Once you click on it you can dive into the part discovering both the previous collection (Fig.18), to understand which kind of garments *The Ring* produces (and you can only have photos of the previous collections, because they have already been sold).

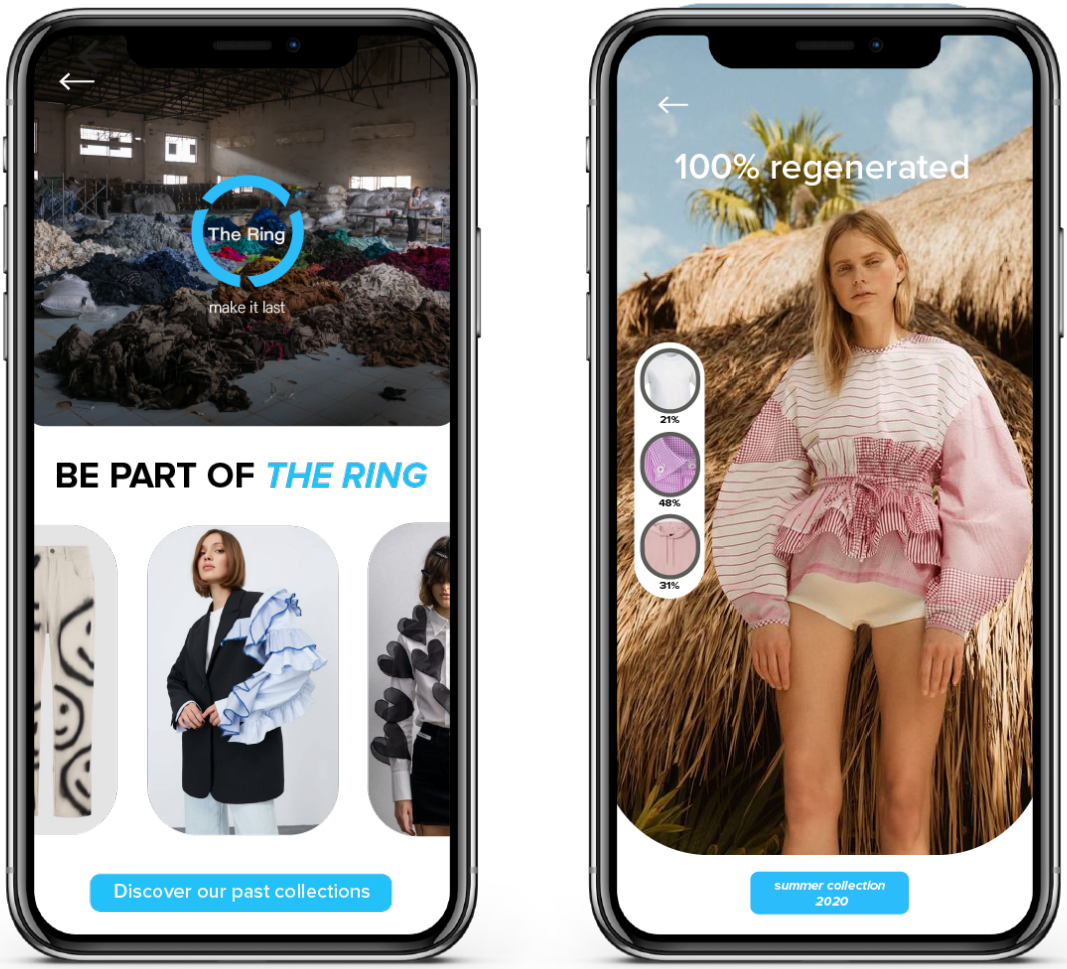


Fig. 18 The Ring section webapp showing past collections.

In the following mockups (Fig.19) you can find and discover more about the process and about *The Ring* journey map, so which are the steps a customer will follow with this initiative. Scrolling down you will find a locator which will helps you find the stores where you can take back all the clothes, because not all the stores offer this service; going

on there will be a part dedicated to the download of the QR code to participate to the event (again the event will be possible only for people who take back garments during the year). Both with this part there will be also a small section in it where you can see in which city there are collected more garments with respect to others, to try to have an idea of where the event will take place.

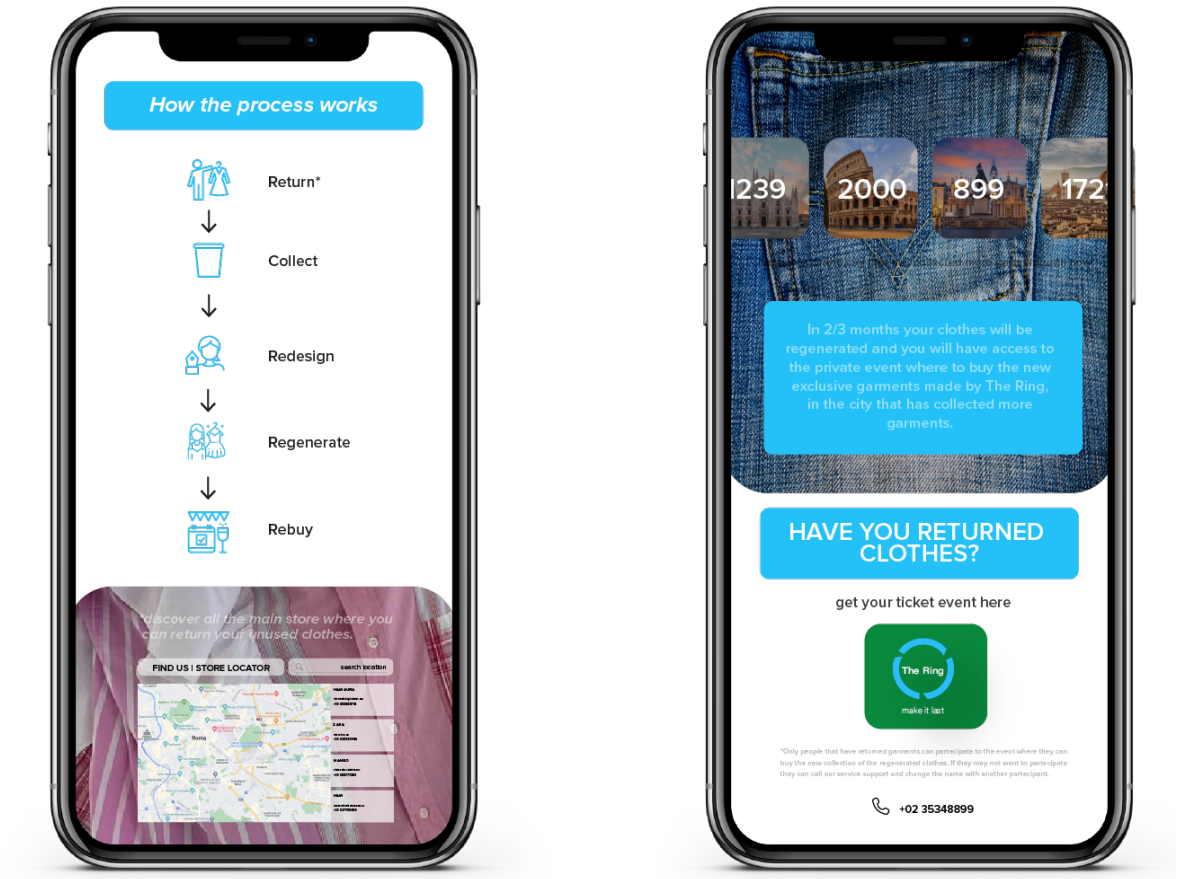


Fig.19 The Ring section process and store locator.

Once you click on the green section, a page opens immediately (Fig.20) and there you will find a QR code, only possible if you return clothes during the year. Since this option is available only for people already registered in the app, the system will automatically know if you already have returned clothes. So, if you are one of them, you can click and it will open a separate page, that we suggest you to collect, but you can always come back to the app and generate it again. That QR code will be mandatory to participate to the

event. In that page you will find all the details about the event which means location, timing and also a small insight for you, thanks to an image, of the mood of that specific event. As mentioned before, the city of the event and the location will be communicated 2 months before the event, so if you try to click on that green box before that period, you won't find anything. If you realize that you can't participate to that event, because is far from your city or because you don't care about buying a unique regenerated garment, you can always call the support and ask to change the name of your invitation.

We know about the limits of having different cities and to do the event only in the city that collected more garment, but this has a reason: we want encourage people from a location to take back as much as possible clothes they can.

Same information will be available also on the website.

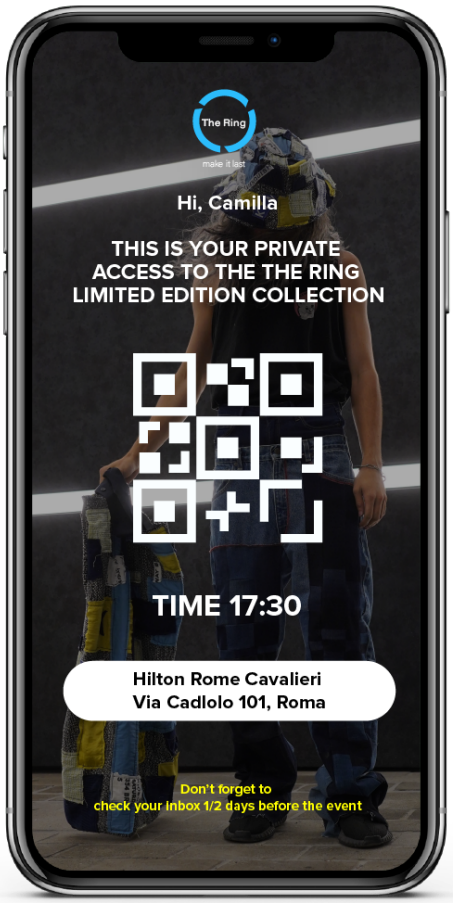


Fig.20 The Ring event ticket.

All the people that will generate the QR code are immediately on the list of the participants to the event. Beside this invitation that you will always find in your brand app, you will receive 1 or 2 days before the event an email where you will have a resume of all the information you need about the event (location, timing etc.) but also a small sentence that together will reveal the identity of the special guest, that will be or a stylist, or a famous character, influencer, actor and so on.

Fig.21 Newsletter.

The sentence that will come up from all the single ticket will be *"Il maverick con i capelli lunghi e la barba che ha trasformato, non solo le sorti economiche dell'iconico marchio ma ne ha anche rivoluzionato lo stile con i look fuori dagli schemi, di ispirazione vintage ma allo stesso tempo estremamente contemporanei".* When people arrive at the event they will understand of what all the insights where about. Then, on a big wall, a whole sentence is generated to help them reveal the special guest.

Fig.22 Wall "Guess the guest"

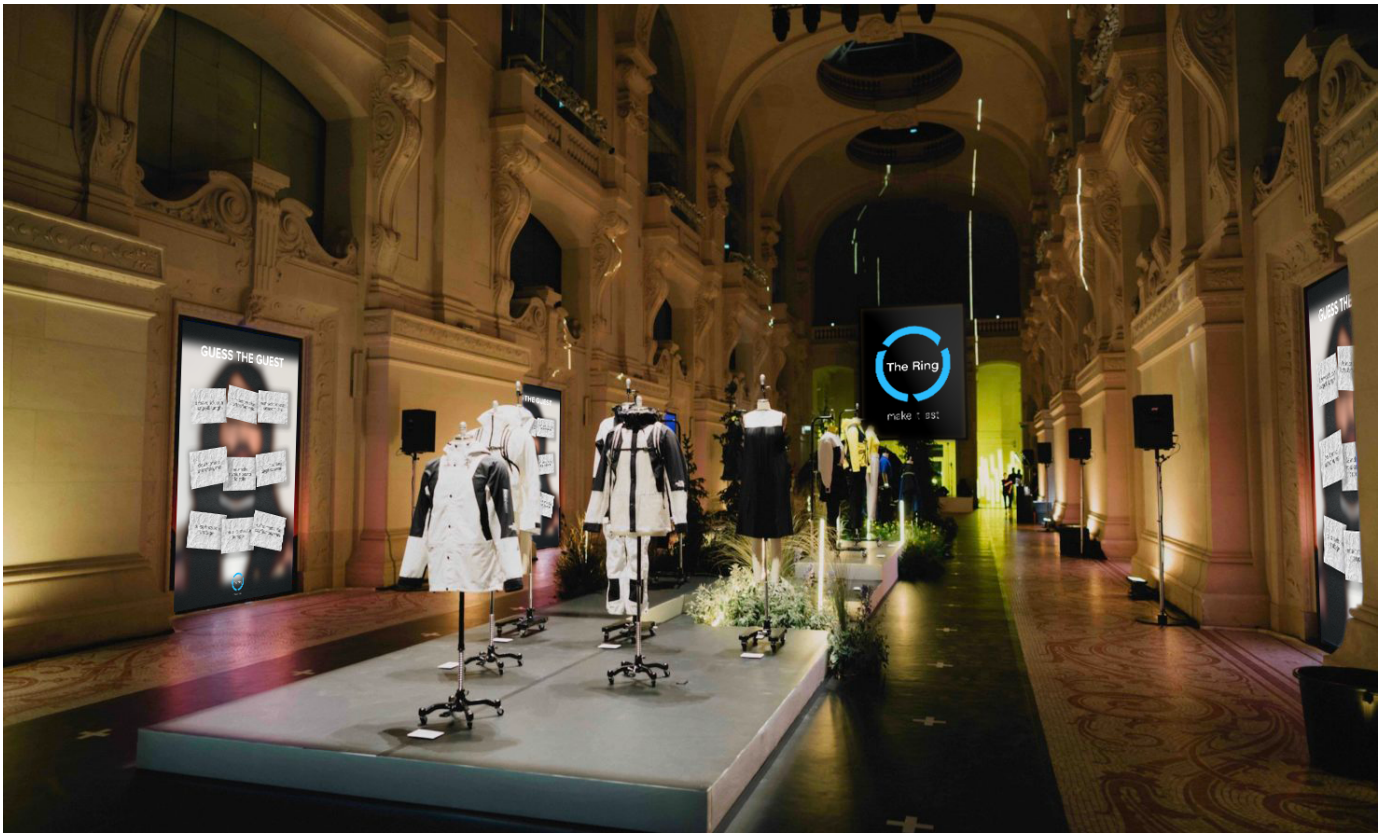


Fig.23 "Guess the guest" installation in the event

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