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Fast Fashion and Sustainability

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The objective of this thesis was to evaluate the current state of fast fashion in the European Market and its affect on outside of the politico-economic union through fast fashion's production phases. Sustainability is what various industries strive for today, to ensure a better life in the future. The thesis focused on the relationship of the two and trying to find out, which measures could be used to improve the fast fashion business model and how different approaches fit the Finnish culture. The study focused on sustainable development, using it as a basis for measuring the business model's impact.

The study was conducted by analysing existing research and reports on sustainability, consumer behaviour, different production phases, focusing on three different types of material, the worker, and the economic situation of brands in the EU.

The results showed an unsustainable system, with no regard of the effect for future generations. This is the result of the demand cheap garments, exploitation of cheaper workforce and natural resources.

Keywords	Fast Fashion, Sustainability, Environmental, Social, Economical, Consumer Behaviour, Europe

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1 Introduction

1.1 Overview

The thesis seeks to discuss the fast fashion, focusing on the European consumer market, in its current model and the relationship it has with sustainable development.

Fashion has a long history with humankind. It takes different forms, and its offering covers people of all ages and backgrounds. Since the late 20th century the mainstream trend for fashion development has been offshoring work from western countries to the developing countries, leaving people in the western world without a job whilst introducing new ways of growth to the developing countries.

This, however, is not the whole truth. While bringing jobs in, the companies have created longer supply chains, not knowing the whole 'story' of a garment. Prices have been cut from where it is seen possible, reducing the quality of the work as workers have to produce more clothes in lesser time. Cutting costs in the production phase has also reduced safety of the worker; weakening buildings, exposure to chemicals used, and health issues from bad working conditions.

The fibres themselves are stretched so far their quality is deteriorating, thus having an effect on the lifespan of the garments consumers wear. Among chemicals used in the growing a crop, or child labour in producing clothes and collecting cotton, and slave labour still linked to not only fashion, but also fashion in Europe. Consumers are mostly unaware of the issues the fast fashion industry is riddled with, and some turn a blind eye.

Earth's capacity to keep up with humankind's 'innovative' ways of working has become a subject of concern. As the Paris Climate Treaty signed this year (2016), the world leaders are showing a direction of which we should head towards. Sustainable development has become paramount in the last decades.

The increasing gap between the business model and sustainability took the author's interest, thus it became her topic to pursue.

1.2 Research Question

This thesis will focus on the following questions (1) Is the current fast fashion model sustainable, as defined? (2) Will the business model have a future in its current form, (3) if not then how to evolve the European fast fashion to be sustainable?

1.3 Structure and Methodology

The thesis consists of nine chapters - each having significance to the study. Chapter two explains how fast fashion became to be and how it defers from other traditional fashion business model. The third chapter covers what sustainability is built on, covering each of the three pillars; social, economical, and environmental. These three pillars work as the foundation to the following topics to cover. In the fourth chapter production of clothing will be covered concentrating on three materials; cotton, leather, and synthetics keeping the three pillars of sustainability in mind. The chapter covers production methods and its impacts, workers conditions and brand's, which work in Europe, economic possibilities. Chapter five covers recycled clothing and its effect, whilst chapter six goes deeper into company reporting with issues including company responsibility statement, discussing a company's responsibility to the civilisation. In chapter seven, the author goes into detail on consumer behaviour, whilst considering how the EU could affect the situation. In the final chapters the author uses the information covered in previous chapters to evaluate fast fashion's future, and expresses her personal thoughts on the subject and provides suggestions for future studies.

The research will be conducted through analysing information gathered from academic books, yet the subject does not have many written academic publishing, the author took supporting relevant and up-to-date information from company reports, published statistics, and non-governmental organisation reports, with reliable sources. The focus is on existing research and reports on production methods in the fashion and fast fashion industry in relation to the European market. The process is literature based, as the emphasis is to describe the current situation and to identify possible solutions.

1.4 Delimitations

The most significant limitation is the thesis is literature based; relying on existing literature, findings depend on the views and opinion of the original author. The variety of information gathered does not all show in this research. It is acknowledged there is abundance of information not covered in this thesis, due to time constraints and limitations in length, the author focused on information she regarded as the most relevant to this topic.

2 Fast Fashion

There are two main markets in the fashion market (Figure 1.) haute couture, which is exclusive custom-fitted fashion, and prêt-à-porter, which produces standardised clothing sizes. Fast fashion falls into the high-street section in the ready-to-wear segment. Similar to fashion, the fast fashion industry is broken down into sections. (Hines & Bruce, 2007) Fast fashion firms meet the demand of consumers with low prices and new weekly product offerings, which quickly fall apart or become out-dated, pushing quantity demand up while pulling prices down. (Siegle, 2011)

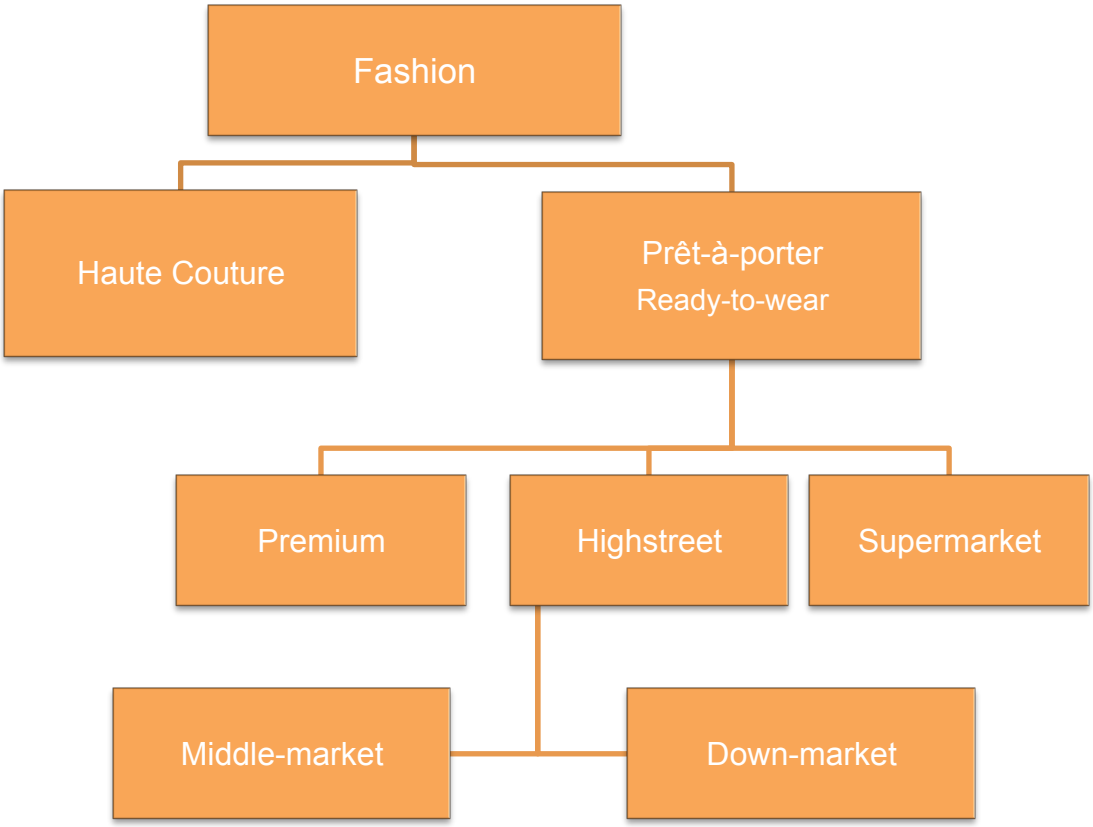

Figure 1. Fashion Industry Market Segmentation

Fast fashion is a business model rapidly taking over the industry, where firms design fashionable clothes as quickly and cheaply as possible, demanding a highly responsive supply chain able to support product assortment, which changes seasonally. Quick response and the assortment changes are fundamentally operational, allowing the ex-

ecution of the model, whilst the price represents the value proposition. (Caro & Martínez-de-Albéniz, 2014)

2.1 What is Fast Fashion?

Fast fashion is a concept, which revolutionised the fashion industry. As the term implies it is about the pace of the production. Brands tap on consumers' interest for not wanting to invest in ever-changing fashion trends. (Chamberlain, 2013) There are huge opportunities for profit and innovation within the model. Hennes & Mauritz (H&M), Zara, and Forever 21 are examples of fast fashion stores.

Powered by the Internet, globalisation and technological innovation, fast fashion operates on a far faster product turnover cycle than traditional models. (Figure 1 and Figure 2) Instead of offering new products every three months, fast fashion brands offer them every two to four weeks. Constant turnover and affordable prices create the 'perfect' setting for shoppers at every income level. (Siegle, 2011)

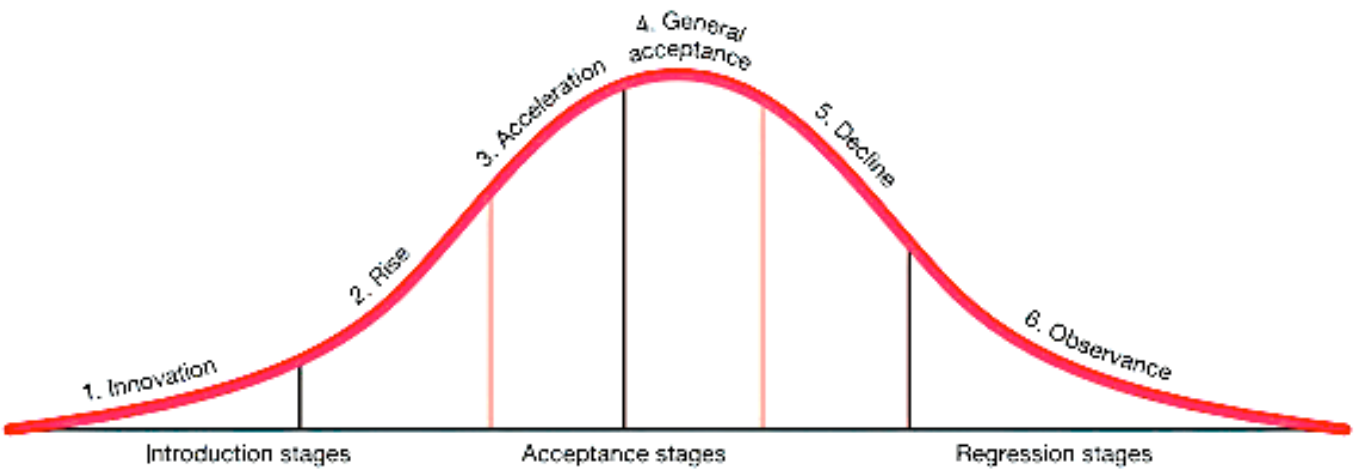

Figure 2. A normal fashion cycle (Solomon, et al. 2006)

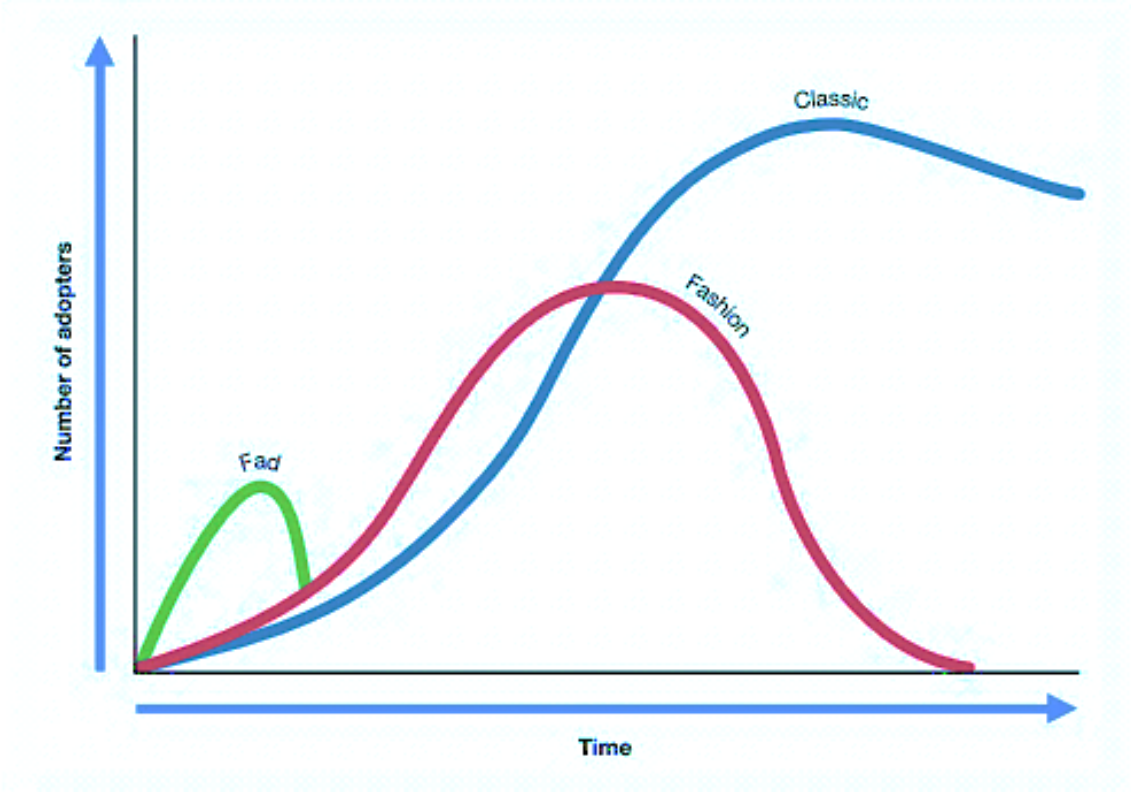

Figure 3. Fashion Product Life Cycle Model, (Solomon, et al. 2006)

A few years back, a factory supplying a retailer would have expected to manufacture 40,000 garments across four styles in twenty weeks. Today suppliers will be requested to manufacture four styles at 500 garments per week for five weeks. The remaining 30,000 garments will be ordered last minute when the client has resolved whether the consumer has taken on with that trend. These facilities, with typically poor and often unsafe working conditions, are most accurately described as sweatshops. Originally described as a system outsourcing or subcontracting labour. This depiction holds true today, although extended, applying to any manufacturing facility where an employee endures long hours in unsafe working conditions and receives low pay. (Siegle, 2011) Using cheap labour in developing nations allows firms to increase production speed and volume.

The industry is fast-paced and greatly globalised; designing is done in one country, raw materials sourced from another, manufactured in another, and dispatched to numerous countries. While logistics is challenged with shorter product life cycles, more seasons and reduced lead times, the industry is sourcing a greater amount of product offshore. (Grant & Fernie, 2015)

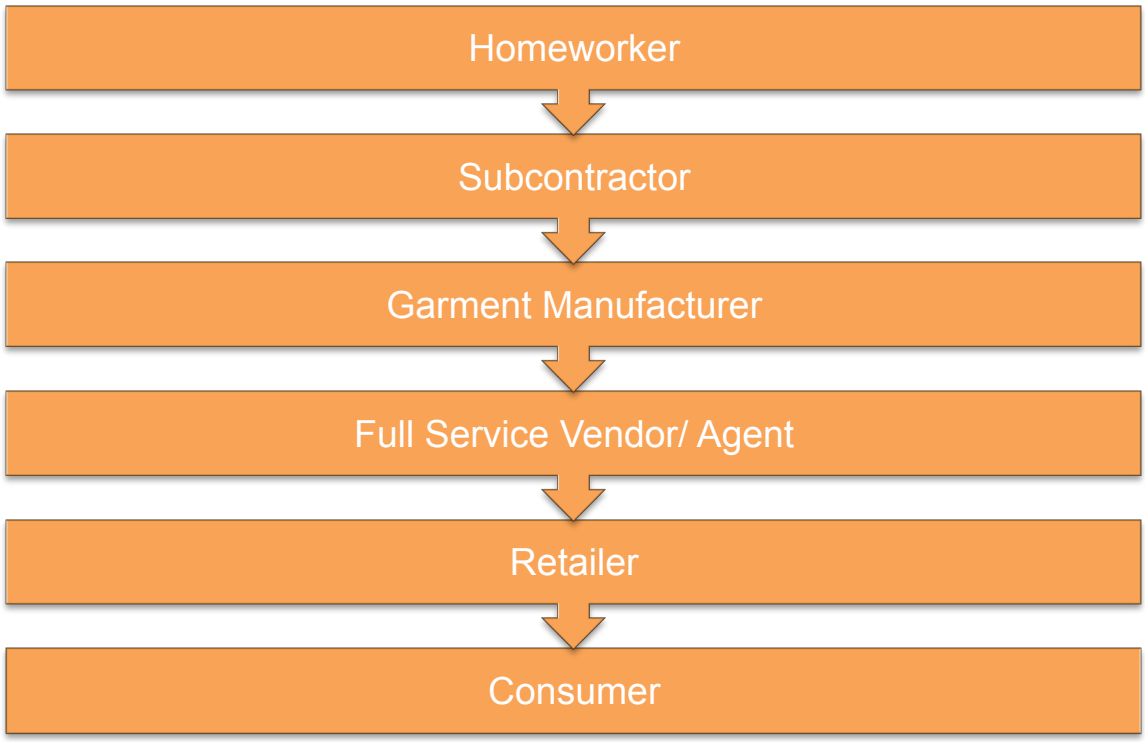

Figure 4. Basic outline of a supply chain (Grant & Fernie, 2015 cited Fernie & Perry, 2011)

Fast fashion firms rely on efficient supply chains to maintain large quantities of rapidly changing merchandise. In order to maintain this, a complex global supply chain with many layers and contractors is necessary. Brands contract manufacturers, suppliers, and logistical companies around the world so they can move products quickly and cheaply, which loosens the brands control over the production process. (Hobbs, 2010)

Tracing a garment's origin is near impossible. The rapid demand cycle is the main issue; increased consumer demand results in higher demand for firms who then demand products to be produced faster. Manufacturers undertake every order; it is not in their best interest to turn away an order. When suppliers cannot keep up with demand they subcontract work without the permission of the brand. Unapproved subcontractors typically offer the poorest labour conditions. Firms, as a result, construct factories quickly with little regard for safety, nor appropriate permits and engineering. (Made in Bangladesh, 2013)

2.2 Brief History of Clothing Production

The requirement for clothes has developed during thousands of years into mass produced trends made by machines and sent around the world. From the beginning of our

time garments were made by hand, and to protect and keep us warm. For a hundreds tailors and dressmakers were a luxury only available to the rich. The industrial revolution in the 18th century made ready-to-wear clothing a possibility and caused prices to drop. Inspired, the textile industry took on the innovations and technology; changing the whole process of clothing production and impacting the society and clothing we wear today. (Noagi, 2010)

In the early 20th century the fashion trend was exceedingly slow, but during the World Wars it was even slower as clothes were subject to rationing. After WWII, the clothing production prices decreased but clothing was still seen as an investment - the emphasis was on mending the garment instead of buying new. By mid 20th century retailers began to advertise their products on magazines. (Noagi, 2010) Electronic tills were introduced making money available for quicker consumption; credit and debit cards encouraged even quicker spending habits. The growing film industry had its effect; people were now able to see what their favourite actors and actresses were wearing and then mimic those. Celebrities became trendsetters. From 1975 the garment industry began to grow, and by the end of 20th century the industry had swelled up, displaying huge profits, the footwear industry on its own worth £26 billion. (Noagi, 2010; Siegle, 2011)

Brands moved from product-driven to buyer-driven chains, partnering up with suppliers in different markets. Resulting in an increase of profits from combinations of research, design, sales and marketing. The industry infrastructure developed during late eighties with an emphasis on quick response through expansion of product range, reduced lead times, along with maintaining low costs. Outsourcing processes in fashion apparel industry to abroad with low labour costs became a trend, resulting in a substantial cost advantage. (Fairhurst & Bhardwaj, 2010; Barnes & Lea-Greenwood, 2006) The development of the Internet introduced a new wave of trendsetters; bloggers and vloggers[1]. (Leaper, 2015; Katai, 2015)

Academics (1999) estimated the lifecycle of an average piece of clothing in a wardrobe is three years and five months, of which it is worn for 44 days. (Figure 2) By the millennium the British fashion industry was more about selling clothes than making them. (Siegle, 2011) With Nanso Group Oy closing its last factory in Finland, and the last

[1] Vloggers' content is shared via videos online, usually on sites such as YouTube.com and Vimeo.com

men's suit factory declaring itself bankrupt, Finland does not have many local garment producers left. (Helsingin Sanomat, 2015; Helsingin Sanomat; 2015)

3 Sustainability

The most common definition for sustainable development is the Brundtland commission's report, "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Adams, 2006 cited Bruntland) Through the report in 1987 the world was alerted to the need of working towards economic development without exhausting natural resources or harming the environment. Adams (2006) concentrated the idea into three dimensions; social, environmental and economical, dubbed as the three pillars of sustainable development.

There are several ways of demonstrating sustainability, including pillars and overlapping circles, demonstrating the interdependence to each pillar to carry sustainability, and concentric circles to showcase how economic-social factors are dependent on the environment.

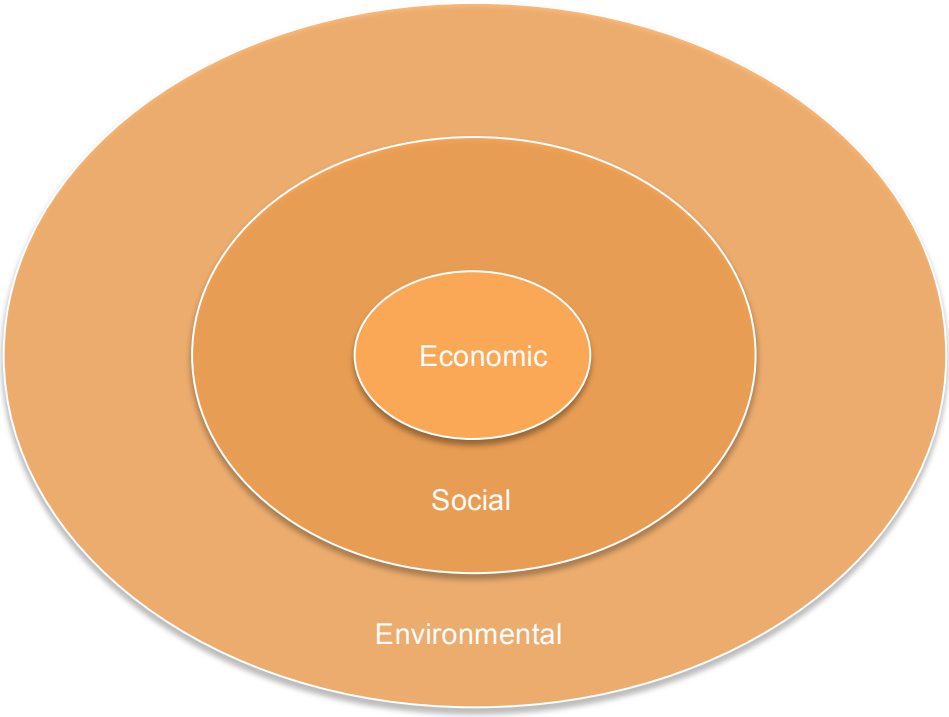

Figure 5. Sustainability Venn diagram, concentric circles (Adams, 2006)

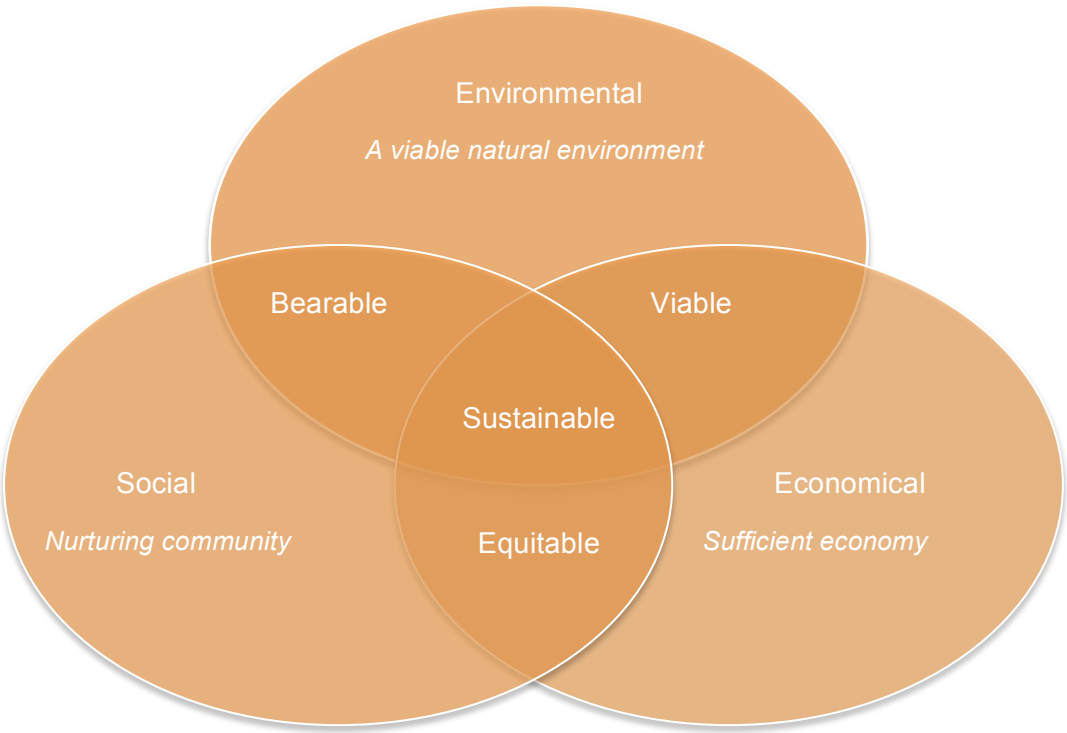

Figure 6. Sustainability Venn diagram, overlapping circles (Adams, 2006)

Each pillar is explained further how they are regarded as the milestones of sustainable development, and each area's focus on sustainability.

3.1 Social

Social sustainability emphasises on initiatives such as peace, social justice, human rights, children's' rights, labour rights, gender equality, reducing poverty, and corporate governance. It focuses on the idea of providing future generations the same or even greater access to social resources then the generation today, while humankind having equal access to social resources in the current generation. It is the ability to function continually at a level of social wellbeing and harmony. Issues as war, poverty, injustice, and low level of education are signs of a socially unstable system. At an individual level, one should have the access to health care, nutrition, shelter, and education, in addition to cultural expression. (Adams, 2006; Basiago, 1999; Mackenzie, 2004)

3.2 Environmental

The pillar focuses on the environment's ability to support a defined level of environmental quality and keeping the natural resource capital intact. It supports matters such as renewable energy, cutting fossil fuel consumption and emissions, sustainable agriculture, reducing deforestation, restoration of natural resources, recycling, and better waste control. For this pillar to be seen as sustainable the consumption of renewable

resources should not surpass the level at which it is renewed, also the capacity of the environment absorbing waste should not be exceeded. (Adams, 2006; Basiago, 1999; Mackenzie, 2004)

3.3 Economical

Economic sustainability occurs when development is financially feasible, whilst socially and environmentally sustainable. (Gilbert et al., 1996) This pillar focuses on the internal and external parts of sustainability, meaning a firm must consider the financial performance, whilst managing its intangible assets, consider its influence on the wider economy, and how it influences and manages social and environmental aspects. (Adams, 2006)

Currently economic growth is measured by gross domestic product (GDP). Yet, sustainable economy is better defined through a wider range of indicators, such as investment, interest rates, productivity, and labour market and employment statistics. The interactions between these factors should show whether the current levels of economic activity are sustainable. (Doane & MacGillivray, 2001)

The modern corporate system is under criticism over careless negligence, whilst having exceptional profits. Yet, there are companies who put social and environmental sustainability at the centre of their business, while remaining profitable. In the end, for company point of view, sustainability is about managing the firm in a way as to ensure it stays around for future generations, maintaining or improving the company's success through for instance innovation and technology, shareholder value, collaboration, knowledge management, purchase, processes and sustainability reporting. (Faupel & Schwach, 2011; Doane & MacGillivray, 2001)

> No amount of excellent social and environmental performance will prolong the life of a company that is economically unsustainable, nor are green and community values necessarily good gauges for longevity. (Doane & MacGillivray, 2001)

4 Production of Clothing

The industrial nature of the production of clothing is having a sustained impact upon our environment. The production levels of fast fashion challenge the ethics of the whole process, whilst the many levels of the production chain make it near impossible to know the origin of a garment.

Suppose the current levels of consumption stay the same, with the rising population, (The World Data Bank, 2015) the planet cannot sustain this level for long. The land we have and its supplies are limited. (Morgan, 2015) We are already living on “borrowed time" with our consumption exceeding the biological capacity the planet can support; in 2015 the Earth's overshoot day was on August 13. The overshoot is the time, when humanity has exhausted earth's bio capacity. (Global Footprint Network, n.d.; World Wildlife Fund, 2016) In 2016, Finland consumed its share on April 17, much earlier than the rest of the planet on average. According to Liisa Rohweder of WWF "Developing countries end up paying for the 'debt', where [the western world] outsources the consequences of its own overconsumption."[2] (World Wildlife Fund, 2016)

The materials used in clothing production have a direct impact the environment, local populations and workers.

4.1 Materials

Fast fashion depends on cheap fibres, natural or synthetic. Polyester and cotton amount for more than eighty per cent of all fibre production, both of which are riddled with sustainability issues. Leather is not that much better; "the physical waste alone comprise of fleshing, trimmings, split off-cuts, and shavings from skins." (Siegle, 2011)

Garment production involves chemicals at every step of the way, whether the process begins “on the land” or involves manmade textiles. Some are used during the dye and fabric production phase, whereas others are used to give fabrics, odor-, stain-, water- and wrinkle-resistant traits. (Grossman, 2015)

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[2] "Velan maksajiksi joutuvat yltäkylläisten länsimaiden sijaan kehitysmaat, joihin olemme ulkoistaneet oman ylikulutuksemme seuraukset”

4.1.1 Cotton

Cotton is known as the natural fibre in the fast fashion industry. Producing it is a major business employing over 300 million people, ninety-nine per cent of which work in developing countries. Rarely pays attention where or how cotton is produced and collected, fast fashion only demands huge quantities of it. Once cotton is treated and sewn into million pairs of various garments, the true origins of the components of the garment would be hard to know. (Siegle, 2011)

4.1.1.1 Environmental cost

Cotton crops are addicted to agrichemicals, especially India's where harvests are among the lowest in the world. The pressure of producing enough of cotton cheaply has made farmers increasingly reliant on pesticides. The average cotton farm in Punjab produces 180 kilograms of cotton lint per hectare, compared to China that yields on average 3878 kilograms per hectare, and in Pakistan 1867 kilograms. The fibre cannot be described as low maintenance, when farmers need it so cheaply and in such huge quantities since the demand for it is enormous. There is an overabundance of parasites, hence the farmers' demand for pesticides. (Siegle, 2011) Globally cotton account for eleven per cent of all pesticides used each year, even though the area of production only covers 2.4 per cent of the world's arable land. (FOEE, 2013)

Fabric to take shape demands a lot of effort: 60 billion kilograms of fabric demands about 1074 billion kWh of electricity and between six to nine trillion litres of water is needed. Today's textile industry is huge, thus a major contributor to greenhouse gasses. Just as garments, thread also needs to be created. There are thousands of textile mills around the world, many operating around the clock, near full capacity. The textile industry is also one of the main consumers of water; using a bit over three per cent of all the 1400 km^3 of water available each year to humankind; and in a year one large clothing brand will use a minimum of 107,500,000,000 litres of water. (Siegle, 2011)

Natural fibres are characterised having low energy demands during the raw material production, fibre preparation, and fabric production phases, while cotton is considered having a moderate demand. The general water demand is similar between the fibres, with the exception to cotton, while dyeing and finishing are the main energy demands. The production of cotton leads to moderate greenhouse gas emissions and waste water production, whilst the chemical use in finishing is higher in cotton compared to polyester. Organic cultivation and genetically modified (GM) technologies may reduce the

environmental impact of cotton through lower energy demands and pesticide use. (See Figure 7.) (DEFRA, 2010)

4.1.1.2 Production affecting the environment

The rise of cotton monoculture has resulted in vast areas of land used exclusively for cotton, which could use to grow food. It is one of the thirstiest crops taking 7000 to 9000 m^3 of water to produce one tonne. The more complex the production, the more it demands water; to get a kilogram of finished cotton textile, enough for a pair of jeans, requires 11,000 to 20,000 litres of water, while a shirt weighing 250 grams needs 2700 litres. Nevertheless, these calculations do not take into account the 'virtual water footprint', which takes into account the additional water needed to dilute the pollution from growing and processing the cotton, and combatting soil salinisation[3]. All in all as much as 20,000 litres of water can be used to produce a single t-shirt, from the start of the whole process to the finish. (Siegle, 2011)

Moving onto Central Asia, to a river that at 68,000 km^2 was so huge it was renamed as the Aral Sea. It was the fourth largest inland body of water in the world, and for centuries provided the livelihood for millions of people in Kazakhstan and Uzbekistan. By 1995 its surface had decreased by half, and three quarters of the volume, and in 2001 forty-six per cent of the irrigated land had been damaged by salinisation, indicating a forty-two per cent increase since 1995. (Siegle, 2011 cited UN 2001) By 2007 the sea had faded to ten per cent of its original size, dividing into four lakes, and by 2009 the south-eastern lake disappeared and the south-western lake had retreated into a thin strip - only noticeable with absence. (Lindsey, 2015) A major reason behind this was Soviet authorities diverting waters to feed cotton fields, moving freshwater into and stagnant water out of the sea. Fishermen's livelihood gone, as a hundred species of fish had gone, along five hundred species of birds and two hundred species of mammals. Now replacing the Aral Sea, the Aralkum Desert. (Dempsey, 2014; Siegle, 2011)

4.1.2 Synthetic

Synthetic is made by extrusion, using oil to create the fibre, coming in many forms, including acetates, polyamide, elastane, rayon, and polyester and viscose. (Zubris & Richards, 2005; Allwood et al., 2006) Their price has been in decline over the last 25 years, making them as cheap as cotton. The need for synthetic fibre has nearly dou-

[3] The process of salt content increasing in water

bled from 1990 to 2005. By 2006 synthetics accounted for 58 per cent for all fibre in global demand. (Siegle, 2011)

Synthetic and regenerated fibres account for 56 per cent of total annual global fibre production. Over the last thirty years there has been a significant increase in both the total amount and the market share, lead by polyester. (DEFRA, 2010)

4.1.2.1 Environmental Cost

Nylon and polyester are both made out of petrochemicals. Manufacture nylon generates nitrous oxide, a greenhouse gas 310 times stronger than carbon dioxide. Both processes for these synthetics demand a large degree of energy to produce, with polyester demanding large quantities of water is required for cooling during production. (Figure 7) (Green Choices, 2015)

During the last decade polyester passed cotton in as the most produced fibre. Energy requirements for fibre production are high. Energy inputs and greenhouse gas emissions in polyester production are high. However, water consumption is lower compared to natural fibres. (NRDC, 2011)

Rayon, made from wood pulp is treated with toxic chemicals such as sulphuric acid. Old growth forest is often cleared and farmers displaced to make room for pulpwood plantations. Often the tree planted is eucalyptus, which takes up huge quantities of water. (Green Choices, n.d.) Acrylic is made from the polymer polyacrylonitrile. Its production is around 2.5 million tonnes per year, but in long-term decline (DEFRA, 2010 cited Oerlikon, 2008). Viscose's creation produces toxic emissions, which affect the air, water and land. One of its main components is adipic acid, manufacturing which causes the release of nitrous oxide, a poisonous greenhouse gas. (Siegle, 2011)

4.1.2.2 Production Effecting Environment

Synthetic have energy demands from moderate to high, with acrylic and nylon having very high demands; polymer production stands as the main energy demand. The energy requirement for polyester results in high greenhouse gas emissions, but the production generates little wastewater. Having a high energy use during production, leads to synthetics having a much greater environmental footprint compared to natural fibres. (Figure 7.) (DEFRA, 2010)

Fibre	Current Volume (raw fibre)	Growth prospects in textiles	Fibre Cost $/kg (typical and recent highs in brackets)	Relative impacts between fibres (+ = relatively low impacts, ++++ = relatively high impact)					
				Energy use	Water use	Greenhouse gas emissions	Waste water production	Chemical use in finishing	Land requirement
Acrylic	2.5m t	declining	2.7	+++	++	(+++)	+++	(++ - +++)	N/A
Bamboo	9000t	limited	ID	(++)	(+++)	(+)	(++)	(++ - +++)	(++)
Cotton	27.5m t	increasing	1.2-1.5 (c. 3.3 organic)	++	++++	++	++	+++	+++
Flax	0.45m t	limited	2.0-3.0 (up to 3.5)	+	+	(++)	(++)	(+++)	+++
Hemp	0.08m t	declining	0.5-1.5 (up to 2.0)	+	++	(++)	(++)	(+++)	++ - +++
Jute	3.3m t	limited	<0.5	ID	ID	(++)	(++)	(+++)	++
Lyocell	0.25m t	increasing	ID	++	++	+	(++)	(++ - +++)	+
Modal	Part of viscose share	increasing	ID	++	+++	(+)	(++)	(++ - +++)	++
Nettle	negligible	v.limited	(estimate - high)	(+)	+	(++)	(++)	(+++)	+++
Nylon	4.1m t of which 1.5 m t textiles	increase	2.84	+++	+++	++++	+	(+ - ++)	N/A
PLA	c. 0.01m t	increasing	1.5-2.4	++	(+)	++	ID	(+ - ++)	+
Polyester	30.7m t (17.1m t textile yarn)	increasing	1.1-1.65	++	+	+++	+	+ - ++	N/A
PTT	ID	ID	ID	++	+	+++	(+)	(+ - ++)	(+)
Ramie	0.29m t	limited	3.0-3.5	ID	ID	(++)	(++)	(+++)	++++
Silk	0.1m t	limited	15-26	ID	+++	ID	(++)	ID	ID
Soybean	3000t	limited	ID	ID	ID	ID	(+++)	(++ - +++)	ID
Spanish b.	negligible	v.limited	ID	ID	+	(++)	(++)	(+++)	ID
Viscose	2.92m t	increasing	2.95	++	+++	+	(++)	(++ - +++)	++
Wool	1.2m t	declining	2.8-6.6	+	+	ID	++++	++ - +++	++++

Figure 7. Key market potential and environmental impacts of textile fibre production. (DEFRA, 2010)

Blending fibre can affect textile's environmental impact; the different properties of the fibres that create the blend require the textiles to undergo separate dyeing processes, thus increasing the impact. Blending also makes recycling more challenging; however, this can be balanced by the better durability that reduces energy demands in the use-phase considerably. (DEFRA, 2010) Dyeing alone accounts for most of the water used in the production phase. Fabrics are bleached using dioxin-producing chlorine combinations, and nearly all polycotton, and all ‘easy care’, ‘crease resistant’ cotton, are treated with toxic formaldehyde. (Green Choices, n.d.)

4.1.3 Leather

Being one of the most common materials in our wardrobes, leather's production and processing phase is one of the grittiest of the fashion chain. Classified among the most harmful industries and most polluting systems, its impacts lead to deterioration of a wide range of organisms and ecosystems. In common with other materials, leather has

become more affordable to shoppers, the industry can barely keep up with the demand; it has lost its 'status' as a quality product. (Siegle, 2011) Facing issues as high lead content, and greenhouse gasses from cows, leather does not have the most appealing environmental profile. (Blum, 2013; Siegle, 2011)

4.1.3.1 Environmental cost

Ganges, a sacred river to Hindus and a vital to people living along its course, has almost been declared dead with the loss of many species. (Alter, 2001) In Kanpur, the river is challenged with severe pollution levels; pools full of coloured water with oily debris floating on top. Leaving marble patterns behind, from where the water has evaporated revealing traces of leather processing; the city is strained with massive amount of toxic loads. An estimated 22,000 kilograms of waste is poured into the river each day, containing chromium between 18 to 22 milligrams per gram, totalling to 440 kilograms of daily disposal. Over seven years the official treatment plant has discarded approximately 1,125,000 kilograms of chromium into Kanpur's soil. (Siegle, 2011)

Leather is a big consumer of water, demanding enormous quantities. After using freshwater to convert skin into leather, wastewater filled with chemicals is flushed back into the river. Locals use the same water to drink, bathe, water their crops, and to feed their families. The problem is the locals have no other sources for water. Research shows around ten per cent of particular types of chromium can remain in the human body for five years, resulting in damaged DNA. (Siegle, 2011) The excessive use of water does not help the scarcity of it; a third of earth's population suffers from water shortage, and with fears over future wars:

> *[T]he global freshwater situation became alarmingly apparent in the 1990s, there has been much debate ... about whether global supply pressures will reach a tipping point that will result in a greater number of wars being fought over regional water security.* (Bigas, 2012)

Pollution controls are unable to fulfil the needs of the industry; the treatment plant built to remove manganese, chromium, sulphur and lead is able to deal with nine million litres of wastewater per day, leaving 21 million litres flushed into Ganges. Today the chromium levels in Kanpur are seventy times the recommended maximum. Evidence suggests Kanpur processes 16 to 18 million hides a year, whilst tanneries produce closer to twenty to thirty million litres wastewater per day. (Siegle, 2011)

The industry depends on chromium as a tanning agent. Other options are available, such as vegetable tanning, although time-consuming thus expensive. While tanneries

start out using basic chromium sulphate, it reacts with air changing into chromium VI when dumped outside. Inhaling concentrations of chromium can lead to nosebleeds; while higher doses lead to kidney and liver damage, cancer of the respiratory tract, skin ulcers, seizures, and even death. Tanneries[4] are not restricted to India; they can be all over the world operating under different codes, none of which are internationally standardised, or to no codes at all. (Siegle, 2011)

4.1.3.2 Production affecting the environment

In 2000, PETA released a video revealing conditions in which Indian leather was produced in, seemingly having an effect as retailers began to avoid it. Since then similar evidence has surfaced displaying an industry with little care for animal welfare. The demand for millions of cow skins and desire for the cheapest of products still continue being produced despite promises. (Siegle, 2011)

Moving to the Amazonian rainforest, where ranches holding hundreds of thousands of cattle appear to be expanding into the rainforest, turning the land from trees into scrub. A fifth of the rainforest has been lost since 1970, 65 - 75 per cent of it attributed to cattle ranching. In 2009 the Brazilian government announced its aims to grab a bigger piece of the global beef market, growing from thirty to sixty per cent, by 2020, which would also have a direct cause of increasing the leather production. The country's herd grew from 153 million in 1995-1996 to 205 million in 2004. By 2006 over forty per cent of the cows inhabited the Amazon, taking more of the rainforest. Making a profit of $1.9billion from leather sales only in 2008. (Siegle 2011; Greenpeace, 2009)

The Brazilian government was exposed of profiting from the destruction through expansion of herds, whilst declaring itself committed as the guardian of 'the lungs of the earth'. Ranches, supported by the government, were illegally occupying vast strips of the rainforest. (Greenpeace, 2011) The destruction of the rainforest links to Europe with regular dispatches to Italian leather processors. Producers in China, where sixty per cent of the world's shoe production is done, were supplying shoes to companies such as Nike and Adidas with the leather gathered from Amazon's rainforest. Brands connected to the Brazilian leather distanced themselves after news of maltreatment; Nike changed its sourcing pattern entirely, whereas Adidas and Timberland paused on buying Amazonian leather until new systems were in place to guarantee a sustainable supply chain. (Siegle, 2011)

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[4] A facility where skins and hides are treated to produce leather, using a process called tanning.

4.2 Workers

Unstable factories, fire risks, child labour, low pay and long hours are just the beginning of the issues facing the industry. Working conditions and distribution of wealth have been debated subjects for many decades:

> "In the seventies people... said that in international trade there is a net transfer of embodied labo[u]r time embodied in the produce exported from less developed countries. Simply put: labo[u]r exploitation."(Hornborg, 2012)

Others view the topic from a different perspective, more an opportunity to growth. Benjamin Powell, *author of Out of Poverty: Sweatshops in the Global Economy*:

> "[W]orkers choose to work in sweatshops because it is their best available option. Sweatshops, however, are better than just the least bad option. They bring with them the proximate causes of economic development … that lead to greater productivity" (Powell, 2014)

The fast fashion model exploits globalisation to its benefit, which specialises in finding the cheapest labour through outsourcing. Large quantities of garments go through countries that all are increasingly dependent on the garment trade to lift their GDP. Brands are continuously on the look for a better deal and a faster turnout, the choice given to them is vast, and if not supplying with a cheaply enough or at the required pace, the retailer will look for a supplier who can. (Siegle, 2011)

4.2.1 Minimum wage

Living wage should provide a garment worker the ability "to buy food for [themselves] and [their] family, pay the rent, pay for healthcare, clothing, transportation and education." (The Clean Clothes Campaign)

In developing countries sixty to eighty per cent of a family's income will be used on food, and every twenty per cent increase in food prices pushes a hundred million more into the category of 'the poorest of the poor', living with less than a dollar a day. (Caldwell, 2008) Fashion brands continuously avoid discussing the issue of paying anything considered a living wage, thus garment workers have very little security against debt. (Siegle, 2011)

Minimum wage discussed refers to the one of the host country. In Bangladesh, the minimum wage level was set in 1994 at 930 Bangladeshi Taka (BDT), which stayed untouched for over a decade. It was brought up to 1662,50 BDT, and then to 3000 BDT in July 2010. However, increase was not adequate enough to support workers' basic

needs "It doesn't cover the huge increase in living costs of the recent years". M.K. Shefal, the Executive Director of NGO Nari Uddug Kendra, describes that: "for an adult living in Dhaka city, the minimum nutrition requirement for basic living is 1805 calories per day. At today's cost of living this means 1400 BDT per person a month for food alone. Many garment workers do not earn this amount, which is severally affecting their health as well as their productivity." (Siegle, 2011) Today the wage stands at 5,300BDT) In Cambodia, the Labour Advisory Council voted for a new minimum wage would be increased to $140 for garment workers, implemented in January 2016; this however was not the demanded fair minimum wage of $177. (Clean Clothes Campaign, 2015b) Even though the government has implemented a minimum-wage law, does not mean workers are paid enough to live on, nor does it guarantee that the factory owners follow the recommendation. (Siegle, 2011)

A lot has been debated about the responsibility of the clothing companies. Professor Doug Miller, the Chair in Ethical Fashion at Northumbria University (Siegle, 2011):

> *Retailers tend to avoid the issue of cut-make-and-trim[5] costs in their overall plan of how a line of garments will be produced. Instead of independently ensuring the garment workers receive a wage that might cover their living expenses, the industry euphemistically uses a Freight of Board (FOB) price which covers every cost connected with the garment leaving the factory: fabric, trim, packaging and manufacturing"*.

Fashion brands distance themselves from the subject by outsourcing the responsibility to the supplier, whilst the buyer negotiates on the FOB price. (Siegle, 2011)

One major reason behind cheap intricate clothing, such as stitching in sequins, is home workers. They are the unseen workers who work by night from home and receive low pay, which is nowhere near enough to the minimum wage. Resulting them living hand to mouth and relying on their children to pull their weight, just to get by. (Siegle, 2011 cited SEWA, All Indian federation of Self-Employed Women's Association)

4.2.2 Conditions

Over sixty million Indians depend on cotton for their livelihood, with over ten million hectares of land dedicated to cotton, India produces on average thirty million bales of cotton each year. The value of raw cotton is expressed using gold as a measure; in 1972 one quintal, enough to make 133 pairs of jeans, was worth fifteen grams of gold, allowing a farmer a decent living. However, by 2002 82 per cent of all farm households

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[5] The phase after the raw fibre has been spun and made into fabric, the garment is made

in Andhra Pradesh were in debt. By 2005 the price for selling cotton had dropped; five quintals, enough for 665 pairs of jeans, was worth the same fifteen grams of gold. A few months later the price dropped again; nine quintals - making it harder for the farmers to make profit and get out of debt. (Siegle, 2011)

Farmers have access to some of the most dangerous pesticides: Aldicarb, a powerful nerve agent and one of the most commonly used toxic pesticides - in 2003 USA, almost one million kilograms of it was applied to cotton, which polluted the water in sixteen states. Exposure to the pesticide can cause symptoms including nausea, abdominal cramps, cardio-respiratory, depression, and bronchorrhea, which all lead to risking the lung, making it hard to breathe. Another pesticide; Endosulfan, is commonly used, despite a report from the Pesticide Action Network suggesting it being one of the most common sources of fatal poisonings among cotton farmers in West Africa. (Siegle, 2011)

According to World Health Organisation (WHO) between 20,000 and 40,000 cotton workers die each year from pesticide poisoning. In 2005 India's Cotton Bowl, which comprises of five India states, was informally renamed as the Suicide Belt: farmers preferred death over life with debt. From 1997 to 2005 showed near 200,000 farmer suicides, which is likely to be an miscalculate considering that women are often excluded from such figures due to their lack of land titles and recognition as farmers. In 2008 there were almost 16,200 suicides, of which approximately seventy per cent occurred in the Cotton Bowl. (Siegle, 2011) (FOEE, 2013)

Safety of workers as an issue surfaces up time and again, especially when hazardous factories become a topic. Rana Plaza, the infamous collapse occurred in 2013 killing over 1100. (Bain, 2015) In 2016, another factory in Bangladesh caught on fire. This incident stood out as only days before the incident a report was released raising concerns over the safety renovation delays at supplier factories in the country. Clean Clothes Campaign, et al., 2016) The report states the factories were "inspected well over a year ago," and the brands making "insufficient progress in correcting the most life-threatening safety violations such as the installation of adequate fire exits.” (Clean Clothes Campaign, 2016) Working with so many chemicals, workers are exposed to alarming combinations of toxic substances. In Kanpur, the leather industry applies around 300 different chemicals in the pits where workers pummel the leather beneath their feet. (Siegle, 2011)

In August 2015 near 400 workers collapsed in factories across Cambodia. In 2014, the Ministry of Labour recorded more than 1800 workers fainting. Between 2010 and 2013, Cambodia saw 2900 workers losing their consciousness, which were linked to low calorie intake - malnutrition and long working hours, as a consequence of low wages. Compare this to the western world where we are struggling to control our consumption. (Clean Clothes Campaign, 2015a)

ILO's definition of forced labour focuses on involuntary involvement. The Greenpeace report, Slaughtering the Amazon, revealed forced labour at the cattle-ranches in the Amazon, with workers working without pay. (Greenpeace 2009; Siegle, 2011 cited ILO)

Big issue amongst cotton farmers is the contribution of subsidies. Nine years since the Doha Development Round - which included promises of supporting developing countries to trade their way out of poverty - the US, the EU, China and India have given $40 billion to their own cotton growers, of which over half has gone directly to the US farmers. In 2009, the United States government gave its farmers $2,069,453 in cotton subsidies, guaranteeing the US cotton farmers in 2004 a minimum price of 72.24 cents per pound for their cotton, whereas rest of the producers the marker price was at 38 cents. Europe, who represents less than two per cent of the world's cotton production, is not that much better, pays the highest subsidy per pound of cotton. (Fairtrade Foundation, 2010) Meaning the farmers at the receiving end of the subsidies are able to sell their cotton the prices below the price of cotton production, leaving the farmers without the subsidies struggling. (UK Fairtrade, 2010; Siegle, 2011)

A number of African countries' GDPs are dependent on the export of cotton. In particular Burkina Faso, Benin, Chad and Mali, in trade terms are known as Cotton 4 (C-4), who are so reliant on the production that e.g. Burkina Faso 85 per cent of the population farms it. These countries produce cotton cheaper than the rest of the world e.g. the cotton produced in Burkina Faso costs a third of the US. The demand for cotton is growing, yet the C-4 still remains impoverished. According to Vince Cable, (2010): "It is estimated that the removal of cotton subsidies alone could increase cotton farmers' income by as much as 30 per cent in Sub-Saharan Africa". (Siegle, 2011) But, the contribution enables big cotton producers to sell their products on the international market at the lowest prices, distressing the market for the C-4.

4.2.3 Child Labour

This thesis follows ILO's definition of child labour:

> *It is work performed by children who are under the minimum age legally specified for that kind of work, or work, which because of its detrimental nature or conditions, is considered unacceptable for children and is prohibited.*

The definition is divided into three areas; light work, basic minimum age, and hazardous work. Light work allows children 13 to 15 to work that neither threatens their safety and health, nor their education. The basic minimum age defines a child should not work until they have fulfilled compulsory school; depending on the country the age. Hazardous work is any type of work, which can endanger a child's health, safety or morals, the type of work not to be by an under 18-year-old. (ILO, n.d.)

Child labour is still common: around 215 million throughout the world, many full-time. It is the worst in South Asia, and the sub-Saharan Africa. Countries rely on it e.g. between 1997 and 2007 child labour contributed an estimated twenty per cent of India's GDP. Retailers, who sell clothes at low prices, tend to use a lot of middlemen, making child labour more likely. (Siegle, 2011 cited Lawrence Warren) Yet, the percentages are highly encouraging: child work is declining, and the more harmful the work, the faster the decline. (ILO, n.d.)

Uzbekistan, the world’s sixth leading cotton producer and the third largest cotton exporter. Also the country that abandoned industrialised cotton picking in the nineties as authorities discovered a cheaper way. During the autumn months, schools are shut down and tens of thousands of adults and children as young as nine are transported to the fields. Proof gathered by the Environmental Justice Foundation (EJF) shows in 2009 between one and two million children were forced into fields. Without any contact to their families, children are sacrificing a big chunk of their education, not to mention their childhood; living in poor conditions on basic rations without any luxuries such as washing facilities or electricity. (EFJ, 2010) Each student is given a daily quota - failure to meet it can lead to punishment. Teachers are forced to go for the safety of the pupils, although with so many children and irregular adult supervision, there is evidence of sexual abuse and fights. EFJ reported in 2009 a child died in the fields after being stabbed. Former British Ambassador to Uzbekistan, Craig Murray, stated that 'every year young children die during forced labour in the Uzbek Cotton fields'. (Sigele, 2011)

According to the Uzbek government, the country produced 3.4 million tonnes of raw cotton during the same year, generating an estimated 900 million euro profit, primarily sent to factories in Asia and European traders. (EFJ, 2010) The government controls all aspects of the industry, dictating production quotas. The man in charge of the agricultural sector, Prime Minister Shavkat Mirziyaev, holds conference calls every fifteen days, in which he instructs when to seed, weed, apply pesticides, and to harvest. (Siegle, 2011) The EU has never publically condemned the issue. (HRW, 2013)

Needless to say forced labour is illegal. The UN's International Labour Organisation (ILO) Convention 29, prohibiting forced labour, was ratified in 1992. The Uzbek government was encouraged to sign the conventions on 'Minimum Age' and 'The Worst Forms of Child Labour' in 2008, though it was decided that domestic legislation was not required. (Siegle, 2011) Two years later the EFJ published a report 'Slave Nation: State-Sponsored Forced Child Labour in Uzbekistan's Cotton Fields', revealing Uzbek cotton production had continued to be "one of the most exploitative enterprises in the world." and "forced child labour remained as widespread as ever." (HRW, 2013)

Governments, manufacturers, and retailers declare of opposing child labour. Yet very little seems to be done to ensure its prevention. It is uncertain if this will be possible for an industry who wants more for less. (FOEE, 2013; Siegle, 2011)

4.3 Profits in the Industry

In 2014, it was estimated that the textile, clothing and footwear industries employed in the region of seventy million, of which three quarters are women. The same year the global clothing industry was worth an estimated 968 billion euros in total; men's wear 322 billion EUR; women's wear 497 billion EUR; children's wear 149 billion EUR. (Clean Clothes Campaign, 2015b) As seen on Figure 8, brands operating in Europe reap impressive turnovers.

With Corporate Social Responsibility (CSR) a 'hot topic' across industries, brands could focus there with more commitment as Zokaei (2013) argues preventing physical waste increases energy efficiency or improves resource productivity, thus saving money, improving profitability and enhancing the competitiveness of a company.

> "When M&S launched its "Plan A" sustainability programme in 2007, it was believed that it would cost more than £200m in the first five years. However, the initiative had generated £105m by 2011/12"
> (Zokaei, 2013 citing M&S company report)

According to the UN Global Compact report, 84 per cent of 1,000 global CEOs surveyed believed business "should lead efforts to define and deliver new goals on global priority issues." However a third stated, "that business is doing enough to address global sustainability challenges. (Bonini and Swartz, 2014)

Yet, according to Deutsche Bank (DB), firms with high marks for environmental, social, and governance (ESG) factors have lower cost of debt and equity; companies with high ESG ratings perform better than the market in the medium (three to five years) and long (five to ten years) term. The Carbon Disclosure Project's findings showed the similar results; companies in its Carbon Disclosure Leadership Index and Carbon Performance Leadership Index, which are based on disclosure and performance of greenhouse-gas emissions, received higher stock-market returns. (Bonini and Swartz, 2014)

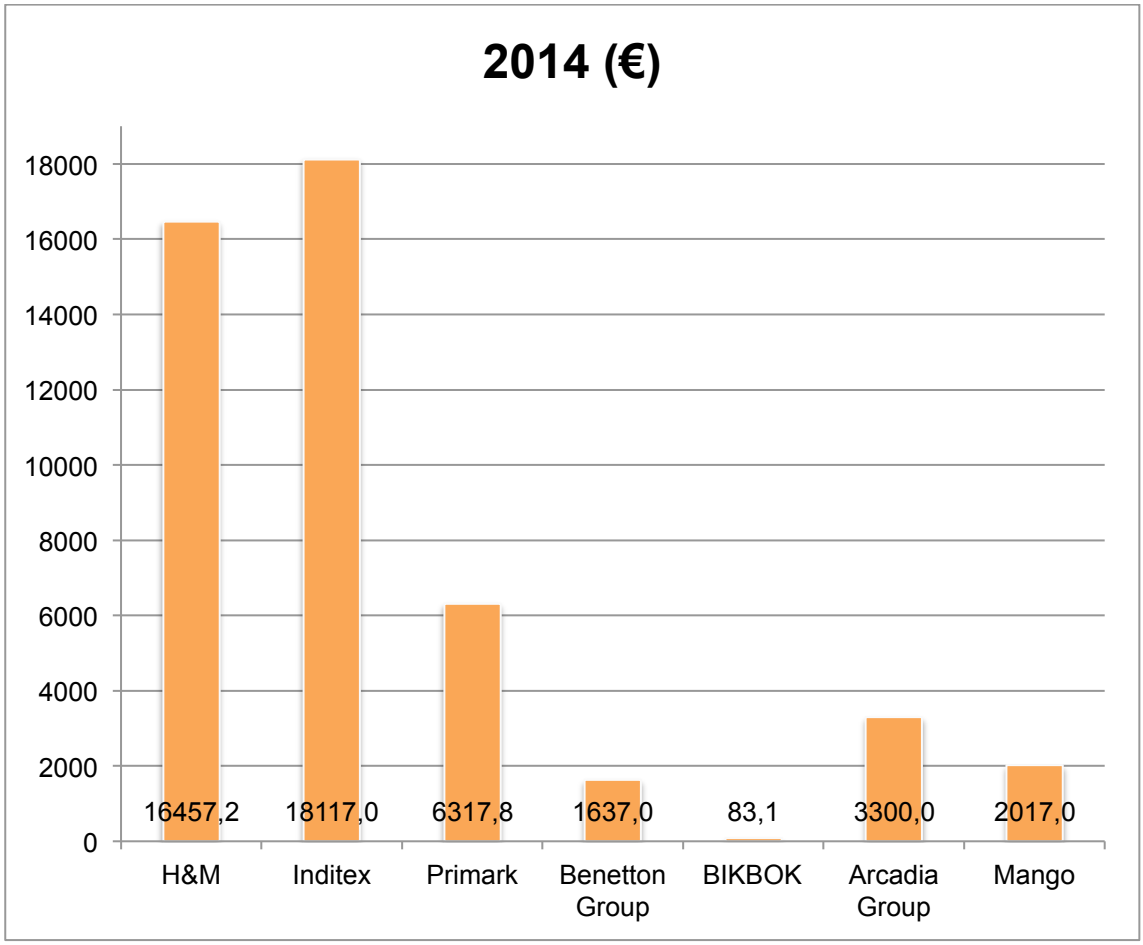

Figure 8. Fashion Retailers in Europe, International turnover, in millions.[6]

[6] Figures based on each company's financial reports.

5 Recycled Clothes

Europeans throw close to six million tonnes of textiles every year, of which 1.5 million tonnes is recycled or dumped into the 'third world' markets. (FOEE, 2013 cited European Commission) While charities are drowning in clothes, it is challenging to make a good profit out of them; the sales value has dropped by 71 per cent in real terms during the last fifteen years. The recycling industry prioritises quality over quantity, when consumers insist on quantity. The global second-hand clothing trade is estimated to be worth over 3.5 billion euros. (Siegle, 2011) The clothes, charities are unable sell, are sold by weight to recyclers, who sell it forward to sorting plants where they are sorted by grade and fibre into bales - converting what began as donations into tradable goods. (Frazer, 2008) People, who buy these bales, have little choice involved in their decision - they are amongst the poorest on earth. Buying is not a small decision; a bale costs as much it takes to feed a family for a month, totally reliant on the quality of the sorting. (Siegle, 2011 cited Schwarz Der Spiegel documentary, 2006) Additionally, there is no auditing system or accountability control should a damaged bale become evident. (Siegle, 2011)

Between 1980 and 2000 the African clothing industry declined on average over five per cent a year. While Africa produces cotton, it profits little of the profits made from clothes. For instance, West Africa transforms only five per cent of its cotton into clothing. Academics, critiquing Africa's growing dependence on foreign goods, argue local textile manufacturing is essential for growth. (Siegle, 2011) A country has never achieved a sustainable per capita national income, without having a clothing industry, which employs a minimum of one per cent of the population. (Frazer, 2008))

Each year around 4.3 million tonnes end up at landfills or is burnt in public waste incinerators. The waste from textiles is not only restricted to RMGs; on average 15 per cent of fabric is thrown away already during the cutting process. In 2007, DEFRA introduced 'The Sustainable Clothing Roadmap', to evaluate and minimise the effects of our fashion habits on the environment, revealing the clothing dumped into the landfill each year, result into more than three million tonnes of carbon dioxide emissions. (Siegle, 2011)

6 Company Responsibility and Reporting

Although sustainability is usually on the corporate agenda, there are often problems with its execution. Today the public expects companies to use their power for the bigger good, meaning other than making profit to the company of its shareholders. Companies are almost required not only economical responsibility but also social and environmental. Many certificates have been created to show a company's commitment to the society, and even companies themselves have admitted that reputation has a huge impact on people, as consumers and employees. (Kanniainen cited Kitzmueller & Shimshack,2012; Benabou & Tirole, 2010)

Companies are quick to share their CSR statements with the consumer to show their consideration for the planet and the garment workers. This is a response to the growing amount of 'educated' consumers who are more aware of their shopping behaviour consequences. Knowing a company is responsible and ethical conduct encourages more consumers to use that company's products. (Kanniainen, 2016)

Kanninen argues (2016), due to target given by shareholders, and strict competition it is hard for a company to focus on more things, weakening a company’s ethical conduct (citing Baumolin, 1991; Shleifer, 2004). The government, especially in Finland as a welfare state, has had a role of taking care of the people and infrastructure, whilst a company's responsibility has been on providing jobs, and paying taxes which enables the government to fulfil its responsibility to the people. Today it seems that a company paying their taxes is not enough. The beneficiary of a company's producers is not only the company in the form of profit, but also the people who are able to take an advantage of the innovations, which can support e.g. healthcare. (Kanniainen, 2016)

According to research a company's value rises when it follows its shareholders' interests, the result being opposite if following to benefit the society. Hörner (2002) responds to this stating the market reacts positively to a company's improved reputation. (Kanniainen, 2016)

Many brands in the fashion industry show this through their CSRs. However, in the Greenpeace Detox-campaign, one can look through the CSRs of multiple different cor-

porations. They are examined on three parts - transparency, elimination of APEOs[7] and Phthalates[8], elimination of PFCs[9]. As an example Bestseller, the owner of retailers such as Vila, Vero Moda, Jack&Jones and Only, who all are popular in Scandinavian countries and the rest of Europe. Bestseller fails on all three accounts, leaving a toxic trail behind them. (Greenpeace, 2015)

The textile industry uses some of the most hazardous chemicals known, resulting in water contamination from dyeing, wet processing and hazardous chemicals. Consumers, still today, are do not have access to the information on the substances used in the clothing they wear, as well as unaware of the characteristics of them. Even brands themselves might not know these, as suppliers choose not disclosing the information. (Greenpeace, 2015) As an example, APEOs have been found in high amounts in textiles and leather. Since 2005 EU has forbidden, through the EU directive 2003/53/EG, NPEO, which is a type of an APEO, in higher concentrations than 0,1 per cent. Although forbidden in the EU, brands have suppliers outside of union, where its use is not banned. (Eurofins, n.d.)

According to Alf Hornberg (2001) the core problem of environmental and economic unsustainability under industrial capitalism is the dominant use of general purpose money that dismisses other ways of compensation. Industrial capitalism encourages and requires growth, and at some point growth will be unsustainable economically due to the environment's limited ability to support continuous economic growth. The industrial civilisation is moving towards an unsustainable direction. The definite relationship between economy and social side of industrialisation:

> ”The ecological and socioeconomic impoverishment of the periphery is two sides of the same coin, for both nature and human labo[u]r are underpaid resources of high-quality energy.”

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[7] APEOs (alkylphenol ethoxylates) are persistent and hard to decompose in nature. It has toxic characteristics; it has hormone disruptive properties as well as being toxic to aquatic organisms; rivers and lakes. (Eurofins, n.d.)

[8] Phthalates are a group of endocrine-disrupting chemicals; they are linked to e.g. asthma, fertility issues, and birth defects. Banned in children's toys but can be found in other materials e.g. cosmetics and packaging. (Breast Cancer Fund, n.d.)

[9] PFCs (perfluorinated chemicals) a hazardous chemical group, known for their water and oil repellent properties have been identified as persistent, bio-accumulative and toxic. (Greenpeace, 2015)

Technology is not the only matter when speaking about industrialisation; environment, with its effects of natural conditions - social and ecological - are as important and will have their effect on technology. (Hornborg, 2001)

With a large degree of different ratings for CSR, it is hard for investors and consumers to know which indicators to trust. CSR has also been a subject to 'greenwashing' to boost a brands image.

Whilst more information can help investors to make informed decisions, multiple ratings create confusion when trying to figure, which metrics are important and which ratings are credible. Different ratings utilise different criteria, different methodologies, different weighting schemes, and data from different sources, often done with little transparency concerning the metrics used to evaluate social and environmental performances. (Delmas & Verhines, 2014)

There are two distinct dimensions of CSR; processes and outcomes. Firms can perform both well and poorly on these dimensions; they may excel at reporting, and the utilisation of environmental management, while discharging large amounts of pollution. Companies may put in place process measures as pretence, rather than pursuing meaningful outcomes, which can be easily communicated by companies thus improving their ratings. This type of information is available to investors to base their decisions on, yet, outcomes, with their tangible and material impacts on the environment are what ultimately matter. (Delmas & Verhines, 2014)

In the future transparency will be key in financial reporting. Academics have argued the openness of organisations operations will make the industry more competitive. Once reporting environmental performance becomes expected, standardisation and rules for transparency will be needed. Though, this will depend on whether corporate environmental performance becomes as publicly accessible, as financial information today. Some states seek to implement this already; the UK mandates environment, social and governance reporting. In France, triple bottom line reporting is obligatory. Also, the European Commission is working on a legislative proposal demanding companies to publish information on their management of environmental and social issues. (Delmas & Verhines, 2014)

7 Consumption and Consumer Behaviour in Fast Fashion

"Why is it that we know perfectly well how to buy Fairtrade banana, but not how to buy a pair of sustainable tights?" (Siegle, 2011: 226)

Jeans worth 15 euros are seen more as a bargain rather than questioned on how it is so cheap (Siegle, 2011) We have almost been trained to consume, and to worry over the economy not being able to survive if we cut down on our consumption We have been taught to treat the things we use as the things we use up, resulting into disposable fashion. (True Cost, 2015) We are consuming more fibre than ever before – in 1977 we demanded 31 million tonnes of fibre, and by 2008 the amount had doubled to almost sixty million tonnes. (Siegle, 2011)

The increase of consumption has been considered excessive, as consumers are browsing stores every three weeks. (Barnes & Lea-Greenwood, 2006; Cole, 2010) Concerns on how shopping affects the consumer; there are psychological burdens in how we see shopping as a 'pick-me-up'. (True Cost, 2015) Studies have shown a link between people who see material as important to depression. (Medical News Today, 2014)

7.1 Fast Fashion in the European Market

Today on average people buy nineteen kilograms worth of clothing and textiles each year (Hannus, 2015). Between 1970 and 1997 the share of textiles and clothing in total household spending in the EU fell from 9.3 per cent to 6.4 per cent (OECD, 2004 cited Eurostat, 2002). In 1995 European consumers spent over 265 billion euros on clothes and shoes – almost 218 billion euros of it went on clothing. (Eurostat, 2015) This was achieved with six per cent of the household budget, when in 1960 less was spent on our wardrobe but accounted for ten per cent of the budget. By 2006 consumers had spent 369.6 billion euros on shoes and clothes - clothes alone 300 billion euros - with only 5,2 per cent of the household budget (Appendix 1). In real terms clothing prices dropped. Today, Europeans buy four times the per capita amount of clothes than four decades ago (Siegle, 2011; Eurostat, 2015).

In 2009 the total size of economic activities of the Clothing and Textile sector, which comprises of textile, apparel, footwear and leather goods, represented a turnover of 562 billion euros. Clothing and footwear spending swayed around 370 billion euros, 5.3

per cent of total household consumption. Italy, Germany and the UK stand as Europe's largest markets in terms of fashion consumption. The average expenditure on fashion was about 700 euros per year per capita. (Eurostat, 2015)

Consumers are price-sensitive and easily abandon their values if not free. As studies reveal, the trend in consumer behaviour is heading towards “a culture of cheap, disposable fashion” (Texmedin, n.d. cited Allwood 2006).

The need for consumers has moved up the Maslow pyramid of needs (Appendix 2) from basic physical needs to socially and individually orientated consumption. Data showing that the share of clothing consumption is decreasing confirms that consumers in total are not becoming more demanding. (Texmedin, n.d.)

7.2 EU regulations

The amount of information we receive about the origins of our clothes from the label is limited to the main fibre types used and their percentages, and washing instructions, which are not compulsory, but "strongly encouraged". (Textile Regulation, 2011, OJ L 272)

The Textile Regulation on textile fibre names and related labelling and marking of the fibre composition of textile products became applicable on 8 May 2012. It revoked and replaced the preceding Textile Directives. The Regulation requires all textile products to be labelled or marked whenever they are available on the market. Indication of the fibre composition of a product is compulsory at all stages of the industrial processing and commercial distribution of that product. All products containing at least eighty per cent by weight of textile fibres are covered by the Regulation. (Textile Regulation, 2011, OJ L 272)

The Regulation does not cover country of origin, or wash/care labelling; in the EU the retailer is under no legal obligation, to include a garment's country of origin. This decision of not addressing these in the Textile Regulation came into effect as they were addressed in the Commission proposal for a Regulation on Consumer Product Safety, "which provides a cross-sector solution to country of origin and traceability related aspects, in its Article 7", which to date remains as a proposal. (Textile Regulation, 2011, OJ L 272; Commission, 2013, Consumer Product Safety Proposal, COD 2013/0049)

7.3 Human Rights treaties

There are four international human rights treaties valuable for workers' rights:

- ICCPR; International Covenant on Civil and Political Rights
- ICESCR; International Covenant on Economic, Social and Cultural Rights
- CRC; Convention on the Rights of the Child
- CEDAW; Convention on the Elimination of all forms of discrimination Against Women (Clean Clothes Campaign, 2015b)

Yet these treaties are binding only once the country has ratified them. There is no tool to enforce the country unless it has also ratified the optional protocol to the respective treaty. (Clean Clothes Campaign, 2015b)

EU's Charter of Human Rights is applicable in the application of EU law. It covers areas such as dignity, freedom, equality, citizen's rights, and justice. The charter extends to all EU citizens, ensuring their safety and equal treatment within the union. Furthermore, the Charter of Fundamental Rights of the EU promises the protection of children's rights by EU institutions, as well as by EU countries when they apply EU law. (EU Charter of Human Rights, 2012, 2012/C 326/02)

The EU has also focused on efforts to make the supply-chain more transparent; in 2014 a 'non-financial reporting' directive has come into force, which is expected to be implemented by Member States by 2017. It will require large companies (500+ employees) to report on numerous nonfinancial aspects such as due diligence processes and supply chains. (Clean Clothes Campaign, 2015b)

7.4 Affects on Consumer Consumption or Behaviour

These most likely do not have a more progressive impact on consumer behaviour. Consumers are unaware how and where clothing is made; producers have become invisible. European consumers are blind, to the standard in which garments are made, voluntarily and involuntarily, even though there are some legalities to protect consumers. (Hornborg, 2001)

Some companies have shown responsible informative labelling to be possible. Timberland, the major apparel and footwear company, has attached the 'Nutritional Labels' to its shoeboxes, modelled on the information required by law on food describing its nutritional content. The label displays the energy it took to produce the item, where it was manufactured, and the percentage of the company's suppliers assessed for code on conduct. (Siegle, 2011)

As organic have values have become more appealing, green initiatives by brands have begun to pop up too. Large quantities of them seem to be missing the ethical. According to Christa Luginbühl "A fashion collection cannot be “conscious“, “sustainable” or “responsible” if a producer denies garment workers the basic human right for a living wage." (Clean Clothes Campaign, 2013) Although green fashion is much better than a non-green one, still it is difficult to claim it as ethical. Yet, a study conducted by the Marketing Charts, showed consumers have a growing interest on buying products from social responsible companies. (Marketing Charts, 2015)

8 Analysis

According to an organic cotton farmer, LaRhea Pepper, today “we [a]re more aware of organic foods, etc., than we are of [fibre]”. This can be seen consumers not aware of what fibre they are wearing, even if it is stated on the garment's label. (Siegle, 2011) Not to mention all the chemicals and substances used during the process, which are not mentioned anywhere on the garment.

The mainstream fashion and its consumption habits exceed the earth's capacity making the planet weaker by the year. We are producing our clothes with toxins, creating waste. This harms people who have to live with health problems. It does not help sustainable living nor its development. When an industry is the second most polluting, people should consider their behaviour, as well as what is ethical.

Our current economy model encourages to keep the GDP up, having an effect on each country's and states financial positions. Subsidies are granted to keep cotton prices down for suppliers, weakening the position of those who are the poorest. The quality of our clothing has deteriorated with the lack of interest on how we produce the fabrics, without regard of our ecosystem. The impacts of children as young as nine working full days and losing on their education are colossal.

The exploitation of workers in global supply chains has to be ended. The legal enforcement of principles based on equality, human rights and security would ensure workers receive a living wage, and fair benefits and equal treatment. (FOEE, 2013)

Global clothing brands are extremely powerful in this industry; multinational brands have power to create change in the industry. Ultimately brands respond to consumer demand. Consumers have the power to choose where to spend their money, thus affecting what companies look out to produce.

It is in the industry and brands' interest to become more transparent to the public of their operations. The twenty-tens have exposed some companies and governments actuals ways of working; Wikileaks, Panama Papers, Edward Snowden, BMW car manufacturer exposed of misconduct. The world is getting more transparent. Bad news travel faster than good, and brands cannot allow themselves to behave badly. Is it okay to abandon everything else for profit? Furthermore, will an irresponsible company be profitable in the long term?

As discussed, what is the company's responsibility; is it only for its shareholder, and for its workers, and to create jobs. It should also take in the responsibility of the planet. It is the future of the whole planet; it is on all people, governments, and corporations to work towards sustainable future.

Consumers are getting poorer without realising it, as the clothing the buy is getting absurdly cheap. Despite vowed willingness to use resources more sustainably, Europe's wasteful consumption patterns still have hugely harmful impacts, which must be reduced. (FOEE, 2013) Disregarding clothing as people are tired of them, or they are out of fashion, or the quality of the clothing was not enough to survive that long, Europeans are affecting a whole different market outside of tis borders, hindering the industry in those markets.

Nonetheless, consumers are becoming more aware; it only takes twenty per cent of vocal consumers to get companies to change their behaviour, and treat resources ethically. Change will not happen overnight but it will happen as many other cases have shown in the millennium such as gay marriage, and animal welfare. Yet the mass public seems to be unaware of the greater issues involved in the fast fashion industry. This however does not tell how consumers will evolve, and whose responsibility it is to educate them as discussed of voluntary and involuntary blindness. Yet, should humankind be that ignorant?

Informed consumers are demanding, encouraging the industry to take note and improve their supply-chains, yet CSR statements do not provide the real picture of what companies strive for, and merely focussing on the increasing the shareholder value. While brands are making some progress, much more is needed. Many companies still have little or no commitment to implement a living wage, and continue to source raw materials and garments from suppliers where below standard working conditions are still very much present. Yet brands have the money and power to make those changes. Sadly CSR often amounts to nothing more than a PR exposure. In truth, CSR often falls short of its potential. (Clean Clothes Campaign, 2015b)

As shown in the DEFRA table of the environmental impacts of producing fibre, we demand a lot from the earth to produce new material constantly. New ways of reutilising the fabrics further into clothing need to be implemented furher and into brands' produc-

tion phases, as seen the current ways are not enough to answer the consumers need to keep up with the trends.

One could argue the EU should try to impose something to enhance the labour standards in global supply chains, which have a link to producing garments to the European market. This could be done by imposing higher tariffs to countries' produces that have been found of breaking the standards of the EU's charter of human rights, or the internationally identified human rights, defined by the UN. It is understood that EU does not have jurisdictional power outside of the EU, it does, however, have power on what enters into the market. Killing the whole idea of fast fashion - cheap prices, with higher tariffs, fast fashion has to sell its products with higher prices, taking away charm of the clothing - the supply chain has been squeezed so much will it be possible to be squeezed even more?

EU holds human rights imperative, to ensure its citizens are respected and treated well, wherever they come from. To have products in the market, which clearly violate these rights is inexcusable. As discussed in the paper EU is implementing legislations to encourage transparency in the market, which in return can educate the consumers further.

Based on these findings, the issue needs to be looked more in depth. It will need government and international enforcement to improve the system. Yet, it also needs to evaluate new ways of calculating a country's or a company's profitability. Development in the EU is on the right direction, with the coming legislations in place, companies will need to re-evaluate how their procedures will affect their reputation, thus their sales and profits. To change European’s perceptions and attitudes will be much more complex subject, requiring different types of measures, though EU's start to legislation will have an effect on educating the consumers that will take some time. Consumer will need to understand where their clothing has come from, it is still the media NGO's who have the role of informing consumers.

9 Conclusion - Sustainability in the Fast Fashion Industry

The objective of this thesis was to find the relationship between fast fashion and sustainability, and its future.

Fast fashion and sustainability do not mix; they are an oxymoron and for some utopia. Fast fashion survives when environmental and social resources and neglected, whilst sustainable development leans on all economical, social, and environmental development.

In its current form, the business model does not have a future. The future of fast fashion in Europe will have to change, and develop into something else, as of now based on the consumption and production habits it is unlikely. Yet there is interest in improving the system and EU's legislations trying to tie the gap together. In the European market there are chances of improving the system with the lead of the European Union. Although as discussed some of the processes are slow, and take time to be implemented.

There are encouraging behaviours recorded, but Europe, as a whole needs to change its ways to ensure the quality of our ecosystem. The production phases from start to finish need to be reconsidered, taking a closer look at companies who have taken into consideration of their responsibility to the planet. Consumption have changed a considerable amount, referring to the need of wearing something new constantly.

This is a subject each individual person has the power affect through their choices. It is an individual's choice to purchase food, which is good for them, as it is each individual's choice to purchase produces whilst respecting who made it, all the people involved in the process, and respecting the ecosystem.

Future studies should consider study how the economic system is effecting the consumption habits of consumers. Also, the lack of academic published work in the subject should be reacted to, as the subject is receiving more media time its should have more academic research conducted in the company responsibility and production affects on the environment, and also to review the current economy system's effects on the environment.

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EU household expenditure, 1995-2012

TIME / COICOP	1995	1996	1997	1998	1999	2000
Total	4,018,972.1	4,254,879.5	4,493,308.1	4,703,861.3	4,950,402.4	5,324,171.3
Food and non-alcoholic bever	578,708.2	603,817.3	623,063.4	638,520.1	652,804.1	689,819.6
Alcoholic beverages, tobacco	151,389.3	160,152.1	168,865.0	176,247.9	186,539.7	195,938.4
Clothing and footwear	265,460.4	277,856.5	289,448.1	300,274.8	310,509.6	327,524.5
Clothing	217,908.0	228,096.6	237,425.6	246,692.5	255,349.0	269,932.2
Footwear	47,552.4	49,759.9	52,022.5	53,582.3	55,160.6	57,592.2
Housing, water, electricity, ga	832,469.3	887,669.9	934,418.0	974,417.2	1,021,874.3	1,090,815.6
Furnishings, household equip	276,781.3	288,636.9	303,595.7	317,056.4	331,265.5	354,582.9
Health	125,794.0	132,356.0	141,705.0	148,321.1	156,421.8	166,454.1
Transport	523,945.8	567,782.2	604,835.1	636,962.8	681,399.4	731,630.8
Communications	77,440.2	84,605.0	93,254.3	102,840.9	115,998.7	132,904.9
Recreation and culture	362,564.6	387,819.3	414,547.9	443,655.7	473,621.9	511,976.8
Education	35,016.1	37,421.2	42,291.9	44,559.0	48,588.9	52,474.9
Restaurants and hotels	333,174.8	352,480.4	373,948.8	397,165.7	420,864.2	461,986.0
Miscellaneous goods and serv	456,228.4	474,282.6	503,335.0	523,839.7	550,514.3	608,062.8

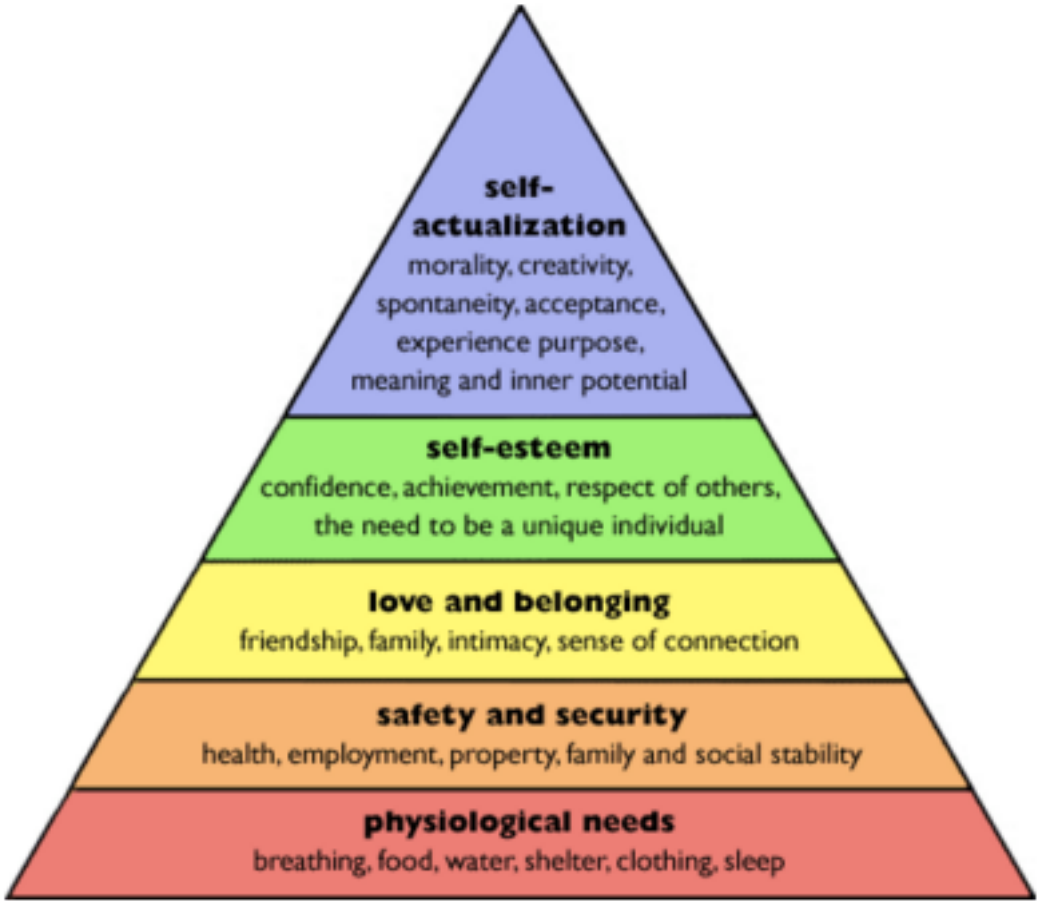
2001	2002	2003	2004	2005	2006
5,538,782.3	5,711,320.3	5,795,986.7	6,066,073.4	6,343,599.0	6,653,405.5
724,663.2	747,984.2	755,218.8	777,266.7	797,878.7	829,003.9
204,514.9	214,439.9	215,367.7	221,118.5	226,624.8	231,164.2
334,595.5	342,471.9	340,076.5	347,702.1	356,525.7	369,587.2
274,881.6	281,065.2	278,554.6	284,247.6	290,973.2	300,588.1
59,713.9	61,406.8	61,521.9	63,454.6	65,552.6	68,999.2
1,145,275.7	1,191,992.0	1,227,091.3	1,293,340.1	1,374,344.4	1,454,295.1
363,074.1	368,083.9	369,964.5	379,769.8	389,796.2	405,970.0
175,653.0	188,176.7	196,182.4	209,373.6	217,314.3	222,773.3
745,997.9	763,752.0	767,995.7	811,907.2	862,484.7	910,693.4
147,512.3	156,236.7	161,262.5	170,638.3	180,265.5	185,475.4
530,799.4	546,334.7	548,340.5	576,325.0	590,501.0	617,796.3
53,384.0	56,152.2	58,118.3	61,979.2	64,076.0	68,174.2
482,168.7	499,612.9	506,183.5	531,319.4	552,727.4	581,649.4
631,143.7	636,083.2	650,185.1	685,333.5	731,060.5	776,823.2

2007	2008	2009	2010	2011	2012
6,969,448.6	7,033,957.7	6,731,426.3	7,020,303.1	7,232,961.9	7,411,888.5
867,756.7	902,893.8	874,965.8	903,634.2	931,194.7	963,134.1
239,581.1	240,923.1	238,208.2	248,334.8	257,684.8	265,554.7
383,657.3	380,490.7	354,424.9	371,084.3	380,550.2	383,281.5
311,971.6	309,696.2	289,733.2	303,480.8	311,249.9	314,096.8
71,685.7	70,794.5	64,691.7	67,603.5	69,300.3	69,184.7
1,526,304.1	1,588,117.7	1,587,875.1	1,672,722.9	1,718,167.0	1,789,238.8
420,204.9	414,953.0	389,355.1	406,079.3	413,137.3	417,971.0
235,861.2	247,221.3	246,302.3	259,444.6	268,744.6	275,351.3
946,371.9	941,103.8	870,632.7	901,719.9	949,890.8	965,974.7
191,339.0	190,569.8	183,348.7	190,536.6	192,671.1	193,035.5
646,571.2	642,205.2	606,871.7	627,043.7	636,266.2	648,028.3
73,507.6	74,681.6	73,778.2	77,373.8	78,730.1	81,960.6
612,186.5	607,126.1	574,984.7	594,202.5	614,972.5	630,661.5
826,107.1	803,671.8	730,679.0	768,126.6	790,952.7	797,696.5

[10] http://ec.europa.eu/eurostat/en/web/products-datasets/-/NAMA_CO3_C

Maslow Hierarchy of Needs

A.H. Maslow (1943). Originally published in Psychological Review.



Source: Research History