



CORPORATE SUSTAINABILITY IN THE FAST FASHION INDUSTRY: THE CASE OF H&M



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1.INTRODUCTION

The textile sector is an important part of the world trade, being the second sector of consumption worldwide estimated at more than 30 million tons per year (Shen, 2014). For this reason, it is considered important to understand the most relevant aspects of this sector and its tendency towards sustainability.

The world in which we live is in a process of constant change and, in recent years, the business model known as "fast fashion" has revolutionized this sector generating great benefits for large fashion distribution chains (Salcedo, 2014). They have managed to seduce their clientele with the constant updating of their designs and the low prices of their products, so that more and more clothes are being produced and purchased, characterized by a short life cycle. These brands take as an example the best fashion designers and reproduce their garments quickly and economically, which means that everyone has access to buy fashion when they want. However, despite the opportunities that fast-fashion produces, it generates negative impacts on the environment and society, contributing to the unsustainability of the system. The devastating consequences for the planet of this fashion trend increase with the completion of textile finishing processes, generating a large negative impact on the water of the planet (López, 2012). For this reason, it is important that companies evolve and modify the way they relate to the environment and society by adopting a circular perspective. That is, everything is connected and we all belong to the same system (Salcedo, 2014). The challenge for many fashion companies is to recognize the importance of sustainability in business and incorporate green practices into their supply chain (Shen, 2014).

Bearing in mind that there is a dominant model in this industry, which is fast fashion, the objective of this paper is to analyze to what extent companies that follow this business model can be truly sustainable.

To reach that goal we are going to do a case study taking a company that has that business model such as H & M, which is one of the oldest firms that has been moving towards a more sustainable model of fashion production for several years. In addition, it is a leading company in the market with a very high turnover and international presence, and, therefore, it becomes an interesting case study. For this purpose, the sustainability reports of this company will be analyzed, which can help improve the reliability of the results.

This research project is structured as follows. First, we will review the literature emphasizing the concept of sustainability over time and the need to adopt this new paradigm. The new concept of sustainability consists of social, environmental and economic aspects. Second, we will analyze corporate sustainability in the context of environmental sustainability. In the third place, we will explain what the fast-fashion business model consists of, and what it means for society in general. It is necessary to reinvent design practices so that they are more sustainable over time. To achieve this goal, the textile industry faces challenges such as: use and treatment of water, energy consumption and emissions, use of chemicals and toxic waste, generation and management of waste, decent working conditions and new business models. Fourth, we will focus on our case study, which has already been selected as the framework of this work. Finally, we show the results and the main conclusions that are extracted from the study, as well as the limitations and possible proposals for improvement for future research.

2. LITERATURE REVIEW

2.1. Origin and Evolution of Sustainability

Satish Kumar says: "The twentieth century was the century of science and technology. The era of economic growth and oil. In the 21st century we are experiencing the consequences of the excesses of the previous century. " We are facing a new paradigm or model, and it is called sustainability or sustainable development (Salcedo, 2014).

In recent years, sustainability has attracted a lot of attention from both the academic and industrial sectors, but still not all are aware of the need to adopt a thought focused on it. This study only considers the environmental aspect of sustainability, but it is considered important to explain how the term of sustainability and its three dimensions was born.

There are different definitions offered by several authors that are related to this concept and that have evolved over time, enriching themselves from different contributions. Let's consider some of the most prominent.

The Brundtland Report can be considered as the starting point of discussions on sustainable development, thus constituting an important political change.

In the year 1987-1988, after the appearance of the Report on our common future coordinated by Gro Harlem Brundtland within the framework of the United Nations, the term "sustainable development" was used for the first time, understanding as "The development that meets the needs of the present without compromising the satisfaction of the needs of future generations". This report identified the risks of the current economic model for the first time, and is the reason why the EU and other countries signed the Rio Declaration in 1992 called the "Earth Summit", with the aim of reaching a consensus to formulate sustainable development strategies in the future (Sequeiros, 1998)".

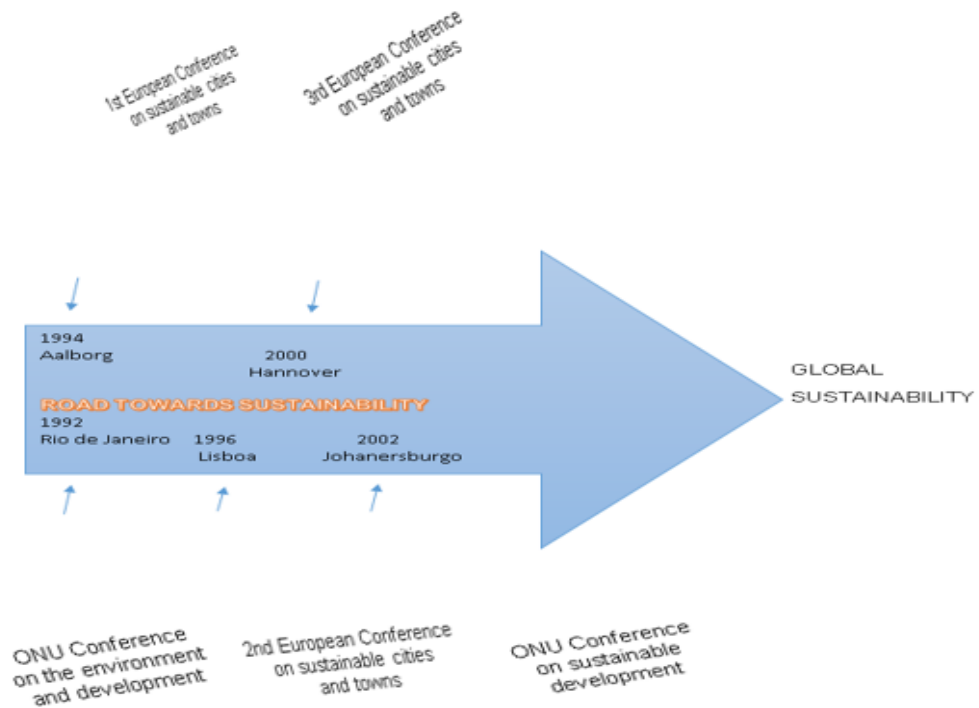
However, although the definition of Brundtland is the most socially accepted, not all authors accept that the conceptualization of sustainable development defined by this report is the best one. For example, Taylor (2002) stated that it is often difficult to determine the future needs of people in the next generation, which may be different from the needs of today's people. He added that the way in which developed countries view the concept of needs is completely different from the views of developing countries.

Another definition is proposed by The Natural Step (TNS), an organization that since 1992 helps leaders, corporations, communities, educational institutions and governments to develop detailed plans towards sustainability. TNS defines sustainability as: "Ability of our human society to perpetuate itself within the cycles of nature" (Salcedo, 2014).

Many of the interpretations of sustainable development coincide in that, in order to achieve this, the policies and actions to achieve economic growth must respect the environment and also be socially equitable in order to achieve economic growth. The European Council of Gothenburg in 2001 approved the European Strategy for Sustainable Development, where its President Nicole Fontaine highlighted "the will of the European Union in favor of sustainable development, whose three dimensions, economic, social and environmental, are inseparable "(Artaraz, 2002).

Since 1992, when the Rio Declaration was held, more conferences on sustainability have been held, this being the path towards global sustainability:

Figure 1: Road to sustainability since the 1992 Rio Conference

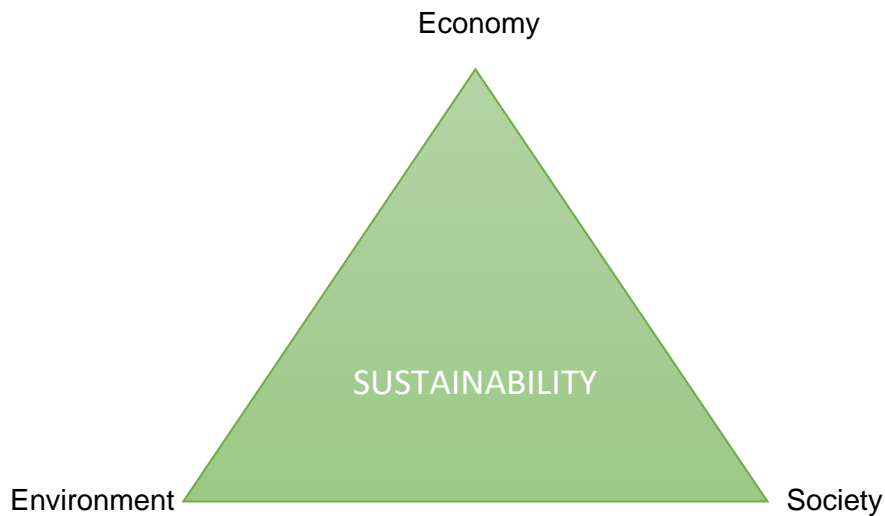


Source: Adapted from:(Arteche,2002)

The discourse of environmental sustainability has a great importance in the society of the 21st century and it is important to mention that the concept of sustainability goes beyond merely and exclusively environmental considerations.

Carl Frankel, in his book "In Earth's Company" (1998), finds that sustainability is characterized by the set of three elements: economy, environment and social equality, better known as "the triad of sustainability" (Gardetti, M Delgado Luque, M; 2018).

Figure 2: Dimensions of sustainability



Source: Adapted from: (Artaraz, M.2002) “Theory of the three dimensions of sustainable development”.

As the author Elena Salcedo (2014) also affirms, we have a problem of behavior and a problem of concept. We have to change our way of seeing the functioning of the world, and move from a vision in which the economy, society and the environment are interdependent systems to a vision of integrated systems. The balance of the three interactions promotes sustainable development (Barton, 2000).

Therefore, being responsible implies that the organization must take into account the three dimensions of sustainability: economic, social and environmental in order to achieve a more stable environment.

- The **economic dimension** is based on concern for economic viability. The objective is to go towards a more responsible consumption, given that we are in a society of materialism that responds to the pressures of a disposable consumption.
- Regarding the **social dimension**, it refers to the concern for social equality and workers' rights. It is about avoiding precarious contracts with very low salaries. It also means changing abuses of power by developed countries over those that are in the process of development.
- Regarding the **environmental dimension**, it focuses on the concern about the impact on the planet. It is about designing productive systems that are capable of using only renewable resources and energy, and not producing waste.

It is evident that economic activities create wealth and social welfare and, therefore, they contribute to increase the quality of life of people. But it is also true that in many occasions the creation of wealth and welfare occurs in prejudice of a negative impact on the environment, an economic development not sustained over time and an inequality in the distribution of wealth (Arteche, 2002).

2.2.- Corporate Sustainability

The origin of the concept of corporate sustainability is mainly linked to the definition of "sustainable development" of the Brundtland report. According to the Brundtland Report, the first document that introduced the concept of "sustainable development", it is said that companies have a crucial role in managing the impacts of population on ecosystems, ecosystem resources, food security and sustainable economies to reduce the pressure of society (Montiel, Delgado-Ceballos, 2014).

In the mid-twentieth century, Peter Drucker mentioned the issue of corporate responsibility from the analogy of the need for "tame the beast" (referring to the company). Society must set limits to the dynamism and power in this form of production to maintain a balance between the company and the different groups of society (Raufflet, 2010).

Sustainable development, when incorporated by the organization, is called corporate sustainability and contains, like sustainable development, the three basic pillars: economic, ecological and social (Baumgartner, Ebner, 2010). Some academics identify the concept of corporate sustainability exclusively in terms of environmental dimension. Other academics refer to social and environmental issues. And finally, a large proportion of academics agree with the definition that covers the economic, social and environmental dimensions (Montiel, Delgado-Ceballos, 2014).

As we mentioned in the previous section, in this work we are going to focus on the aspect of corporate environmental sustainability.

An interesting definition of "ideal" sustainable organization from a systems perspective describes the organization as one that will not use natural resources faster than rates of renewal, recycling or regeneration of those resources (Marshall and Brown 2003). The environmental dimension of corporate sustainability addresses the environmental impacts due to corporate activities. These impacts are caused by the use of resources and emissions to air, water or soil, as well as hazardous waste. In addition, the impact on biodiversity and the environmental problems of the product throughout the life cycle are important (Baumgartner, Ebner, 2010).

Nowadays, the links that connect the company with its environment are increasingly talked about. Companies have achieved unprecedented power, but with this power, responsibility also comes (Raufflet, 2010).

It should be noted that the company is one of the social institutions with the most power to influence, both positively and negatively in the economic, social and environmental system. This necessarily implies a greater responsibility on the current and future state of the physical and social system in which they operate. Society requires them to behave in accordance with this responsibility, to formulate their strategies and policies to make the prosperity of companies compatible with a sustainable quality of life on a planetary level. Organizations must assume that responsibility and begin to behave as a "corporate citizen" (Olcese, 2008). The traditional company must move towards a new business paradigm and, for this, they must evolve and modify the way in which they relate to the environment and society.

A company is sustainable when, in addition to achieving a satisfactory economic performance account and maximizing its value, it is viable in the short and long term for its contribution to the sustainable development of its environment and our planet with full respect for individual and collective human rights (Arteche, 2002).

When everything is concentrated only on the fact of generating profits, a reality is generated where the environment and other dimensions are affected (Morgan, 2015). A large part of the population believes that the world of business has moved away from society, that the interests of the business world are no longer aligned with the interests of society. The only way to stop this new wave of anti-business sentiment is that companies take the lead and reposition themselves clearly and convincingly as part of society (Raufflet, 2010).

As a result, for companies, being sustainable is a way to promote their responsibility to society and the environment to obtain a competitive advantage in the market. In order to show evidence of companies' achievement in environmental management and sustainability, companies often verify sustainable manufacturing practices through third parties. Many fashion companies have differentiated their products and strengthened their brand image by adopting sustainable practices, such as the ISO 14000 standard in their supply chain. The verification of ISO 14000 certification implies that companies have established their operations related to the environment and workflows in their manufacturing processes (Shen, 2014).

On the one hand, it is necessary that we consummate so that the economic system continues to survive. And on the other hand, the citizen has capital to satisfy his consumption thanks to that consideration of work. But for the system as a whole to continue functioning, it is necessary to fulfill some basic and necessary conditions, since the biological rhythms of natural resource generation are not able to keep pace with our monetary system. That is, we are responsible for the decision to change the current paradigm for one based on more responsible consumption.

In view of the climate uncertainty, addressing the environmental impacts of a company's activity involves reviewing the fundamental elements of its business model (Díaz-Correa, López-Navarro, 2018). This need provides the company with a great opportunity to develop innovative practices in the design, production and marketing of its products. The business model is understood as "a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific company" (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019). According to Morgan (2015), if the business model is not changed, nothing can be changed.

To integrate sustainability into the company, a series of recommendations must be followed (Salcedo, 2014):

- Understand sustainability as a philosophy.
- Do not apply it only for the demands of the market or laws, but to open new opportunities.
- Have a long-term vision
- Have all the management bodies of the company, as well as their departments.
- Do not fall into the greenwashing.

The results that can be expected when integrating sustainability into the business strategy can be several:

- Efficiencies (energy, transport, water, packaging, etc.)
- Opportunities for innovation and access to new markets.
- Increase in sales and greater customer loyalty.
- Better control of the value chain.
- Staff satisfaction.
- Greater attractiveness for investors and public competitions.

Most companies that try to adopt sustainability practices through their supply chain do so in the production phase and, as far as consumption is concerned, they have less involvement.

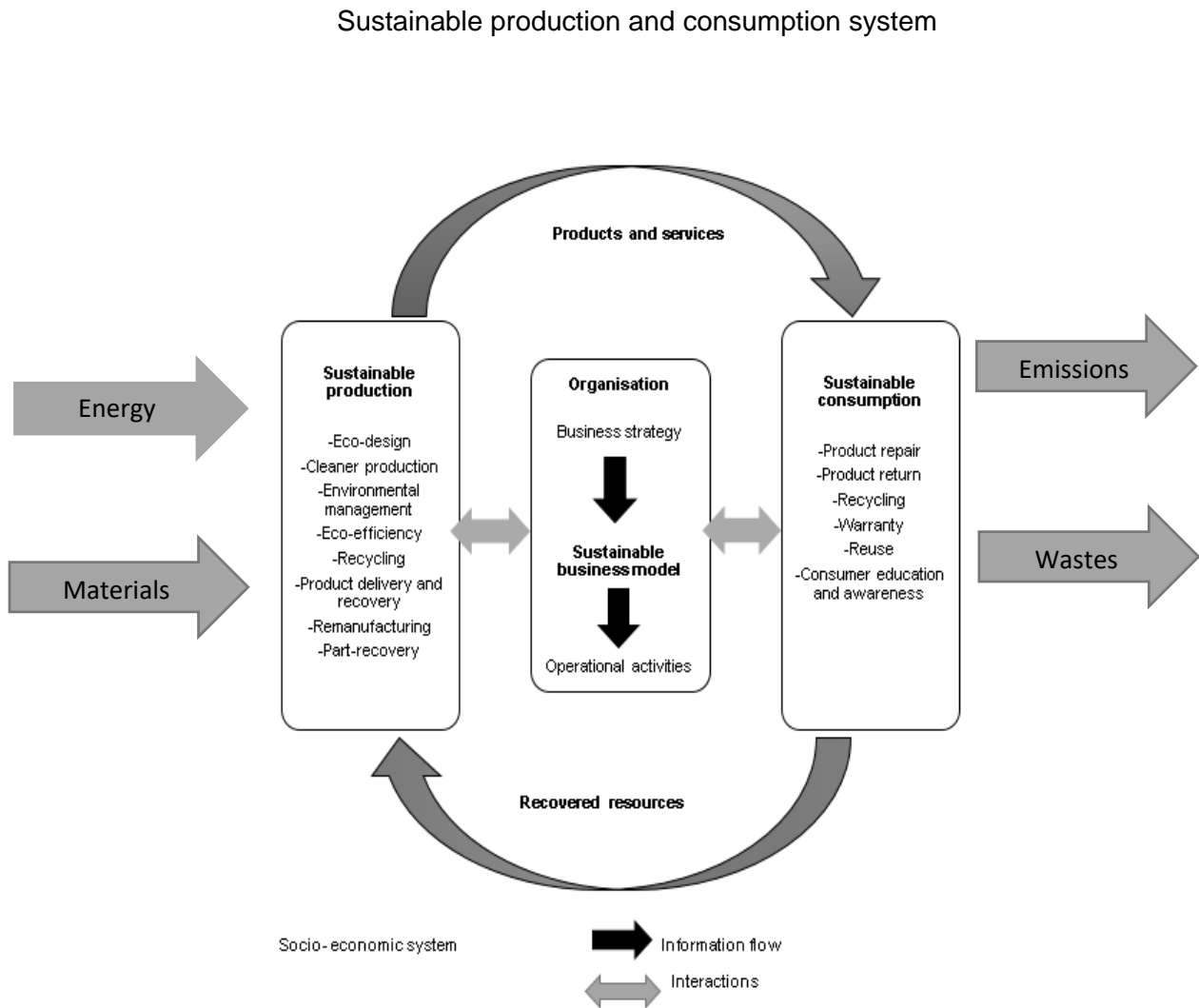
Currently, we are beginning to look for a change in the productive and consumption model that completely eliminates waste. The circular economy concept offers a new waste and resource management framework to transform current predominant linear production and consumption systems into more circular systems (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

Innovations in business models driven by sustainability play a crucial role in transforming current and unsustainable patterns of production and consumption by attempting to reduce product substitution and close material cycles (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

Then, the following figure will serve as a reference later in the work. We can observe a series of actions from the point of view of production and consumption, which companies must adopt to try to solve the unsustainability of the planet and promote sustainable business models.

Figure 3 illustrates a system of sustainable production and consumption where natural resources (materials and energy) are managed through sustainable business models (focused on the design of sustainable products and multi-product life cycles) and the administration of products at the end of their useful life (focused on the recovery of parts / components and materials). Therefore, business models have a key role in the transformation or remodeling of material cycles (i.e. slowdown and / or closure) through the promotion of product offerings that recognize and address social, economic and ecological challenges (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

Figure 3: The role of sustainable business models in a sustainable production and consumption system.



Source: Adapted from (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

2.3.-Sustainability in The “Fast-Fashion” Industry

As a consequence of globalization, the textile sector has undergone a transformation where interests are placed above people and the planet. With the arrival of the industrial revolution the clothes became faster and cheaper to make, so it was a positive change for the big fashion distribution chains. But that has also brought a series of consequences in society due to that constant speed and demand. There has been a relocation of the entire productive system that was practically in all countries. Behind a globalized industry there are environmental problems, and there is the less glamorous part of fashion (Morgan, 2015).

Due to the dimensions of the textile industry and that trend towards a faster fashion, the textile sector is one of the ones that contributes most to the unsustainability of the system. Particularly, in relation to its global volumes, it represents 9.3% of the world's employees and 4% of world exports (World Trade Organization, 2008).

To better understand the consequences of fast fashion in the environment, we must first understand what it consists of and how to identify a brand with these characteristics.

The fast-fashion trend is a business practice of international fashion firms and large distribution chains, which have managed to seduce their clientele with the constant updating of their designs and the low prices of their products (Salcedo, 2014). Previously to this model of fast-fashion, the spring-summer seasons or the autumn-winter season were known, but these ideas have been changing due to a changing fashion, where new products are placed more quickly, at a more affordable price for the consumer and, in this way, you can reach a larger audience (López, 2012).

Fast fashion has managed to create a completely new form of production and distribution, with a dynamic interaction of the design, production and distribution phases and the annual collections are sold almost as quickly as the customer changes their likes. In addition, it is the same company that promotes these rapid changes, and in the stores the designs are put every week. In this way, an opportunity is created and the client is made to understand that, if any model likes it, it is better to buy it at that moment, since surely in the coming weeks that model will not be available, so that the client is forced to buy the garment so as not to lose the opportunity to acquire it (López, 2012).

The fast fashion cycle has its origins in feedback, and data on customer purchases are the starting point for managing new productions. That is, more quantity is produced than what has been sold best, offering the consumer, in less than twenty days, a new identical product with small variations that will remain in store for a maximum of five weeks (Salcedo, 2014).

The author Salcedo (2014) states that fast fashion is born with two objectives:

1. *"The consumer must find new designs in the store more frequently".*
2. *"The product that the consumer sees must be better adapted to their likes and needs".*

The purpose of these two objectives is to attract the consumer and buy more. Therefore, the consumer has a key role. If consumers do not demand this type of clothing and change their consumption habits, nobody will produce it (López, 2017).

Author Solene Rauturier (2018), says that there are some factors that are common to fast fashion brands:

- Many styles of the latest trend.
- Short response time between when you see a trend on the catwalk and when it hits stores.
- Cheaper labor with lower wages, no rights or adequate security.
- Complex supply chains with low visibility beyond the first level and subcontracting.
- Limited amount of a particular item, and this forces you to buy since you can lose the opportunity that the item is no longer a few days.

- Cheap and low-quality materials, the clothes are disposable.

As we can see, this system is based on speed, where information and time are key factors. Our current economic model is based, among other things, on consumption, whose development is associated with growth. So far, we have focused more on how to achieve that growth, and we have not stopped to think about the consequences of reaching that growth. These developments have been unpleasant side effects for the environment (Rainer, Medelby and Norregaard, 2013). Increasing global demand for products and services has increased resource extraction rates, while shorter product replacement cycles, due to technological innovation and other factors, have increased global waste generation (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

Every time there is a productive process, there is generation of greenhouse gases, generation of waste, high consumption of water and energy. It employs a wide variety of dyes and other chemical compounds and, all this, by changing shirts that are also getting worse quality. The fabrics are of inferior quality and are subject to obsolescence and ephemeral fashions (Morgan, 2015). The fashion industry is the second largest polluter of clean water worldwide. That is why Greenpeace has been pushing brands to eliminate hazardous chemicals from their supply chains through its Detox the Catwalk campaign. Animal products such as leather and skin are used and this puts the welfare of animals at risk (Rauturier, 2018). Even according to some ecologists, water contamination occurs to such an extent that in the future it cannot be used by humans. In addition, according to the WHO more than 80% of all diseases are attributable to environmental factors in whole or in part.

There are significant problems with garment waste, since most garment and textile waste end up in landfills to be recycled or reused (Kozlowski, Bardecki, Searcy, 2012).

Transgenic cotton (ie, genetically engineered cotton obtained by imparting insecticidal and herbicidal properties to the plant) is one of the most exposed to the public in the industry. The companies are responsible for the environmental problems caused not only by them directly, but also by their suppliers (Caniato, Caridi, Crippa, Moretto, 2012). Specifically, a cotton shirt requires a consumption of 2,700 liters of water. And it is estimated that the global textile industry uses 387,000 million liters of water per year. 58% of the textile fibers produced in the world are derived from petroleum. (Salcedo, 2014).

In the year 2000, global clothing sales were US \$ 1 trillion, with one third of sales in Western Europe, one third in North America and one-third in Asia (Kozlowski, Bardecki, Searcy, 2012).

Therefore, the fight against climate change requires changes in the behavior of companies and individuals. In the following table we summarize the main effects on the environmental well-being that fast -fashion involves:

Table 1: The environmental impacts

| Chemistry | Water | Greenhouse gases | Solid waste | Resources: Earth and energy | Biodiversity |
|---|---|--|---|--|--|
| The global textile industry, it is responsible for 20% of water pollution. The intensive use of chemical products has a great impact especially in the seas and rivers. | Some textile products require an intensive use of water, which means scarcity for human life and other living beings. | The textile industry is responsible for 10% of the total CO2 emissions in the world, with an annual consumption of one billion kilowatt-hours. | Many waste is generated throughout the value chain, and most end up in landfills. | 58% of the textile fibers produced in the world derive from petroleum. | This impact is not easy to measure, but it is important to recognize a loss of biodiversity. |

Source: Adapted from (Salcedo,2014).

As we have already seen, the fast-fashion model involves copy, speed and trends. This assumes, in terms of chemistry, that the global textile industry covers 20% of water pollution. The intensive use of chemicals has a great impact on the seas and rivers. On the other hand, some products require intensive use of water, which means scarcity for human life and other living beings. The textile industry is responsible for 10% of the total CO2 emissions in the world, which means an annual consumption of one billion kilowatt-hours. Waste is generated in the value chain of a company and most end up in landfills. In addition, the consequences of fast fashion suppose that 58% of the textile fibers produced in the world derive from oil, all this generating a loss of biodiversity in the earth and an impact that is difficult to measure.

Taking into account that the textile sector has an impact on the environment and that is increasingly evident, it was as a result of the accident of the collapse of the Rana Plaza factory in Bangladesh that made it go around the world putting in evidence the conditions of the people who worked there and the social conscience has begun to demand another way to sell fashion (López, 2017). It was on April 24, 2013 when one of the greatest industrial disasters in history occurred and, as a result of this event, Fashion Revolution was born. This global movement is about analyzing industry practices and raising awareness about the problems of the fashion industry.

Fashion Revolution is made up of designers, academics, politicians, brands, retailers, merchants, producers, manufacturers, workers and fashion lovers in order to orient themselves towards action and solution.

Image 1. Fashion Revolution



Source: www.fashionrevolution.org

As conflicts have occurred in the textile-fashion sector, many companies have developed initiatives based on processes that are more respectful with the environment. Therefore, it is increasingly common to see fashion giants promote sustainability and ecology practices through capsule collections that are more respectful at the environmental level with garments made from recycled materials, organic cotton, etc. However, the underlying issue that arises when analyzing the movements of these large companies, all of them a prototype of fast fashion, is whether the launches of these collections represent a sign of change and evolution towards a more sustainable business model or they are only a marketing strategy to take advantage of new trends towards more responsible consumption. Orsola de Castro, designer and co-founder of the global Fashion Revolution movement, argues that, for now, these collections look like a sale trick, or also known as greenwashing, but we must also assess that they actually come to show a consumer trend which is in increasing demand. (Carrasco, 2017). Jay Westerveld (1986) refers to the term greenwashing as a communication exercise that a company maintains with its stakeholders, conferring environmental attributes to its products or to the organization, when in reality it does not provide any significant benefit (Redondo, Escudero, Ordoñez, 2013).

Fast fashion companies are divided into two main groups. The first group consists of companies that resist sustainability practices and simply try to survive in a highly demanding environment. The second group is made up of companies that try to adopt and improve sustainability through their supply chains through the use of tools such as eco-labeling, management systems, environmental audits, fair trade and clean modes of transport (López-Navarro, Lozano-Gómez, 2014). However, considering the negative environmental impacts of this industry, there is a need for sectoral recognition of the latter group's strategy. To take strategic measures, fast fashion distribution chains take different measures and communicate them through their sustainability reports (Turker, Altuntas, 2014).

For example, the fast fashion chain H & M affirms that it is implementing intensive sustainability practices in its acquisitions, stakeholder management and environmental processes (H & M Conscious Actions, 2013). When a fashion company aims to promote sustainability, the main link is to develop a sustainable supply chain (Shen, 2014). That

is, the actions that companies must implement to achieve environmental sustainability objectives.

In her book, "Shaping Sustainable Fashion" (2011) the author Alison Gwilt insists that the designer must understand that sustainability is not a complement, but is part of the design and the designer should look for alternatives in the research phase and not only think of actions to reduce the environmental impact during the phases of material selection or production of the garment. The sustainability strategy can be an opportunity for innovation for the designer.

As the author López points out, we must change the way we think. "Designing with ecological fabrics is not boring and with limited options. The sustainable does not reduce the options but expands them and offers the designers new creative and conceptual challenges "(López, 2017).

The demand to minimize environmental pollution comes not only from fashion companies but also from consumers. We are all immersed in the fashion cycle, so the consumer has a fundamental role.

According to Carrero, "a responsible consumer" is considered to be the one who, when taking their decisions to consume or not to consume, values the consequences they have in terms of improving animal, environmental or social welfare "(Carrero, Merino , Valor, Bilbao, Labajo, Díaz, 2011, p.1) The consumer also has the power to change things, since depending on the type of business model where he puts his money, he will be supporting a different reality or another (Morgan , 2015).

3.CASE STUDY H&M

Once we have the theoretical framework that involves the evolution of sustainability, we must move to this point of case study. From Yin's point of view, a case study is an empirical investigation that investigates the case or the cases that are adjusted in relation to the phenomenon of interest (Yazan, 2015).

The main reason for analyzing this firm is because H & M is one of the oldest firms that moves towards a more sustainable model of fashion production. In addition, it is a company with a very high international turnover and presence. Scandinavian companies are generally more advanced (Rainer, Medelby and Norregaard, 2013). They are always looking for new ways to improve and grow that add value to the company and, therefore, it becomes an interesting case study.

The information is mainly extracted through secondary sources such as the company's website and sustainability reports, which can help improve the reliability of the results of our work.

Hennes & Mauritz (H & M) was founded in 1947 and is based in Sweden. In 1968, the company began to offer clothing for men and children as well. From 1969 the expansion was fast and now has more than 42 stores worldwide. In 1974, Hennes & Mauritz traded on the stock exchange in Stockholm. And, the same year, the stores were renamed with the abbreviation of H & M. In 1980, the first stores were opened in Germany and the Netherlands. Later, in the 1990s, traditional advertising was replaced to a large extent by billboards in large cities. The choice of models indicates that H & M has become a truly international brand. In 1998, H & M began offering the first online purchases and, at the end of the decade, the first store was opened in Paris.

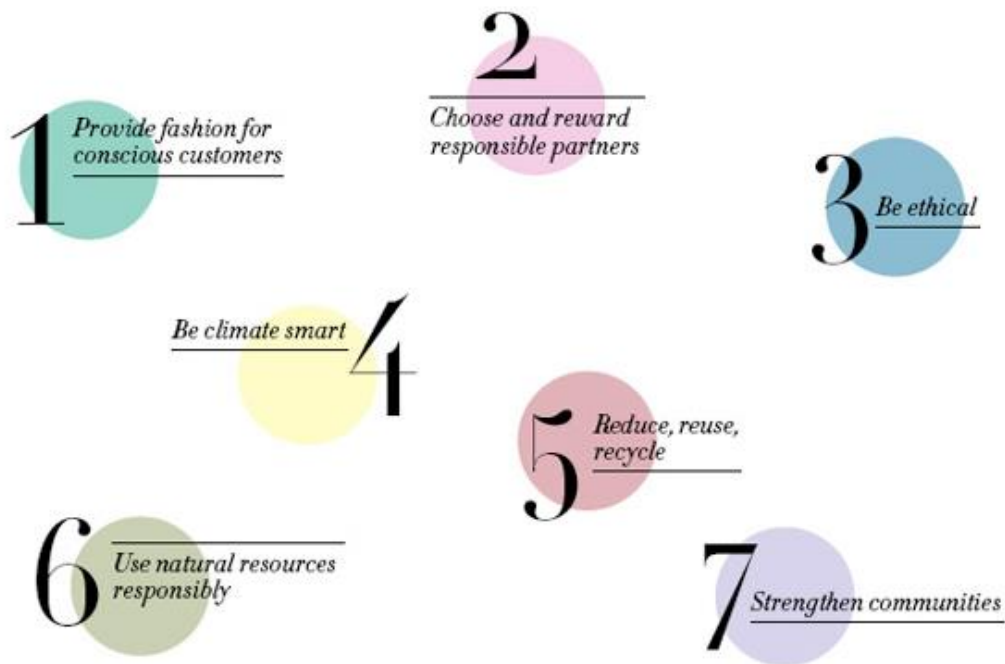
It currently operates in 69 markets offering fashion products from its seven brands: H & M, H & M Home, COS, Monki, Weekday, & Other Stories and Cheap Monday. Their objective is that fashion is sustainable and sustainability is in fashion and, for this, they use their large size and scale to promote development towards a more circular, fair and equitable fashion industry (H & M, 2017). In 2009 Karl-Johan Persson assumed the position of CEO. The following year, H & M launched for the first time a complete fashion collection made of sustainable materials. The Swedish company is one of the main consumers of organic cotton, in addition to using recycled polyester, and collecting tons of used garments in its stores. Each year, H & M carries out the H & M Foundation's Global Change Award, where new materials are sought and how to develop them in the future to create garments with them. The objective is long-term (2030) and consists of becoming a brand that uses recyclable materials and renewable energy sources. All this in order to promote the change towards a circular model and maximize the potential of the materials while minimizing waste (H & M, 2017). It also has strategic partners such as Better Cotton Initiative, Cradle To Cradle Products Innovation Institute or Global Fashion Agenda (H & M, 2017).

As stated in an interview the director of sustainability, Anna Gedda, provide fashion on a large scale as H & M and work in a sustainable manner is not a contradiction. Given that the planet is running out of natural resources and the population is growing exponentially, it requires having ambition at work to lead the shift towards a more sustainable industry (H & M, 2015).

Taking into account that the business model of this company is to offer "fashion at the best price and in large volumes", the objective is to analyze the extent to which H & M is sustainable in its supply chain. The supply chain is the network of suppliers of goods and services necessary to manufacture, distribute and sell fashion. According to Gwilt (2014), it includes five phases: design, sample manufacturing, selection, manufacturing and distribution.

As explained in the section on corporate sustainability and taking as reference figure 3, we will distinguish the production side and the side of consumption. In order to study the case of H & M, these two aspects will be taken into account and, for this, it will be necessary to find out the environmental sustainability actions carried out in each of these. The years to be analyzed in the sustainability reports are 2013, 2014 and 2015, since the analysis of the memories of subsequent years differs from these three years. This is because in these three years the sustainability strategy adopted by H & M was as follows:

Figure 4: H&M Sustainability Strategy



Source: www.sustainability.hm.com

Figure 4 consists of the strategy that brings together the seven ambitious commitments and that summarizes everything that H & M does to achieve a more sustainable fashion future. They carry out sustainable actions (short and long term) with which these commitments are put into practice.

On the contrary, in the following years, the H & M group took the work in terms of sustainability to a higher level. Now the vision of the company is to use its size and scale to lead the change towards a more circular and renewable fashion while more just and equal. This vision applies to all brands of the H & M group, all of which share the same passion for fashion and quality, as well as the ambition to serve customers in a sustainable manner (H & M, 2016). Based on the lessons learned from the seven commitments mentioned above, H & M adopted a new strategy starting in 2016 that will guide them in the next phase of the journey towards real and sustainable fashion. This vision is based on these three ambitions:

Figure 5: Our three ambitions



Source: Sustainability report H&M 2016

We will explain what these three ambitions are and how H & M focuses on the new strategy.

1. 100% Leading the change
 - Promote and scale innovation
 - Drive transparency
 - Reward sustainable actions
2. 100% Circular & Renewable
 - A circular approach to how products are made and used for
 - Use only recycled or sustainably sourced materials
 - Use only renewable energy in our value chain
3. 100% Fair & Equal
 - Fair Jobs for all
 - Stewards for diversity and inclusiveness

As we can see, the new strategy adopted by H & M is broader and more complex than the previous one. In this work we will only focus on analyzing the sustainability reports of the years 2013, 2014 and 2015 as we mentioned earlier.

As scandals have been happening in the textile-fashion sector, companies have been taking initiatives based on processes that are more respectful with the environment. In 2013, H & M launched the sustainability program called "Conscious Action". In general terms with these actions, more employment options are created in less developed countries, more recyclable resources are used in production and consumers are educated to be more ethical, as they are increasingly aware of sustainability. Ethical practices such as offering in-store recycling services can improve consumer awareness of sustainability (Shen, 2014).

Image 2: Pictures of Conscious Collection Initiative at H&M stores



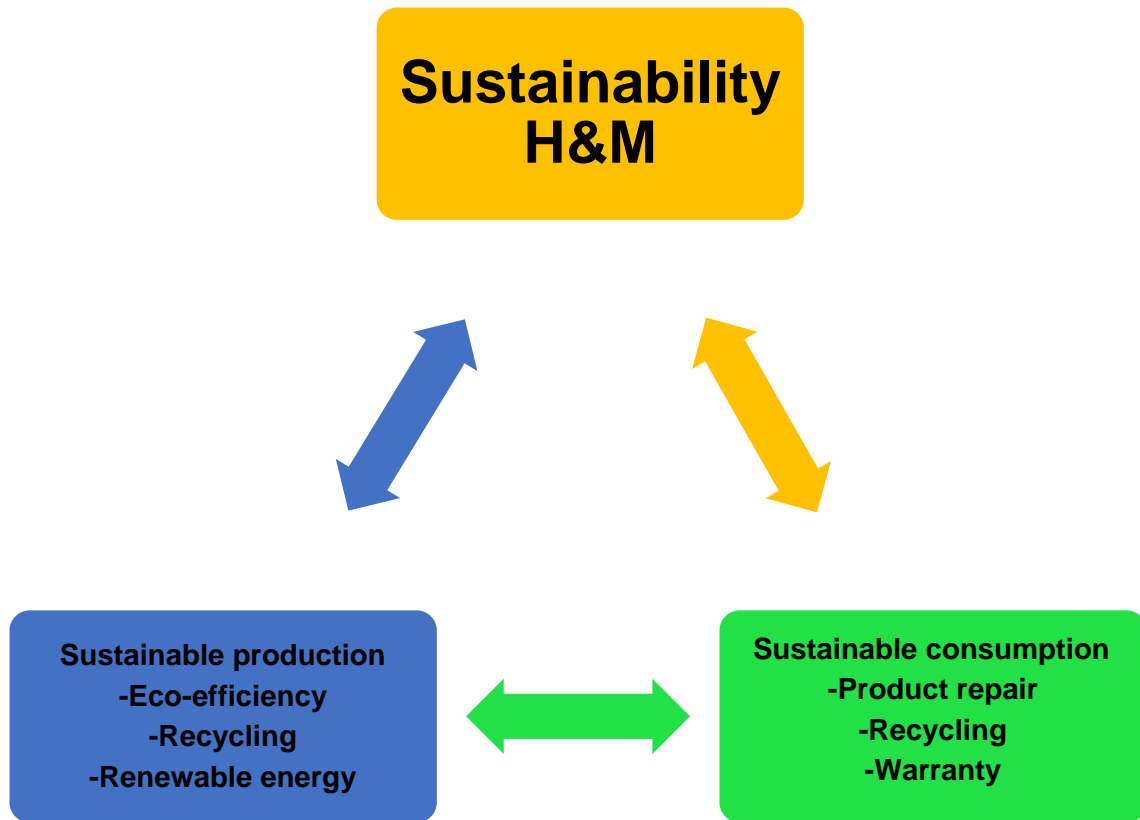
Source: H&M official web www.about.hm.com

The sustainability reports are a fundamental mechanism for those companies committed to sustainable development. As a result of launching the Conscious Action program, year after year they have been improving the sustainability practices in the value chain with the aim of using 100% of materials recycled or obtained from sustainable sources in the year 2030.

Both in the production and consumption aspects, there are variables to be taken into account and the company can execute strategies in both planes. Let's see if it does, but first of all we will define the variables that are going to be taken into account in the two aspects for the company H & M.

Figure 3 of this work shows several variables in terms of production and consumption that should be taken into account in the supply chain of a company. For example, in terms of production for a product to be totally sustainable, it is necessary to start with the ecological design, continuing with a cleaner and more recycled material production. Environmental management, product delivery and recovery, re-manufacturing or renewable energy also play a fundamental role in more sustainable production. On the other hand, there are also more variables related to more sustainable consumption, such as education and consumer awareness or to reuse used garments. For our case we are going to take into account these variables:

Figure 6: H&M Sustainability



Source: Adapted from (Singh, Cooper, Cole, Gnanapragasam, Shapley, 2019).

Taking into account that in 2013 H & M launched the Conscious Action program, it is from that year when the company introduced changes in production and consumption related to sustainability. Regarding the following table, we have chosen three variables related to production (eco-efficiency, recycling and renewable energies). When analyzing these variables in the sustainability reports of the Swedish company, some actions are carried out and others are only commented as possible objectives in later years. That is why, in the table, each variable is divided as commented, if the objectives are carried out or if it is measured. In each variable and year, textual citations of the sustainability report are placed that justify what the company carries out.

Table 2: Sustainable production

| Sustainable production | Intensity level | Citations that justify it (year 2013) | Citations that justify it (year 2014) | Citations that justify it (year 2015) |
|-------------------------------|------------------------|--|---|--|
| <i>Eco-efficiency</i> | It is named | “Develop dedicated water engagement plans for the Yangtze (China) and Brahmaputra (Bangladesh) river basins.” | “Develop improved chemical management practices for our suppliers.” | “Help to lead our industry towards zero discharge of hazardous chemicals.” |
| | It sets objectives | “Further reduce water use in washing processes for denim and other water intense product types. We have saved 340 million liters of water in the manufacture of denim garments.” | “We scored 76% of our denim orders using Jeanologia’s Environmental Impact Measurement tool.” (56% less wáter) | “In all denim orders we have made, the Jeanologia criteria have been applied, making responsible use of water and energy.” |
| | It is measured | “2300 hours of training for our colleagues on water impact as part of our collaboration with WWF.” | “More than 43,000 colleagues (33%) have taken our introductory e-learning and more than 5,800 have taken our more advanced learning programme.” | “In 2015, we extended the training to our suppliers and, for now, 53% of them have already received the corresponding training.” |
| <i>Recycling</i> | It is named | “We joined the circular economy 100 platform.” | “We joined the circular economy 100 platform.” | We joined the circular economy 100 platform.” |

| | | | | |
|-------------------------|--------------------|--|---|--|
| | It sets objectives | 15.8% of all the cotton we use is more sustainable (11.4% in 2012). Our goal is to reach 100% in 2020. | “We use more certified organic cotton than anyone else in the world according to Textile Exchange’s latest Organic Cotton Market Report. During 2014, we increased our use of organic, recycled and Better Cotton so that these three sources now represent 21.2% of our total cotton use.” | “During 2015, we further increased our use of recycled and Better Cotton and together with organic cotton, these three sources now represent 31% of our total cotton use. The Conscious label identifies H&M products with the best sustainability credentials.” |
| | It is measured | “All standard H&M shopping bags are 100% recycled plastic, the material manufactured with the least environmental impact.” | “In 2014, the first recycled products were made, with 20% at least recycled material from them.” | “In 2015, the number of products has reached one million garments recycled.” |
| Renewable energy | It is named | “Reduce our operations total greenhouse gas emissions.” | “Use renewable electricity only.” | “Align with best practice in responsible corporate engagement in climate policy.” |
| | It sets objectives | “18% of our electricity consumption comes from renewable sources. Our goal is to reach 100%.” | “27% of our electricity use comes from renewable sources.” | “We have greatly increased the use of electricity from sources renewable until reaching 78% (2014: 27%; 2013: 18%) of our total world consumption.” |
| | It is measured | “Our stores have reduced electricity consumption by 14% per square meter since 2007.” | “More than 66% of our stores are now equipped with real-time electricity metres.” | “In 2015, we reduce our total emissions further by 56% compared with 2014.” |

Source: Sustainability Report H&M

Eco-efficiency consists of making fashion consume less of the planet's resources, such as water, taking into account the generations of tomorrow (H & M, 2013). We can see that, in 2013, H & M began to plan to develop dedicated water commitment plans for the basins of the Yangtze (China) and Brahmaputra (Bangladesh) rivers, since these are used as drainage, creating environmental and health crises. As part of this, a conservation project led by WWF will be supported to protect the Yangtze River that is in danger of extinction. To achieve this, the project will focus, among other things, on training cotton producers in the region on more sustainable agricultural practices to reduce water pollution. They also work with the provincial government to support the creation of new natural reserves. In the following two years it is named to make use of improved chemical management practices for suppliers to help lead the industry towards zero discharge of hazardous chemicals. Regarding the objectives that are proposed in relation to eco-efficiency, the use of water in the washing processes for denim products and other types of intense water products is reduced, leading to a saving of 340 million liters of water in the manufacture of these products in the year 2013. In 2014, 76% of denim orders from the H & M company used Jeanologia's environmental impact measurement tool. Jeanologia is a company based in Spain and they are experts in denim washes. The following year in 2015, the objective was carried out and all orders for denim products applied the Jeanologia criteria, making responsible use of water and energy. The fashion industry had to make a significant contribution to address these water challenges. We wanted to increase the knowledge of this problem among all workers, suppliers and customers of this problem. Therefore, different types of training have been developed for workers. In 2013, 2300 hours of training were given to workers on the impact on water as part of the collaboration with WWF. H & M cooperated with the World Wildlife Fund (WWF) in the strategy to save water, which helped improve the management of water resources throughout the textile production cycle (Shen, 2014). In 2014, more than 43,000 workers received training and around 5,800 made the most advanced learning program. In 2015, the training was extended to the providers as well and about 53% received the corresponding training.

Recycling is another important variable to take into account in the value chain of a company, as textile fibers recover their leading role by searching for new ecological raw materials and synthetic fibers such as organic cotton for production. Although H & M has carried out more sustainable measures since launching the Conscious Action sustainability program, its goal is to drive change towards a circular model and maximize the potential of its materials while minimizing waste (H & M 2017). They are aware that their supply chain is complex, so their environmental impacts are significant and far-reaching. In 2013, the intention was to join the 100% circular economy platform in the following years. As objectives, in terms of recycling in production, 15.8% of all cotton used by H & M in 2013 was more sustainable (11.4% in 2012). Other organic or recycled fabrics were also used, or innovative materials such as Tencel. According to an interview with Henrik Lampa (H & M 2013), manager of corporate social responsibility (CSR) of the raw material at H & M, with the growing awareness of environmental sustainability, H & M has used organic cotton for many years and invested a lot of money in sustainable cotton production. In addition, to ensure that cotton farms produce real organic cotton, H & M actively involves the global project, called the Better Cotton Initiative (BCI), which provides the best growing techniques to cotton producers. The goal is to reach 100 percent of its cotton from more sustainable sources by 2020 (H & M 213). During 2014 the use of organic and recycled cotton increased, so these three sources now represent 21.2% of total cotton use. In the spring of 2014, H & M offered the Hollywood glamor

collection, which was made of organic cotton and recycled polyester. Organic cotton is grown without using pesticides or aesthetic fertilizers, which could reduce the negative impact on the environment. In 2015, the use of recycled cotton increased even more and, together with organic cotton, accounted for 31% of total cotton use. The Conscious label identifies H & M products with the best sustainability credentials. As evolutionary measures, in 2013, it was carried out that H & M's standard shopping bags were 100% recycled plastic, the material manufactured with the least environmental impact. These bags require much less energy, chemicals and water to produce and take up less space in transportation. In 2014, the first recycled products were manufactured with 20% of at least recycled material from them. In 2015, the number of products reached one million garments recycled.

The third variable that we are going to analyze with respect to production are renewable energies, which consist, for example, in choosing energy-efficient lighting. It also means inspiring those around us to be ecologically smart as well, washing at lower temperatures or avoiding using the dryer (H & M, 2013). What H & M wants to carry out and which, therefore, names in its sustainability report is to reduce the total greenhouse gas emissions of its operations, use only renewable electricity or align with the best practices in corporate responsibility and a commitment with climate policy. Being objectives, we see that, in 2013, 18% of electricity consumption came from renewable sources, increasing this electricity consumption by 27% the following year. And finally, in 2015, the use of electricity from renewable sources increased considerably, reaching 78% (2014: 27%, 2013: 18%) of total world consumption. The measures taken by H & M in terms of renewable energy have been reducing the consumption of electricity in stores by 14% per square meter since 2007. In 2014, more than 66% of stores were equipped with meters of electricity in real time. The following year the total emissions were reduced by 56% compared to 2014. The ambition was to reach 100% renewable electricity. In some of the key markets, such as the United Kingdom and the Netherlands, it has already reached 100% today. In other markets, this is more challenging at this time as there is still no legislation that allows credible accounting for the use of renewable electricity.

As we can see, based on what is shown in the production table, there is a positive evolution if we compare the three years in the sustainability reports that have been published since 2013. The company has introduced changes in its supply chain, which is improving year after year, but it is still far from being a totally sustainable company.

In Table 3, we have chosen three variables related to consumption (product repair, consumer recycling and warranty). In the figure that serves as a reference there are more variables related to more sustainable consumption, such as education and consumer awareness or reusing used garments. We have divided the table in the same way as the production table. On the one hand, we talk about product repair, recycling or warranty. Second, if objectives are carried out with regard to these three variables and, finally, if any objective is measured.

Table 3: Sustainable consumption

| Sustainable consumption | Intensity level | Citations that justify it (year 2013) | Citations that justify it (year 2014) | Citations that justify it (year 2015) |
|--------------------------------|------------------------|--|--|--|
| <i>Product repair</i> | It is named | - | - | - |
| | It sets objectives | - | - | - |
| | It is measured | - | - | - |
| <i>Recycling</i> | It is named | Yes | Yes | Yes |
| | It sets objectives | <p>“The majority of the waste that we generate is handled in our warehouses. In 2013, this was around 35,000 tonnes. We have launched the Clevercare label, a guide with tips for taking care of clothes responsibly.”</p> | <p>“The majority of the waste that we generate is handled in our warehouses. In 2014, this was around 46,000t (2013:35,000t), mainly cardboard (65%), paper (10%) and plastic (7%).”</p> | <p>“The majority of the waste that we generate is handled in our warehouses. In 2015, this was around 50,000 tonnes, (2014: 46,000t, 2013: 35,000t) and consisted mainly of cardboard (65%), paper (10%) and plastic (7%). Our goal is to recycle 95% of this waste. In 2015, we almost achieved our target by reaching 94% (2014:</p> |

| | | | | |
|-----------------|--------------------|--|--|---|
| | | | | 91%, 2013: 92%). We will continue to work towards recycling at least 95%.” |
| | It is measured | “Increase the share of stores that recycle the main types of store waste (“3047 tonnes of no longer wanted garments collected).” | “You can find boxes like this at almost every H&M store around the world (In 2014, we more than doubled that amount with 7,684 tonnes, our goal is to recycle as much as possible into new garments).” | “We have collected more than 12,000 tonnes of garments in our stores. This is equivalent to the fabric of 60 million shirts.” |
| Warranty | It is named | - | - | - |
| | It sets objectives | - | - | - |
| | It is measured | - | - | - |

Source: Sustainability Report H&M.

Next, let's see what the company H & M does to encourage more sustainable consumption.

In the life cycle of a product several processes intervene, from the production of fiber and fabric. Then the design and manufacture of the garment, through logistics and distribution, use and maintenance and, finally, the end of life. During this process it is important to educate the consumer to consider the multiple impacts throughout their life cycle that is linked to the ecological footprint (Salcedo, 2014).

After searching the sustainability reports, there is no information about the repair of the product. Therefore, we deduce that H & M sells the products, but if these suffer some type of deterioration the company cannot solve this problem. Instead of offering a solution for the customer to be satisfied and avoid buying continuously, the company does not comply with this. This leads the consumer to buy more and the garment is "throwaway", which is one of the things that confirms that H & M is a fast fashion company.

Just as we have not seen measures in terms of product repair, there are more and more brands that show interest in waste management through product return programs used with incentives. H & M has a return system in its stores and accepts garments of any brand and in any condition, and in return the customer receives a discount coupon in future purchases of the brand. When the container is full, these garments are sent to companies that manage the waste. The products are classified according to more than four hundred criteria to ensure that everyone will have a second life. The products are reused, given an industrial use or recycled and transformed into new raw materials to manufacture new products as we have mentioned in the production table. The objective is that the product does not generate any type of waste.

Recycling in stores and warehouses plays an important role in H & M. On the one hand, the waste generated by the company is handled in its warehouses. In the year 2013, it was around 35,000 tons. In 2014, it was around 46,000 tons (2013: 35,000 tons), mainly cardboard (65%), paper (10%) and plastic (7%). In 2015, around 50,000 tons were generated (2014: 46,000 tons, 2013: 35,000 tons) and consisted mainly of cardboard (65%), paper (10%) and plastic (7%). The objective was to recycle 95% of this waste and in 2015 this goal was almost reached with 94%. While much of the waste generated in stores is sent to warehouses and recycled, it is intended to ensure that the remaining waste is also handled in the best possible way.

What is measured in terms of recycling in consumption in the company H & M, first, in 2013, 3047 tons of unwanted garments were collected and the proportion of stores that recycled increased. In 2014 more than double that amount, with 7684 tons, the goal was to recycle as much as possible. In the following year more than 12,000 tons of garments were collected in the stores, which was equivalent to the fabric of 60 million shirts. Since the launch of the garment collection initiative in the spring of 2013, the goal was to expand this service to cover all H & M stores worldwide. Customers can now leave clothes they no longer want or need in almost 100% of H & M stores around the world. In the future, the focus will be to implement garment recycling systems in all new markets within six months of opening. The short-term goal is to prevent fashion from ending up in landfills and saving natural resources.

And, finally, the guarantee is another important element when buying a product and that customers take into account. The guarantee gives you the assurance that, if the product is defective or breaks shortly after buying it, a company can cover the cost of that product

or replace it with a new one. H & M does not talk about the guarantee in its sustainability reports, another reason that confirms that in production the company takes measures, but in terms of consumption it does so to a lesser extent.

4.CONCLUSIONS

The fast-fashion has transformed the textile-fashion industry and, with it, also the habits of consumption worldwide. The awareness that our planet does not have enough time to repair the nature that human beings are destroying, is bringing with it a period in which we look for other business models or development towards which to evolve, related to the term of sustainability

Consumers' awareness of sustainability in relation to environmental pollution is also increasing.

The brands that are born with a sustainable business model incorporate sustainability already in their DNA, but what about the fast-fashion companies? Can this system, characterized by mass production and marketing, become sustainable? (Modaes, 2016).

The changes affect all the companies and this causes that the companies have to face new challenges, for what it is necessary that they have a proactive reach and adopt organizational measures according to this changing world. Nowadays society is more demanding and we want a greater environmental commitment oriented towards more transparent and sustainable business models. In the fashion industry this is reflected in the fact that more and more companies are adopting a sustainable or green business model. The big distribution chains are taking action in the matter of sustainability.

Bearing in mind that the objective of this paper is to analyze to what extent companies that follow the fast-fashion business model can be truly sustainable, and taking H & M as a reference in our analysis, we have drawn a series of conclusions. We observe that H & M has implemented a sustainable program, Conscious Action in 2013, in which the eco-material is used and promoted, the sustainable manufacturing form is adopted and less emissions and energy use are used. The company H & M is making progress in this direction but changing the business structure of fast fashion is complex and takes time. In addition to that H & M raised in its sustainability reports to be fully sustainable by 2030, which is far from being a fully sustainable company currently. Being competitive and responsible at the same time seems a difficult task.

Based on the results we have obtained, we can see that H & M focuses more on the sustainable production side and not on the sustainable consumption side. Throughout the three years analyzed in the sustainability reports, we see that there is a positive evolution when compared with the results that have been published since 2013 in production. That is, there is an upward trend if we compare between 2013 and 2015. For example, the Swedish company has introduced improvements in terms of eco-efficiency, reducing the consumption of resources on the planet such as water. For this it has collaborated with the company WWF or Jeanologia, which is an expert company in washing denim products. Recycling in production is also an important part, since the consumption of organic and recycled cotton has been used in H & M for some years, in addition to H & M being actively involved in the global project, called Better Cotton Initiative. Another important variable in the production are renewable energies, and we observe an increase in the use of electricity from renewable sources since 2013 with 18% until reaching 78% in 2015. The consumption of electricity has also been reduced

in the stores of H & M. On the other hand, regarding consumption, we observe that nothing is said about the repair of the product or the warranty. This leads the consumer to buy more and the garment is "throwaway", which is one of the things that confirms that H & M is a fast fashion company.

But if recycling is emphasized in stores and, in return, the customer receives a discount coupon in future purchases of the brand. In this way it is achieved that the products are reused, given an industrial use or recycled and transformed into new raw materials to manufacture new products. For example, in 2013 the company H & M collected 3047 tons of unwanted garments and increases the proportion of stores that recycle, with more than 12,000 tons of garments collected in stores in 2015.

The company is introducing changes in its supply chain that is improving year after year, but it is still far from being a totally sustainable company. In addition, the more information that is available in the sustainability reports, the more the message that the company is transparent and communicative with the different stakeholder groups will be transmitted, and in some variables related to production, and especially consumption, there is not any information in sustainability reports.

Due to this awareness about changing the habits of production and consumption, nowadays we dress with very low prices, but at a very high cost, given that the current models of production and consumption are totally unsustainable. Due to that ecological footprint that we are generating, we must all be actors of change, from consumers to large companies in the sector. In short, the lower the impact of a company, the more sustainable it will be.

To take that change towards sustainability, first of all, you must accept the change and then make strategies for sustainability and towards consumer behavior. Changes should be promoted by designers and companies where they become more ethical and committed, but also in the habits of consumers. And, normally, fast fashion companies educate the consumer to buy in a short period of time. One of the possible solutions would be to buy less, choose well and make the garment last or give it a second use.

To achieve long-term results of the fast-fashion system, this model must have a solid and sustainable foundation, where priority is given to workers, the environment and communities. There is also an interest to move to a circular model of textile production. It seems that sustainability has come to stay, since both large distribution chains and small entrepreneurial companies are betting on it by incorporating it into their business models and trying to minimize negative impacts.

The initiatives that companies can take in the textile industry have significantly improved the sustainability practices in the sector, but it seems that there is still much to be done for companies to internalize the concept throughout the supply chain and incorporate them into the philosophy of the sustainability triad. It is necessary to adopt a broader perspective and implement strategies that lead to a profound restructuring along the supply chain of the company that allows a paradigm shift.

To carry out this work we have found a series of limitations in the case study and possible improvement proposals. In the first place, we have only chosen one fast-fashion company and we have analyzed how it behaves. But maybe if we had made a comparison of several companies with this business model the results would have changed, since not all fast-fashion companies have to behave in the same way as H & M. On the other hand, also, regarding the analysis in the sustainability reports, the years to analyze have been three. If we had done a more extensive analysis of the following

years, the results would possibly be different, because as we mentioned above, from 2016, the company changed the sustainability strategy to a higher level, which surely improved the actions of sustainability in its supply chain. Since that year, the vision of the company has been to use its size and scale to lead the change towards a more circular, renewable, fair and equal fashion. Another possible limitation is that many studies take into account the three dimensions of sustainability (economic, social and environmental) in the textile sector, while in other cases only the environmental aspect is studied. In our case, we only take into account the environmental dimension.

As possible proposals for improvement, perhaps extracting more data from some other source would have made it possible to obtain more results, or conduct an interview with someone from the company, since it is always better to know first-hand information. Therefore, perhaps only extract data from secondary sources such as sustainability reports, make the results of the case study more limited. A future research that could be interesting would be to analyze how sustainable development is achieved in the textile-fashion sector to achieve the triple bottom line, which integrates the three dimensions of sustainability: environmental, economic and social.

In short, fast fashion and sustainability are two concepts that are difficult to reconcile. However, it is the most prevalent business model in the sector, being an important part of world trade and, as a consequence, the one that has the most impacts, both positive and negative. There are those who think that sustainable fashion is a passing trend, but sustainability is the great challenge of the 21st century. If we want to ensure the continuity of our development on the planet we must adopt sustainability as a necessity. When we are aware of this, the need will become a responsibility for the whole society.

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