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TRAINING PACKAGE 1

SUSTAINABLE AND DIGITAL PRODUCTION PROCESSES

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**TECO
FASH**



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TECO FASH

Introduction: CSR activities focused on internal environmental actions carried out by a fashion company

- **Why are we approaching this topic?**

Changes and new approaches are necessary to create production in the fashion sector. The current linear system in the textile industry strains natural resource reserves, pollutes, degrades the environment and ecosystems. Promotes significant negative social impacts locally, regionally and globally. The textile industry alone relies almost exclusively on the consumption of non-renewable raw materials, including: petroleum during the production of synthetic fibres; fertilisers for cotton cultivation; chemicals for the production, dyeing and finishing of fabric surfaces, etc. Production including cotton cultivation, contributes to water usage, generating growing water shortage problems. In 2017 the manufacturing and sales of clothing, footwear and home textiles consumed approximately 1.3 tonnes of primary raw materials and 104 cubic metres of water per EU resident - according to the European Environment Agency. According to EEA the fabrication of clothing, footwear as well as home textiles resulted in emissions of 654 kg CO₂ equivalent per resident in the EU (EU-28, 2017), making textiles the fifth largest source of CO₂ emissions linked to private consumption.

- **For whom is this course?**

In order to change this state, action is needed! Of course, changing consumer habits is one of the key elements for change, but it is not the only way to bring about an environmental revolution in the fashion sector. We already need to construct a way of producing textiles that is sustainable and digital. Who can do this? Certainly entrepreneurs and managers in the fashion sector, for whom we have created this very training kit. The unemployed and young people, to whom we also want to offer this course, can learn from them in turn, supplemented by their own insights. If you are an entrepreneur in the fashion sector, experienced or not - this course is for you! If you are at the point of looking for your new path, a career change - perfect that you have reached for this material!

- **What you will find in the following modules**

In this course you will find tips on how to start your own fashion business in accordance with the principles of organic production. We have prepared a total of 5 modules, which you can use according to your needs - we have tried to ensure that everyone will find something for themselves and be able to use it according to their possibilities and business plans. Next to each module you will find information on how long it will take to complete it.

You will learn about current trends in customer behaviour and digital solutions for the sector. Furthermore, you will learn about the mechanisms of modern supply chains. Next, you will learn about the circular economy system and how to implement this system in your fashion business. We will conclude our adventure with some summary of the latest trends in changing thinking about production and fashion as such - what the future of the fashion sector will look like in the 21st century, how it will change in the coming years.

- **What are inner CSR and ESG activities?:**

The series of training modules is entitled: 'CSR activities focused on internal environmental actions carried out by a fashion company', but what is CSR and what is the purpose of this course?

CSR, otherwise known as corporate social responsibility, is a type of sustainable development practice that aims to improve the social, environmental or ethical situation.

Typical CSR initiatives include environmental sustainability, philanthropic responsibility and establishing socially responsible business practices. Therefore, it is working towards a better environment, helping people in difficult situations, opposing social exclusion or promoting access to education.

Building good relations with employees, both on the basis of general values (equality and prohibition of discrimination, protection of employees' rights, right to privacy and freedom of association) and in the sense of demands arising from the CSR concept, should be a priority for the activities of every enterprise. The concept of social responsibility can be considered in two dimensions: internal (including relations with employees) and external (including relations with the company's stakeholders: suppliers, customers, competitors). A company's employees occupy a special place among its internal stakeholders. Companies should continuously improve the competences of their employees in order to respond to the changing expectations of customers, investors and society. This is why corporate social responsibility includes, above all, activities such as ensuring comfortable and safe working conditions, health promotion and stress reduction, so-called work life balance, ethics in relations with employees, proper handling when an employee leaves the company, employee development, talent management, dialogue with employees.

Action guidelines for employees in the CSR concept:

- Comfortable and safe working conditions
- Health promotion and stress reduction
- Work life balance
- Ethics in employee relations
- Employee departure
- Employee development
- Talent management
- Employee dialogue
- Employee volunteering

ESG social criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates. Social aspects look at the company's relationships with internal and external stakeholders. Investors seek companies that promote ethical and socially conscious themes including diversity, inclusion, community-focus, social justice, and corporate ethics, in addition to fighting against racial, gender, and sexual discrimination.

ESG frameworks are important to sustainable investing because they can help individuals or other corporations determine whether the company is in alignment with their values, as well as analyze the ultimate worth of a company for their purposes.

Fashion brands are working hard to ensure their global corporate standards for health, safety, labour rights, sustainability, quality of product, etc. are adhered to and maintained throughout their supply chain. These cover issues such as workplace cooperation, supervisory skills, and empowering women.

Governance in ESG pertains to the governance factors of decision making, from policymaking to the distribution of rights and responsibilities among different participants in corporations, including the board of directors, managers, shareholders, and stakeholders. ESG governance criteria ensure that a company uses accurate and transparent accounting methods and pursues both integrity and diversity in selecting its leadership. Companies in every sector, including apparel, are required to make strong efforts to enhance their performance across all the three ESG measures. Good corporate governance not only improves profitability but also increases a firms' overall economic performance. The

important is transparency and disclosure, various stakeholders expect accountability and transparency about corporate governance.

You will learn about how you can implement an effective CSR and ESG action inside and outside your fashion company in our second course. There you will also learn about the importance of similar actions and what you can gain by implementing similar actions in your company. The remaining modules will give you a better understanding of the need to create such actions, as well as what exactly they can involve.

Sources:

<https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00788/full>

<https://www.tandfonline.com/doi/full/10.1080/23311975.2022.2093486>

<https://www.sciencedirect.com/science/article/pii/S2214845021000272>

<https://www.united-heroes.com/blog/4-solid-examples-of-corporate-social-responsibility-activities>

<https://academic.oup.com/heapro/article/36/3/866/5898392>

<https://fbj.springeropen.com/articles/10.1186/s43093-021-00052-1>

<https://www.nibusinessinfo.co.uk/content/corporate-social-responsibility-environmental-impact>

<https://www.teraz-srodowisko.pl/aktualnosci/slady-weglowy-przemysl-modowy-zobowiazania-emisje-11121.html>

<https://odpowiedzialnybiznes.pl/wp-content/uploads/2014/01/15-polskich-przykladow-CSR-II.pdf>

<http://www.prtime.pl/oferta/programy-odpowiedzialnosci-spoecznej/?lang=pl>

MODULE TITLE

1. Introduction to environmentally friendly production in fashion: LOTTOZERO

SHORT MODULE DESCRIPTION

The fashion industry has a huge impact on the planet's inhabitants and resources. A "sustainable fashion garment" is a piece that is produced with awareness of its impact, at every stage of the value chain, and produced with respect for the environment and people. The designer's activity, in fact, is not reduced to the study of form and function of a product but concerns the analysis of all factors related to the design problem in relation to a given context and the elaboration of the best strategies to deal with it. To create a sustainable product and a sustainable business it is essential to take in consideration the full life cycle of a product, from its conception to its disposal. It is important to develop an idea of sustainability that goes from a single product to the full process: from a single attribute of sustainability to the control of the supply chain. For this module, we have organized sustainability criteria into 3 macro-categories that are essential in the life cycle of the product: **materials, processes, business and customer experience models**. Each of these bring together information and examples that describe why a certain approach is sustainable and help brands and designers addressing their responsible choices and being catalyst for change and revolutionaries for the fashion and retail system.

TOPICS FOR COLLABORATIVE FORUM

1. Which material are you currently using that has a bad impact? Which one could you substitute it with?
2. As there is no perfect option, what are the most important aspects for you to consider when choosing a material to work with?
3. Which struggle do you face or faced trying to work with more sustainable materials?

1. SUB-MODULE TITLE

1.1. Materials

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

Sustainable materials are materials used throughout our consumer and industrial economy that can be produced in required volumes without depleting non-renewable resources and without disrupting the established steady-state equilibrium of the environment and key natural resource systems. Material choice directly affects the raw material sourcing like farming and petroleum drilling impact, material processing like chemicals or energy needed to turn it into fibre, and end-of-life prospects like can it be recycled or composted.

- regenerated fibres,
- organic fibres,
- recycled materials,
- biobased materials,
- waste/deadstock materials,
- cruelty free materials,
- vegan materials.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)



- Recognize the main criticalities of some of the most common fibres
- Choose more sustainable fibres
- Understand which materials are best for your project/brand

4. LEARNING CONTENT

Materials are essential to give shape to the creative ideas of a fashion project. As a professional designer is essential to have a strong fabric knowledge to achieve good results, and to be informed of all their characteristics, to know their impacts and how to use them at their best, to be less environmentally polluting.

According to the Global Fashion Agenda, the most important forum for fashion sustainability, raw materials determine as much as two thirds of a product's impact in terms of water, energy, emissions, waste, and land consumption.¹

In the report of 2019, we read that the global fibre production is about 111 million tons, an amount that has doubled in the last 20 years and increased by 2.7 % compared to 2018. Continuing at this pace it would grow further to 146 million tons.

Synthetic fibres are the one produced the most, around 62.9 %, with 52 % being polyester alone. Cotton takes the second place with about 23 %, a quarter of which is sustainably produced. A massive increase in man-made cellulosic fibres is also to be noted: until 1999, about 3 million tons were produced annually, in 2019 this number has risen to about 7 million.

Unfortunately, there aren't fibres that are completely sustainable, each fibre has its pros and cons. But there are some alternatives that impact less than the traditional ones.

Regenerated fibres

Regenerated fibres are produced using raw material obtained from textile waste, pre-consumer (waste coming from the production process) or post-consumer (end of life textiles and garments). The benefits of using regenerated fibres include the reduction of natural resources consumption, pollution, water, and energy consumption.

In the case of both cotton and wool, the waste used is first sorted and separated by fibre type, colour and weight; all accessories such as zips and buttons that cannot enter the regeneration process are also removed.

Once homogeneous bales have been created, they are washed, shredded into very small pieces, carbonized (if cellulose fibres are to be removed) and then spun.

The mechanical method is the most widespread, alternatively, for example in cases where the materials are composed of fibre blends, and therefore difficult to regenerate, chemical recycling could be used.

As we will see better later, the certifications attesting that a material is recycled are GRS Global Recycle Standard and RCS Recycled Claim Standard.

¹ Global Fashion Agenda. *Fashion CEO Agenda*. 2021.



Source: <https://unsplash.com/photos/pouTfHUG430>

Regenerated wool

The regeneration of wool started in Prato, Italy, at the end of 19th century. Here, around 22 tons of regenerated wool are produced every year.

Wool regeneration is much more sustainable than traditional one because it cuts drastically the usage of raw material, first regarding the wool: some virgin fibres are often used as a blend to give strength to the regenerated one but in a very little percentage. This process allows also not to dye or over-dye the fibers, providing significant savings in terms of water and chemicals used.

Regeneration of textile fibres is possible when garments are made of 100 % or nearly 100 % of a certain material, whether virgin or regenerated.

To give you an idea, a virgin cashmere fibre can be regenerated up to about 5 times, while denim cotton up to 3 times. Choosing cotton or wool garments that do not have a high percentage of synthetics means that you can give your clothes a new lease of life.

Rifò is a brand from Prato that produces clothing with regenerated materials. It was born in 2017, with the idea of revisiting the tradition of this historic district. To find out more, read the case studies at the end of the sub-chapter.

Organic fibres

Organic fibres are grown according to organic farming principles, in respect of animals and nature. Each country has set its own standards regarding biological product requirements.

Organic Cotton

Traditional cotton is the second most common fibre, after polyester. Being a natural fibre, cotton is biodegradable, which is certainly one of its advantages. The average decomposition time is about a couple of months, but this varies depending on the texture. The negative aspect is related to the impact of its cultivation and in particular: use of chemicals, use of water and soil degradation, because of fertilizers and pesticides. Moreover, several cotton-producing countries rely on cheap labour. Many cases of slave labour and prisoners have been reported. Add to that the water and chemicals required to bleach, scour, mercerize and dye cotton fabric, you understand why cotton is considered the most environmentally damaging and unsustainable natural fibre.

According to Textile Exchange (non-profit company committed to the responsible expansion of textile sustainability across the global textile value chain) organic cotton consumes up to 62% less energy and 71% less water than conventional cotton. What makes the difference is, above all, the cultivation phase, because GMOs are banned, the seeds are not treated with chemicals, natural substances are used instead of chemical pesticides. This, together with the practice of crop rotation systems, helps to keep the soil healthy, allowing it to retain water and nutrients more easily. Organic cotton is also harvested by hand rather than by machinery, which makes the fibre longer, softer, and longer lasting than conventional cotton.

Furthermore, the natural colour variation of the cotton, which ranges from creamy white to red, brown, and green can be exploited to eliminate the need and bleaching and dyeing.

In this case, the relative certifications are GOTS Global Organic Textile Standard and OCS organic Textile Standard.

Organic wool

Wool is a natural protein fibre obtained from sheep's shearing, considered the most extensible natural fibres, is a good heat conductor and holds the garment's shape, but at the same time is weaker than cotton. Although biodegradable recyclable wool can have negative impacts linked to the animals' mistreatment and soil degradation.

Organic wool comes from farms where animals are not mistreated, are allowed to move freely, fed organically, and taken cared of with natural methods, without using antibiotics indiscriminately.

The point of reference are the 5 fundamental freedoms for the protection of animal welfare institutionalized by the Farm Welfare Council in 1979:

1. freedom from hunger, thirst, and poor nutrition
2. freedom from environmental discomfort
3. freedom from disease and injury
4. freedom to manifest species-specific behavioural characteristics
5. freedom from fear and stress

Textile Exchange has developed the 'Responsible Wool Standard' certification that refers to these 5 freedoms, alongside sustainable land management practices. The RWS label guarantees that all processing steps of a garment have been certified.

Cruelty free materials

Linked to organic materials there are cruelty-free materials, which categorically ban any kind of violence and mistreatment of animals, i.e. in leather, in silk or wool production.

Talking of **silk**, its production involves killing the tiny moth contained in the cocoon: for every kilo of silk, an estimated 6000 animals are killed. A cruelty-free alternative is the so-called 'peace silk' or 'ahimsa', which involves using the cocoon only after letting the moth out. This is a longer process (several weeks versus the 15 min. of the traditional process) and more laborious, as no chemicals can be used. The quality of the silk, however, is slightly inferior to the normal one, because as the moth comes out, it slightly damages the cocoon, breaking the fibre and compromising its quality. There are also ongoing experiments with laboratory-made synthetic silk (like Stella Mc Cartney) and recycled silk.

For **leather and wool**, on the other hand, the problems are related to how the animals are treated and bred. Concerning the leather used in the clothing industry, the animal should never be killed,

but it should always be a waste product of the food industry, which would otherwise be destined for waste.

Source: <https://unsplash.com/photos/YmyD-gq6x1A>



Mulesing is a surgical practice that consists of removing the skin around the tail of merino sheep, often performed without anaesthesia. It is a preventive measure that aims to avoid the appearance of myiasis (subcutaneous presence of fly larvae) in these sheep whose very dense fur and wet folds of the skin are ideal areas for the laying of parasites. While New Zealand prohibited the mulesing since 2018, the Australian farms ardently defend it and always practise it. Mulesing is not practiced in Europe mainly because it is not necessary. Although Merino sheep now occupies most of the Australian prairies, they were only recently imported and are not well adapted to the local environment. The Australian climate and the wrinkled skin of merino sheep naturally favour the appearance of myiasis.

The presence of certain labels in particular PETA Approved and PETA Cruelty Free, but also labels more focused on merino wool such as ZQ and RWS (Responsible Wool Standard), also guarantee animal welfare and therefore entirely exclude the practice of mulesing.

Recycled materials

Recycled materials are a sustainable alternative to traditional materials because they are produced from waste materials instead of raw materials and because they use less energy and chemicals for their processing, thus having less impact on the environment.

Furthermore, as in the case of synthetics, which are produced from plastic bottles and other plastic waste, their processing is often associated with the collection of waste dispersed in the environment.

This is the case, for example, of ECONYL® **regenerated nylon**, made from waste such as fishing nets from the oceans and aquaculture, fabric scraps from mills and carpets destined for landfill. Once collected, the waste is cleaned, and processing begins to recover the nylon. Through an innovative purification process, the waste is regenerated back to its original quality. The regenerated nylon is spun again to produce our garments.

Thanks to this circular recycling process, that turns waste into a new resource, the impact on global warming could be reduced by 80 percent, compared to ordinary nylon produced from oil. For every 10,000 tons of raw material needed to produce ECONYL® yarn, 70,000 barrels of crude oil and 57,100 tons of CO2 emissions are saved.

Source: <https://unsplash.com/photos/YmyD-gg6x1A>



This is in fact one of the main problems concerning synthetic fibres, they are usually derived from petroleum – and we know fossil fuels are the main contributors to global warming. According to Forbes, in 2015 nearly 70 million barrels of oil were used to make the world's polyester fibre. They also are not biodegradable; if they are dispersed in the environment, they remain there for centuries.

In recent years recycled fibres became more and more popular, for instance, recycled polyester has increased from 9 to 14 %, between 2008 to 2019. Traditional polyester production has a lower environmental impact than natural fibres production in terms of water and land. However, the energy required to produce polyester (125 MJ of energy per kilogram produced), makes it a high-impact process. If the industry grows as predicted, by 2050 it could use more than 26% of the carbon budget, associated with a 2-degree pathway.

Also, in the case of **recycled polyester** there is a significantly lower environmental impact than conventional one: 90 % less toxic substances, 60 % less energy and 40 % fewer emissions.

It comes mainly from PET plastic bottles but can also be produced using other post-consumer plastics such as ocean waste or polyester fabrics and clothing, or from pre-consumer processing residues such as industrial fabric scraps.

Most polyester is recycled mechanically. However, with new technologies being developed, the market share of chemically recycled polyester is expected to grow in the coming years.

Bio based materials

Biobased materials are biopolymers chemically synthesized from renewable resources and they can be another alternative to polyester and synthetic fibres.

Fibres can be made out of bioplastics or partially bio-based plastics; bioplastics are derived from renewable biomass such as potatoes or maize. They can have similar properties as petroleum-derived plastics but use 20 to 30% less energy to produce. As emerging technologies, they have great potential for the future but currently do not offer the versatility of petroleum-derived plastics. We also must take into account the source of the biomass, indeed, the impact of growing this mass may outweigh the benefits, for example increased food prices or deforestation.

Bio-based doesn't mean biodegradable or compostable, which are two different things. Compostable means they fulfil US and EU standards for degrading in composting conditions. Biodegradable means the material can be broken down by microorganisms within a reasonable length of time. This said, there are also petrol-based plastics that are biodegradable or/and compostable.

In recent years, many new fibres have been developed that now provide an alternative to traditional fibres.

One of these is **Sorona**, a material developed by Dupont, the company that created nylon in 1935, an excellent alternative to polyester, as it is similar to it in performance but composed of PTT, a substance obtained by fermenting glucose and processing maize seeds. This uses 37% renewable energy and reduces Co2 emissions by 63%, cutting energy consumption by 37%. This material has been declined in different variants: for swimwear, for down jackets, for technical-sportswear and for more sophisticated clothing, mixed with silks, cottons and linens.

Orange Fiber, on the other hand, is a Sicilian company that uses citrus fruit waste, that which cannot be used to produce fruit juice, an amount that amounts to about 60% of the initial weight of the fruit. From this they extract cellulose, which is used to produce a fabric, which can be pure in composition or mixed with other fibres.

Lately, many innovative projects are launching similar fibres. These include **Mylo**, a imitation leather made from mycelium (mushroom root), **Pinatex**, a leatherette derived from pineapple leaves, **Wineleather**, a material similar to leather in its mechanical and aesthetic characteristics produced from wine production waste, and Lanital, now renamed **Qmilk**, a fibre similar to wool derived from milk, invented in 1935 and recently made a comeback for its sustainable characteristics. Lightweight, hypoallergenic, breathable, and antibacterial, it is a soft-touch fibre that retains heat well and is characterized by a reduced water footprint, 2 l per 1 kg of material, as opposed to the 10,000 needed for the same amount of cotton.

Waste/ deadstock materials

They are called deadstock and are those large quantities of unsold fabrics, yarns, garments that are the most obvious sign of one of the big problems of the current fashion business model: overproduction. They could be waste from the production process, colour trials or prototypes, sample collections, fabrics or yarns that do not make it into the collection, defective or unsold clothes.



Source: Lottozero

For an independent designer or a small brand, having the possibility of finding quality fabrics or yarns at reduced prices and in minimum quantities is a great opportunity. When you work with small number, one of the biggest obstacles to the creation of collections is precisely the purchase of fabrics: manufacturing companies require production minimums that are often too high for a small brand.

The limit of these materials is that they are available just in limited quantities, so production must be planned wisely. This is also an opportunity for big brands and companies, a lower-impact way to dispose of their unsold or defective goods.

Today there are a lot of brands that work with deadstock and waste materials, lowering down significantly their impact.

MTOF is a brand which produces knitwear using stock that would otherwise be discarded. They select the highest quality yarns to create exclusive mixes that are always innovative, reversible garments enriched with embroidered prints and applications.

AVAVAV, on the other hand, is a Florentine brand that creates patchworks with stock fabrics from major luxury brands. Through an operation of unauthorised citation, the brand also uses fabrics with famous logos of other brands (like Burberry or Fendi), making clear which was the first life of the material. Working with deadstock necessarily requires adapting the collections somewhat to the materials one finds. The geographical location in this case helps: since many luxury brands pass through Italy in their production chains, it is quite common to find luxury fabrics in the Prato district.

5. CASE STUDY

Case study one: Rifò

CONTEXT:

Rifò is a clothing brand entirely produced in the Prato textile district with regenerated fibres. The project started in 2017 from an idea of Niccolò Cipriani, who at the time had just come back to a working period in Vietnam, one of the main countries for fast fashion production. There he realized the immensity of clothes that are disposed every year, and that end up in landfills, exactly in the same countries where they were produced.

DESCRIPTION:

Back in Italy, he reconnected with the tradition of his hometown, the regeneration of fabrics, and started his fashion company with the mission to minimize the waste of the fashion industry. The first garments were made in regenerated wool and cotton, and with time the production expanded, involving also regenerated denim.

The secondary raw materials used by Rifò come both from pre- and post-consumer waste: old cashmere jumpers and jeans, from which they create pullovers and denim fabrics; but also cotton from industrial waste, used to create T-shirts and Polo shirts, as well as beach towels and shawls.

Rifò is not only a brand but a real circular economy project: over time they built partnerships with other local companies and associations involved in textile regeneration, to structure and systematize this process, giving also private individuals the opportunity to contribute to a circular fashion project as well.

In fact, they created an alternative service to the city dumpsters to dispose of their old clothes, where people can leave their old garments, that will be transformed into new products, without going to pollute faraway countries.

Moreover, Rifò production chain is located entirely in the textile district of Prato, within 30 km.

LESSON LEARNT:

The advantages of this model are for sure the drastic reduction in the use of raw materials, but and fuel due to delocalized production, as well as the elimination of intermediaries: an advantage in terms of price and of a more direct control over the quality and conditions of the production. Being so close to production sites and working with small businesses, Rifò can also avoid the logic of the big storage, favouring small quantities and pre-sale, and as a consequence of all these things, keep process lower.

Case study two: Casa Gin

CONTEST

After working as a buyer for a variety of Italian luxury brands and experiencing first-hand the negative influences of this industry, the founder Daniela wanted to create a brand that could be a source of wellbeing for the earth and for people.

DESCRIPTION

Casa Gin uses natural, hypoallergenic, and biological fabrics.

From beech fibre to GOTS organic cotton, from recycled nylon to biodegradable lace: only entirely eco-friendly fibres, created from natural, renewable and circular raw materials.

At the end of 2017 she started her own small business from home, a completely self-financed women's business. CASAGIN started with underwear, as it is the first item of clothing that is in direct contact with one's skin and can therefore convey a unique feeling of well-being and then decided to use the same soft, natural fabrics to expand the product line to loungewear, pyjamas and even some garments.

CASAGIN organic cotton is GOTS certified, Global Organic Textile Standard: this is the certification that guarantees the organic origin of the raw material and the lowest possible environmental impact throughout the production chain, with great attention to ethical aspects. Organic cotton fibres are longer and purer, this is why CASAGIN uses it in blends with more technical yarns i.e. for the socks, in order to provide the finished product with more strength and softness.

CASA GIN chose Econyl to create an eco-friendly fabric made in Italy with countless technical characteristics. Their swimwear line is characterized by a perfect fit and breathability, and provides UVA protection of +50, resistance to sun creams and oils, excellent coverage, and ultra-chlorine resistance. In their sportswear line, they emphasize its incredible softness, the quality of being a muscle-containing fabric, slowing the formation of lactic acid and promoting fitness recovery and resistance to pilling.

LESSON LEARNT

CASAGIN is a great example for their choice regarding sustainable materials, without compromising their desire to create new, comfortable, and performative products.

6. PRACTICAL ACTIVITIES

TRUE OR FALSE

1. Around the half of the fibres' production is polyester. (true)
2. Cotton production requires low water consumption. (false)
3. In the renewal process of fibres, textile waste is divided by colour, weight and composition. (true)
4. A garment made of different types of fibres is more easily recyclable. (false)
5. Mulesing is a finishing process that gives the fibres a water-repellent property. (false)
6. The main difference between organic and traditional cotton happens in the yarning phase. (false)
7. The leather used in the clothing industry is usually a waste product of the food industry. (true)
8. The impact on global warming could be reduced by 80% using regenerated nylon instead of traditional one. (true)

SINGLE CHOICE SET

1. Wool is :
 - a. An artificial fibre
 - b. A natural fibre
 - c. A synthetical fibre
2. Silk comes from:
 - a. Horses' hair
 - b. Mouth cocoons
 - c. Petroleum
3. The regeneration of wool started:
 - a. In Italy
 - b. In Sweden
 - c. In the UK
4. Deadstock fabrics are usually:
 - a. More expensive

- b. Available in limited quantities
- c. Stolen from the factory

5. The dyeing process of regenerate wool is:

- a. Mandatory
- b. Most of the times not necessary
- c. Always made with natural dyes

Answers:

1. Wool is a natural fibre.
2. Silk comes from moth cocoons.
3. The regeneration of wool started in Italy.
4. Deadstock fabrics are usually available in limited quantities.
5. The dyeing process of regenerate wool is most of the times not necessary.

DRAG THE WORD

Words: purer, new, waste, high-impact, lower.

Organic cotton fibres are longer and
 Recycled materials are produced from ... materials.
 The quality of cruelty free silk is usually slightly ... to the traditional one.
 The energy required to produce polyester makes it a ... process.
 Old wool or cashmere clothing can be transformed into a ... yarn .

Answers:

Organic cotton fibres are longer and purer .
 Recycled materials are produced from waste materials.
 The quality of cruelty free silk is usually slightly lower to the traditional one.
 The energy required to produce polyester makes it a high-impact process.
 Old wool or cashmere clothing can be transformed into a new yarn .

7. REFERENCES

Francesca Rulli, *Fashionisti Consapevoli: vademecum della moda sostenibile*, Palermo, Dario Flaccovio Editore, 2021

Fashionary Team, *TEXTILEPEDIA*, Hong Kong, Fashionary International Ltd, 2020

Rob Tomson, *Manufacturing processes for textile and fashion design professionals*, United Kingdom, Thames & Hudson, 2014

Prato textile museum material library

Global Fashion Agenda ,*Textile exchange on smart material choices* , 21 August 2021,
<https://globalfashionagenda.org/news-article/textile-exchange-on-smart-material-choices/>
 Lottozero, THE DIRECTORY, <https://www.lottozero.org/directory>

PWC, *Re-fiber: Il futuro delle fibre tessili è sostenibile*, <https://www.pwc.com/it/it/industries/retail-consumer/assets/docs/pwc-ReFiber-sostenibile.pdf>

Renaud Petite, 28 September 2020, *Le problème du mulesing dans la laine*, *The goods goods*, <https://www.thegoodgoods.fr/mode/le-probleme-du-mulesing-dans-la-laine/>

Altra moda, *Organic wool clothing*, <https://www.altramoda.net/en/material/11915>

Global Organic Textile Standard, *The Standard*, <https://global-standard.org/the-standard>

Rai News, 15 Febbraio 2017, *SCIENZA 80 anni di Nylon: la storia della fibra che ha cambiato il mondo*, <https://www.rainews.it/archivio-rainews/media/80-anni-di-Nylon-storia-della-fibra-che-ha-cambiato-il-mondo-36770140-3786-446b-bfc6-4d45ed52c1e5.html#foto-1>

Casagin, <https://www.casagin.com/>

Textile Exchange, <https://textileexchange.org/>

8. EXTERNAL RESOURCES

<https://textileexchange.org> - Non profit company committed to the responsible expansion of textile sustainability across the global textile value chain <https://www.leatherworkinggroup.com> , not-for-profit community organization dedicated to driving excellence in sustainable leather production <https://www.peta.org/international/> , Organization for ethical treatments of animals <https://www.wastemark.it/en-gb/home> , Wastemark is a mark that identifies the waste of value and the value of waste <https://www.matrec.com> , Sustainable materials online library

1. SUB-MODULE TITLE

1.2. Processes

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

The production cycle of a garment consists of a series of processing steps, each of which results in an environmental impact. Designers, artisans and brands wishing to increase their level of sustainability have a variety of choices going from cutting-edge approaches and to time tested solutions that can significantly lessen the impact of their production, these include but are not limited to

- -slow production,
- -sartorial/craft production,
- -on-demand production,
- -local production,
- -circular economy,
- -up-cycling,
- -new solutions for recycling,
- -re-design (deadstock),
- -zero waste design,
- -less impactful chemical treatments and/or use of natural substances,
- -minor resource consumption,
- -ethical, fair, inclusive work.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)



- Recognize environmental impacts of processes and practices of the fashion industries
- Interpret the virtuous examples of designers and brands that are facing these issues
- Identify the main principles of circular economy
- Manage waste in a creative ways
- Improve your sustainable practice through practical advice

4. LEARNING CONTENT

TECO
FASH

Circular economy

Circular economy considers a product throughout its life cycle, from when it is designed to when it reaches the end of its life. In the case of fashion, for example, a used garment can be repaired, recycled, resold, and reused.

In the “traditional” linear system, the manufacture of fashion products takes place according to the logic of 'take-make-use-dispose' (resources-production-consumption-disposal): raw materials, often non-renewable, are extracted and used to create yarns, then garments, which are ultimately thrown away to be incinerated or stacked in a landfill.

The circular economy, on the contrary, aims to eliminate the consumption of virgin natural resources by:

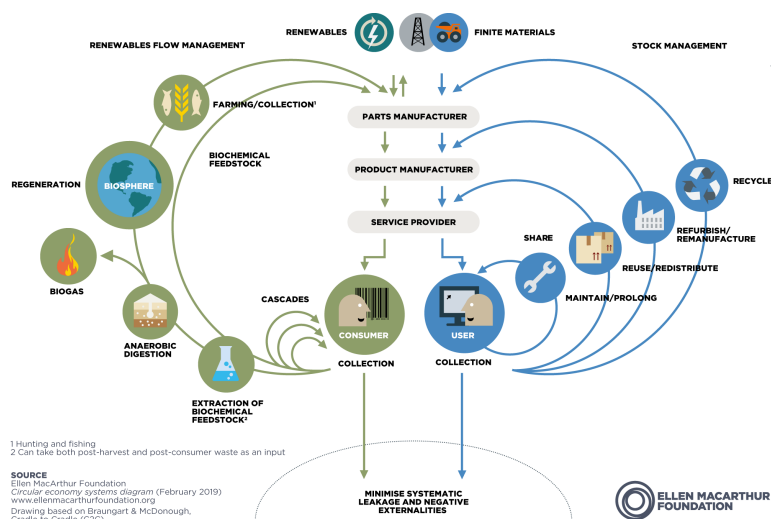
- Excluding waste and scrap from design,
- Keeping products and materials in use for as long as possible,
- Regenerating natural systems.

The first point focuses on avoiding the creation of waste and pollution from the design phase; the second on using, reusing, remanufacturing, and recycling rather than produce new products from scrap, keeping materials circulating in the economy for as long as possible; the last one on excluding the use of non-renewable resources and enhancing renewable ones, for instance by returning valuable nutrients to the soil or using renewable energy as opposed to relying on fossil fuels.

Until now, end-of-life management has not been considered in the design phase of brands and designers. But the role of the designer today has changed radically and requires a new mindset in approaching the creative process that considers the impact of the garment throughout its entire value cycle.

The Ellen MacArthur Foundation, a world leader in accelerating the process of transition to the circular economy, has created the **Butterfly Diagram**, which is a great tool to explain how to start thinking systemically. As described on the Foundation’s website, the diagram tries to capture the flow of materials, nutrients, components, and products, whilst adding an element of financial value and it builds on several schools of thought, but is perhaps most recognizably influenced by Cradle to Cradle’s two material cycles.

The diagram is separated into 2 cycles, which represent two fundamentally distinct flows of material: biological and technical.



Source: <https://ellenmacarthurfoundation.org/circular-economy-diagram>

Biological materials

Biodegradable materials such as food, wood or natural textile fibres can be fed into this category. These materials are renewable in nature, but further value can be created by using them in different sectors; this process is called 'cascading'. In fashion "cascading" refers to the production of materials of lower quality than the fabrics from which they originate.

Organic materials that cannot be used further are composted or subjected to a degradation treatment that, in the absence of oxygen and through the intervention of microorganisms, allows the extraction of fuel and valuable nutrients.

By leveraging these recovery strategies, the waste caused by the industry and some negative factors linked to it, such as the price increase of some raw materials or difficulty in sourcing, can be minimized.

Technical materials

are "represented in blue on the right-hand side - cannot re-enter the environment. These materials, such as metals, plastics, and synthetic chemicals, must continuously cycle through the system so that their value can be captured and recaptured."²

The most efficient technical cycle is the smallest one, which involves the preservation and reuse of products: in this way the value of the product is preserved, and the service life of the product is increased.

For example, repairing a garment or sharing it with other people (rental/sharing services) is less expensive than producing new clothes. If a person no longer needs a garment, it can still be used by someone else through direct sale or redistribution to a different market.

Once a product reaches the stage where it can no longer be used as it is, part of its value can still be retained through repair or reconditioning. For example, a company that manufactures clothes can offer a repair and mending service to replace damaged parts of the garment and keep it in the system. If it is not possible to repair a product, then its recycling can be considered. With recycling, the value of the product per se is lost, but the value of the materials from which it is made is preserved.

A circular economy for fashion creates better products and services for customers, contributes to a resilient and thriving fashion industry, transforming trash into wealth, and regenerates the environment. It avoids the dependence on natural resources, which are becoming increasingly scarce and the volatility of raw material prices, it prioritizes the rights and equity of everyone involved in the fashion industry and will create new opportunities for growth that are distributed, diverse, and inclusive.

Slow fashion

Fashion is a cyclical progression of trends, happening in a certain range of time, therefore is strongly connected to repetitive change.

Until the advent of fast fashion, fashion cycles were mainly two per year, with the two main collections: Autumn Winter, and Spring-Summer. The flourishing of fast fashion led to an increase in the pace of production and consumption, so that fashion today has reached an unsustainable speed.

² <https://archive.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail>

As Kate Fletcher, fashion researcher who first talked about slow fashion, says “high speed is not in itself a descriptor of unethical and/or environmentally damaging practices but a tool that is used to increase sales and deliver economic growth with attendant ecological and social effects”³.

But what are the factors that determine this pace? Fashion show schedules, delivery cycles and sale dates are the milestone of the fashion calendar, deciding when products are made, when they arrive for sale and when they are discounted are the backbone of the industry.

The continuous acceleration of the time factor in the processes of production, distribution and consumption has contributed substantially to the imbalances between supply and demand, to an increase in consumption, to a lower quality of garments, which are increasingly considered as disposable products, to the production of more and more waste, which is difficult to dispose of.

For Fletcher, 'slow fashion' goes far beyond the idea of deceleration. The principle of higher quality garments, produced under fair conditions and in reduced quantities, is the basis of her philosophy, not the goal. If we continue to buy clothing in vast quantities - even if it is fair, organic, and sustainable - we will not solve the real problem; to really address the point, we need to rethink the relationship with what we wear. And by extending the life cycle of objects and materials, their value is maintained for as long as possible.



Source: Lottozero, ph. Rachele Salvioli

Slow fashion started as a critique to the continuous acceleration of the production and consumption of fashion and initially it was embraced by a few alternative brands and designers. But lately many established brands are slowing down their production.

A growing chorus of brands and designers are calling for a reorganization of the fashion calendar, such as Giorgio Armani or Dries Van Noten. The Belgian designer is the founder of the Forum Letter, a document released in 2020, which proposed, among other things, a two-season fashion calendar, in-season delivery dates and a switch to a 'see-now-buy-now' fashion week calendar, where clothes are sold in the season they are intended for—coats in winter, swimsuits in summer and so on—with the discounts period limited to the end of the seasons in January and July.

The trend for the big luxury brands is to reduce the number of collections and abandoning mid-season collections such as cruise and holiday: Off-White, Tory Burch and Mugler, for instance, have announced they will abandon the seasonal calendar, allowing them to regain control of in-store delivery. Gucci has announced that it will reduce the pace of its collections from five to only two per year. Dries Van Noten has downsized his men's and women's collections by about 40%, not only in the volume of the garments, but also in the volume of the fabrics, which are often repurposed.

In recent years, there has in fact also been an acceleration of the timing of distribution: the next season's products arrive in the shops earlier and earlier, and purchases are stimulated by a system of discounts that no longer only concern the end of the season, but follow an incomprehensible logic, if not that of wild sales.

Slow fashion is first and foremost fashion that has more value, which also means finding a new balance between prices and volumes.

A review of pricing policies is underway for high-end brands, starting precisely with a reduction of discounts and a price increase for those brands that have not yet reached the limit of fair value.

If luxury brands can leverage their exclusivity and desirability to increase prices, smaller brands can focus on distancing themselves from a system that favours disposable fashion, too high price fluctuations between the full season and the sales period and the consequent devaluation of products. Some smaller brands, such as Rifò, mentioned in the case studies in the previous chapter, owe part of their success to the absence of end-of-season discounts and a policy of fair prices all year round, as well as a pre-sale system in which there is a way to test a product on the market.

Slow fashion, in fact, allows to rationalize assortments, avoid overstocking, and have more time to dedicate to the creative process and development of collections. By decreasing the volume of the collections, there is also more space and time to create limited edition capsules or other collaborations that generate interest.

As a brand it is essential to communicate the value of what you do, you have somehow to re-educate desire, the beauty of waiting for something precious, well and responsibly made. Storytelling therefore becomes very important: telling people about your work, the research behind your garments, how the garments are made, by whom, with what materials, so that the customer understands the value and agrees to pay a little more.

On demand and pre-production

The pandemic has brought attention to one of the problems that have long plagued the fashion world, the disproportion between supply and demand and the resulting problem of overstocking.

Until the 1980s, the fashion calendar was organized around the two main seasons mentioned above, Spring/Summer and Autumn/Winter, each corresponding to a collection. Today, some fast fashion brands go so far as to produce one every fortnight, for an estimated total of 100 billion items of clothing produced each year.

According to McKinsey's report "The state of fashion 2021", even before Covid-19, overstocking and widespread markdowns proliferated in the fashion industry to the point where only 60% of garments were sold at full price, creating billions of dollars in lost revenue and margins. During the pandemic, the situation worsened: in the face of a massive drop in orders, stock levels increased significantly, despite the efforts of brands and retailers to limit the damage.

According to McKinsey, the overstock problem will only get worse in the future if companies fail to adapt to new consumer attitudes, which are changing in the wake of the pandemic, as many people embrace a 'less is more' approach, where quality and durability count more than the novelty factor. As Francesca Romana Rinaldi, professor of Fashion Management at Bocconi University and author of Fashion Industry 2030, states in Wired magazine, "it is waste not only what remains of the raw materials used during the production process, but also what is not consumed, i.e. what is not sold."

¹¹⁴

The pandemic has not only accelerated a pre-existing critique of consumerism, but also the increased importance of sustainability in purchasing decisions and the rise of circular business models.

³ Kate Feltcher, Slow Fashion: An Invitation for Systems Change, https://www.researchgate.net/publication/233596614_Slow_Fashion_An_Invitation_for_Systems_Change

⁴ <https://www.wired.it/lifestyle/design/2020/08/14/reebok-moda-on-demand>

On-demand production is among the 3 priorities that McKinsey identifies to strategically address the problem of overproduction, alongside the reduction of assortment complexity and a new balance between price and value of products.

Some companies have found creative ways to dispose of unwanted stock - such as dedicated websites like Ganni's, which sell past seasons' collections at discounted prices, or through pop-up shops like Harrods.

Understanding consumer preferences to direct production to meet demand is a strategy that goes hand in hand with on-demand production, for which technology is an effective tool to evaluate and analyse data.

The higher the percentage of on-demand production, the lower the overproduction.

Many brands have adopted the drop system: scheduled collection launches (weekly or monthly usually) across a limited number of products rather than all at once, thus limiting waste and at the same time creating customer involvement and a sense of expectation with regard to these events, forcing them to stay up to date.

Gaia Segattini Knotwear, an Italian knitwear brand, for example, uses this system and releases its limited editions monthly: drops of single-product collections, functional garments adaptable to different body types, continuous in patternmaking and always new in terms of colours and patterns, made from remnants of fine yarns from companies in the Marche region.

If the model of on-demand production has so far been the prerogative of smaller brands, it is now being increasingly experimented by larger ones, for example Reebok, which has tested its models with consumer votes, making production conditional on exceeding a minimum demand threshold, or Telfar, which thanks to pre-order has tested a just-in-time production model, in which consumers buy items before they are produced and receive them several weeks or even months later.

Ultimately, pre-order or "made-to-order" models prevent overproduction, limit waste, and encourage conscious consumption. It is also a way to stand against the culture of encouraging customers to want more and more newness at rapid speed, educating customers to wait and desire, while creating a sense of involvement and exclusivity around the new items.

Redesign of deadstock

According to the Ellen MacArthur Foundation, every second, the equivalent of a rubbish truckload of clothes is burnt in landfill, much of which, is unsold stock.

Despite new ground-breaking legislation, such as France's law prohibiting the destruction of unsold goods, this is still a common practice in the fashion industry. In recent years, it was revealed that many famous brands, both from the fast fashion and from the luxury market, had burned unsold stocks worth millions of dollars.

But why do high-end brands destroy their stocks? First, to protect exclusivity and avoid devaluing their image. Luxury fashion is a status symbol, so burning excess inventory—as opposed to selling it at a discount or sending it to poor countries—maintains the brand's value and sense of exclusivity. Many brands also want to avoid the clothes from being sold by unauthorized vendors at very cheap prices. Moreover, they may also have a financial advantage to destroy unsold stock, like avoiding paying for the taxes of their disposal.

Apart from the loss in terms of materials and production processes, burning unsold clothes multiplies the actual climate impact of the products: carbon dioxide and other gases are released into the atmosphere, contributing to global warming, and harming our health.

Moreover, a lot of clothing are made of synthetic fibre, and their incineration may release plastic microparticles into the atmosphere. Even if clothes aren't burned and are "simply" dumped in landfills, they take years to decompose.

The problem is that many of our clothes aren't recyclable: most of them are made from a blend of natural and synthetic fibres that are difficult to separate with the present recycling technology.

In this context, it is essential to think circularly and imagine a new destination for the unsold stock you may have. Re-design is a great example of what to do with it: similarly, to upcycling, but using brand new materials instead of old used ones, stock could be reinterpreted into a brand-new collection. Re-design could be done with your own stock, or you can start collaboration with other brands to help them reinventing their own unsold clothes.

This is the concept of RE;CODE, Korean fashion brand, that redesign deadstock garments from major brands, for a new use. The brand started in 2012, willing to find a solution to the incineration of garments, starting with that of their own umbrella corporation: a sub-division of Kolon Industries, a 3.6 billion USD company founded in the nylon textile development of the 1950's. Soon, they started to collaborate with other brands, such as Nike, with which they developed a capsule collection.

They redesign industrial, military and inventory collections, working with a broad range of materials, and creating jackets, bags and tops for men and women out of them. Each item in the collection has a story and creates a new culture of value in place of waste.

Each piece is created by a master craftsman and designs are produced in highly limited numbers with 6 the maximum in any style, and each one labelled with the total number of designs produced. In this with the brand exclusivity is not only kept alive, but even reinforced, without wasting resources and generate pollution.

Upcycling waste

In recent years, various designers have started working with deadstock materials or making upcycled garments, just as important luxury brands have pulled samples and old collections out of warehouses, reintroducing them in a new form. The practice of upcycling, after all, is not new to the fashion world (just think of designers such as Martin Margiela) but lately it became a real trend; from the pandemic onwards, thanks to the stocks generated by unsold goods and the scarcity of new materials available, there are many brands that have embraced this technique.

But what is upcycling? By upcycling we mean the use of old clothes or used textiles to create new garments with added value in terms of aesthetics, quality, or functionality. This is the main difference with downcycling, in which raw materials are instead transformed into products of lesser value (e.g. from textiles to building padding).



Source: Lottozero, ph.Rachele Salvioli

For designers working with upcycling, waste materials become precious raw material: old clothes, prototypes, fabrics, colour proofs. These materials are disassembled, reassembled, coloured, enriched with embroidery, printing, or other finishing techniques: in the end, this leads to the creation of unique clothes and accessories.

While there are brands like Christopher Raeburn that have been dedicating their activity to up-cycling garments for decades, others luxury brands have just started to explore this world, looking at what is destined to be discarded and reinterpreting it.

For instance, Upcycled by Miu Miu is an exclusive and special collection of vintage pieces upcycled by the brand creative team. Built around unsigned vintage garments from the period between the 1930s and the 1980s, this collection comprises 80 unique and numbered dresses that have been restored, remodelled, and decorated with embroidery and details emblematic of the brand. Each dress is absolutely unique and entirely hand-finished, through Miu Miu's typical codes. The life of garments worn and loved in the past is therefore extended, renewed, prolonged.

Many independent brands are embracing this practice. Among these, Rafael Kouto, a swiss fashion designer head of the eponymous sustainable fashion brand. With a background in some prestigious couture fashion houses, Kouto is using his deep expertise in artisanal techniques to reinvent pre-consumer and post-consumer textile (but not only) waste and transform them into beautiful collections. The designer creates an imaginative scenario by mixing the waste materials with other references and inspirations, constructing an unprecedented narrative.

With this brand Kouto shows us how the system already has all the resources, both material and creative, to reinvent itself, collection after collection, directing creativity not only to the conception of new styles, but also to new virtuous practices.





Designer Rafael Kouto , Source: Lottozero, ph.Rachele Salvioli

Sartorial/craft production

During and after the pandemic there has been an increase in the revival of domestic forms of handicrafts, and initiatives born out of a desire to explore new techniques, enhance personal creativity and learn skills for self-production have sometimes become full-fledged entrepreneurial projects and start-ups.

We have never seen before such a proliferation of small handmade brands, knitwear, accessories, and fashion projects entering the independent scene.

It is interesting to observe how the new generations are strongly interested in handmade work and production of garments, such as embroidery, crochet, knitting and sewing.

If fast fashion has democratized the supply of fashion, shifting the focus from the manufacture of the garment to the continual change of styles, available at very low prices, this trend seems to attest to a reversal of direction, which favours quality of workmanship, knowledge of textile processing techniques and the uniqueness of the garment over novelty.

The web had a crucial role in amplifying these forms of techniques, with sites dedicated to sharing techniques, platforms enabling short threads (Etsy) and social media where people can share their creations (Ig and Pinterest).



Source: Lottozero, ph. Rachele Salvioli

Handicraft techniques are often synonymous with quality and know-how. This is the case, for example, with the Made in Italy concept, whose prestige is first and foremost linked to the association with Italian craftsmanship.

When we talk about small production we are also talking about time, time of production, which is necessary longer, due to the type of work. Thus, craftsmanship becomes a way of slowing down the design and production process. You need for sure to consider the costs, which will be higher for sure, but matching the type of product, a luxury one in limited series. And hopefully this will bring awareness that clothes should not be disposable items, but to be treasured and kept for a lifetime.

Less impactful chemical treatments

The fashion industry uses one third of all the amount of chemicals used at an industrial level. Just to give you an idea, it is calculated that 8000 chemicals are used to produce a garment and, according to the European Environmental Agency 750 of these products are dangerous for the human being and 440 for the environment, causing skin disease and polluting the water that we use for irrigating fields.

Chemicals are used for the cultivation of the fibres, to produce the industrial ones, for the process of industrialization of the product. Generally, it is possible to produce in a more sustainable way by avoiding the use of genetically modified organisms, pesticides, or any other highly polluting chemicals by working with and developing more sustainable processes or materials.

Talking about dyes, for example, the most used in the industry are synthetic ones. They come from petrochemical sources and are achieved through hazardous chemical processes that can be harmful to the human body, and at the same time release toxic residues that are a threat towards its eco-friendliness.

A better alternative would be using fabrics dyed with eco-friendly natural dyes, which derive from natural sources like plants and minerals.



Source: Lottozero, ph.Rachele Salvioli

Here are some advantages of natural dyes:

- natural dyes can produce soft colours and various shades with the mix and match system,
- they are usually renewable and biodegradable,
- in some cases, like indigo, the waste in the process becomes an ideal fertilizer, so they don't cause a disposal problem of its waste,
- application of natural dyes can reduce the carbon footprint of the textile industry, in comparison with the petroleum based synthetic dyes,
- some of its constituents are anti-allergens, making them safe for skin contact and non-hazardous to human health.

But also disadvantages:

- it is difficult to reproduce shades by using natural dyes,
- natural dyeing requires skilled workmanship and is therefore expensive,
- nearly all-natural dyes with a few exceptions require the use of mordants that can produce residues and cause a disposal problem,
- most of the natural dyes vanish easily even when applied with mordant, making them inadequate for modern textile usage.

Another less environmentally impactful option would be dyeing with bacteria.

This innovative technology of using bacteria dyeing with living organisms is an alternative that does not require large areas of land, pesticides, or big amounts of water, while having almost 100% of the pigments remain in the fabric.

Colorifix is a British start-up that using bacterial dyeing both natural and synthetic fibres. They can save much more water and electricity compared to current dyeing systems, while at the same time having a very wide colour palette, being able to instruct the microorganism to produce new colours.



Source: Lottozero

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5. CASE STUDY

Case study one: STEM

CONTEXT

The traditional garment production process with classic cut and sew assembly wastes up to 25% of materials. Moreover, the problem of overproduction, causes the leftover of many unsold or unused fabrics.

DESCRIPTION

Stem is an industry changing approach to how clothing is made, which pairs a novel zero-waste digital weaving technique with sustainable garment production and retail approach aiming to radically change the fashion industry.

Starting from the problem of waste production in the fashion industry, designer Sarah Brunnhuber has developed a minimal waste garment production technique by thinking directly upstream of the problem, i.e. the way fabrics are developed.

The designer has developed a system that allows her to weave the shape of paper pattern of the garment directly, thus eliminating cutting waste. Each of these pieces, instead of being sewn, is then knotted together to create the final dress, and in doing so eliminates sewing waste. Fabrics are only produced once the garment has been designed and ordered, so there is an actual use for the fabric, of which nothing will be thrown away.

For the designer, the painstaking work of knotting represents the time and craftsmanship that is lacking in the production of most of our industrially made garments. Rather than making the seams invisible, signs that remind us of the production process, STEM wants to emphasise them and make them protagonists, to make the consumer aware of how a garment is made and understand its value.

Began as a craft project on hand looms, it was then developed on an industrial scale, collaborating with external manufacturers.

LESSON LEARNT

If we can find a large-scale way to produce only what is really needed, we can cut waste and the use of new resources considerably. Sharing information about how products are made in a transparent and visually intriguing way helps create a system where customers make informed decisions about what they buy and take care of it.

Case study two: ID:EIGHT

CONTEXT:

In recent years, the amount of agri-food waste used to make sustainable products has increased from 0 to more than 30 tons per month.

More than 7 million tons of pomace are discarded by the wine industry each year.

The pineapple industry produces about 40,000 tons of leaves each year, which are usually left to rot or burned, being considered a waste material.

DESCRIPTION:

ID.EIGHT is an innovative start-up that produces eco-sustainable sneakers made from food industry waste and recycled materials.

Every component of the shoe is made from materials with a low environmental impact, starting from the upper, sole, laces, lining and label, to the box that holds the sneakers and the envelope that is used for packaging.

The sneakers are made mainly from 4 types of materials derived from by-products of agricultural or industrial activities:

- AppleSkin: a made-in-Italy material derived from the bio-polymerization of apple peels and cores,
- Vegea: made from the bio-polymerization of grape marc in Italy,
- Piñatex: made in Spain using pineapple leaves from the Philippines,
- Recycled Lycra, mesh and polyester from Spain and Italy.

All materials come from Italian suppliers, except Piñatex, made in the Philippines and finished in Italy.

ID.EIGHT sneakers are assembled in a small family business in the Marche region (Italy) and the production process, while semi-industrial, requires a lot of manual labour and years of experience.

LESSON LEARNT:

Waste materials from other sectors, like food, can become resources for the fashion industry, creating further value.

Quality design, combined with the study of production processes, in-depth research into materials, and the choice of manufacturers who work responsibly makes it possible to create beautiful, environmentally friendly products that do not require the use of new resources.

6. PRACTICAL ACTIVITIES

TRUE OR FALSE

1. Circular economy contributes to avoid industrial scrap and keeps materials in use for as long as possible. (true)
2. According to the Ellen MacArthur Foundation, every second, the equivalent of a rubbish truckload of clothes is burnt in landfill (true)
3. Fast fashion is a good way to produce, because implies recycling of more materials. (false)
4. In a slow fashion perspective is preferable to produce on demand. (true)
5. The fashion industry uses a third of all the chemicals produced at industrial level. (true)
6. The colour obtained with natural dye is very resistant (false)
7. Down-cycling is a form of up-cycling . (false)

SINGLE CHOICE SET

1. Pre order and on demand models:

- a. Determine overproduction
- b. Discourage conscious consumption
- a. Limit waste

2. High-end brands destroy their stocks:

- a. to protect exclusivity
- b. to recycle clothes
- c. to extend the life of products

3. Slow fashion allows to:

- a. Limit overstocking
- b. Limit the time dedicated to the creative process
- c. Have cheaper prices

3. The “drop” system consist in releasing new collections:

- a. As soon as possible

- b. Across a limited number of products
- c. twice a year

4. The most common dyes in the textile industries are:

- a. Natural dyes
- b. Synthetical dyes
- c. Bacterial dyes

Answers:

1. Pre order and on demand models limit waste.
2. High-ends brands destroy their stocks to protect exclusivity.
3. Slow fashion allows to limit overstocking.
4. The “drop” system consist in releasing new collections across a limited number of products.
5. The most common dyes in the textile industries are synthetical dyes.

DRAG THE WORD

Words: life cycle, disposal, natural resources, waste, linear system

Circular economy considers a product throughout its ..., from when it is designed to when it reaches the end of its life. In the “traditional” ..., the manufacture of fashion products takes place according to the logic of 'take-make-use-dispose': resources, production, consumption,

The circular economy, on the contrary, aims to eliminate the consumption of virgin ... by excluding ... and scrap from design, keeping products and materials in use for as long as possible, regenerating natural systems.

Answers:

Circular economy considers a product throughout its lifecycle, from when it is designed to when it reaches the end of its life. In the “traditional” linear system, the manufacture of fashion products takes place according to the logic of 'take-make-use-dispose': resources, production, consumption, disposal.

The circular economy, on the contrary, aims to eliminate the consumption of virgin natural resources by excluding waste and scrap from design, keeping products and materials in use for as long as possible, regenerating natural systems.

7. REFERENCES

Francesca Rulli, *Fashionisti Consapevoli: vademecum della moda sostenibile*, Palermo, Dario Flaccovio Editore, 2021

Maria Antonia Barucco, Fiorella Bulegato, Alessandra Vaccari, *Re-manufacturing Italy, L'Italia nell'epoca della post-produzione*, Mimesis, 2020

Francesca Romana Rinaldi, *Fashion Industry 20230, Reshaping the future through sustainability and responsible innovation*, Milano, Bocconi Univ Pr, 2019

Anna Granskog, Franck Laizet, Miriam Lobis, and Corinne Sawers, July 23, 2020, *Biodiversity: The next frontier in sustainable fashion* for McKinsey&Company (mckinsley.com)

[Biodiversity: The next frontier in sustainable fashion | McKinsey](#)

Sarah Kelley, Common Threads Consulting, Textile Exchange Team, January 2022, *Regenerative Agriculture Landscape Analysis* for Textile Exchange (textileexchange.org)

[Regenerative Agriculture Landscape Analysis - Textile Exchange](#)

Sheryl Karas, CRARS staff, *How Regenerative Agriculture Could Help Clean Up the Fashion Industry* for California State University Chico (csuchico.edu)

[How Regenerative Agriculture Could Help Clean Up the Fashion Industry – Center for Regenerative Agriculture and Resilient Systems – Chico State \(csuchico.edu\)](#)

Steff Yotka, May 13 2021, *From Competitors to Collaborators, the Forum Letter and Rewiring Fashion Groups Reflect on a Year of Change* for vogue.com

[From Competitors to Collaborators, the Forum Letter and Rewiring Fashion Groups Reflect on a Year of Change | Vogue](#)

Steff Yotka, June 30 2020, *'Discounting Is Not a Luxury Strategy'—The Voices Behind an Open Letter to Retail Address Fashion's Full Price Future* for vogue.com

['Discounting Is Not a Luxury Strategy'—The Voices Behind an Open Letter to Retail Address Fashion's Full Price Future | Vogue](#)

Kate Fletcher and Anna Fitzpatrick, 21 October 2021, *Decentring Durability: Plural Ideas and Actions of Long Lasting Clothes*, katefletcher.com

[Decentring Durability – Kate Fletcher](#)

Alberto Calabrese, March 1 2022, *Milan Fashion Week 2022: the best of the presentations of the new generation designers* for vogue.it

[Milan Fashion Week 2022: the best of the presentations of the new generation designers | Vogue Italia](#)

Diane Weisbeck, 28 September 2020, *Sustainable is Sexy: Designers for the Planet: Emerging New Talents, Milan Fashion Week* for pynck.com

[Sustainable is Sexy: Designers for the Planet: Emerging New Talents, Milan Fashion Week - Pynck](#)

Giorgia Imbrenda, 15 July 2022, *The metamorphic and sustainable fashion of the emerging brand Evropa* for vice.vom

[Evropa: the emerging sustainable fashion brand - Elena Finardi, Martina Rizzieri, Eva Redini and Anna Patricelli will be the new Marine Serre of Italian fashion? \(vice.com\)](#)

Giorgia Imbrenda, 17 September 2021, *This designer handweaves all the fabrics of her collections* for vice.com

[Discover the sustainable fashion of the Lieke Pansters brand! - We welcome you to the world of natural yarns and minimal lines by Lieke Pansters, where sustainability, experimentation and craftsmanship come together to create timeless clothes. \(vice.com\)](#)

Carolina Davalli, 8 July 2021, *11 new handmade brands to know* for vice.com

[11 new handmade brands you need to know! - Delicate knitwear, pop resins or screenprinting core: here are the projects that have made all these techniques \(and not only\) their own to give shape to their imaginations. \(vice.com\)](#)

Ashis Kumar Samanta and Adwaita Konar, November 2021, *Dyeing of Textiles with Natural Dyes*, researchgate.net

[\(PDF\) Dyeing of Textiles with Natural Dyes \(researchgate.net\)](#)

Ellen Smith, 2 December 2020, *Naturally Dyed Clothing Lines*, for trendhunter.com

[Naturally Dyed Clothing Lines : saye \(trendhunter.com\)](#)

Julia Moser, 21 June 2021, *Textile dyeing with bacteria*, for Ars Electronica Blog

[Textiles dyeing with Bacteria – Ars Electronica Blog](#)

Abigail Beall, 13 July 2020, *Why clothes are so hard to recycle*, for BBC.com

<https://www.bbc.com/future/article/20200710-why-clothes-are-so-hard-to-recycle>

Helene Steiner, *Dyeing textiles with Bacteria: Making LB-Agar Plates*

[Dyeing Textiles with Bacteria: Making LB-Agar Plates \(opencell.bio\)](#)

STEM, official website page

<https://www.stem.page/about>

Eyand, official website page

<https://www.eyand.eu/#who-we-are>

ID.EIGHT, official website page

<https://www.id-eight.com>

8. EXTERNAL RESOURCES

<https://katefletcher.com> , Slow and sustainable fashion pioneer

www.raeburndesign.co.uk , Upcycling designer

<https://www.rafaelkouto.com>, Upcycling couture

<https://ellenmacarthurfoundation.org>, Organization that works to accelerate the transition to a circular economy

<https://globalfashionagenda.org> , No profit organization that fosters industry collaboration on sustainability in fashion to accelerate impact

<https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2022/the-state-of-fashion-2022.pdf> , Report about the major themes shaping the fashion economy, by McKinsey and Business of Fashion

<https://www.ethicaltrade.org> , Alliance of companies, non-governmental organizations (NGOs), and trade union organizations committed to working together to identify and promote good practice in the implementation of codes of labour practice

<https://vammon.com>, platform that try to minimize the impact of transportation

1. SUB-MODULE TITLE

1.3. Customer experience

2. INTRODUCTION (SUB-MODULE DESCRIPTION)



Big part of the pollution generated by fashion is determined by the maintenance and disposal of garments, which is directly dependent on the user.

Our behaviours as consumers can be made more sustainable, through innovative solutions that address product use, care, disposal, and the dissemination of information and culture, which are key to creating awareness and triggering more responsible behaviours.

In order to facilitate and improve these customer's behaviours, brands and designers also need to strategically think and include in their projects :

- transparency and certifications,
- traceability,
- innovative and less polluting maintenance systems,
- innovative solutions for disposal and recycling,
- garment shelter services,
- long-lasting and durable design.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- Design thinking to the full lifecycle of a garment/collection
- Understand the impact of the maintenance of garments
- Apply transparency to your business
- Engage customers in your sustainability journey

4. LEARNING CONTENT

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Transparency

When it comes to a garment, knowing its history (where it was made, the materials it is made of, by whom) is important to empower consumers to make their own responsible choices.

That is why transparency is essential for a sustainable business.

The traditional label that accompanies a garment is no longer sufficient to contain all the information that a discerning consumer needs to receive, and many brands, big and small, are beginning to activate new systems of sharing information.

Brands are deploying different strategies to provide consumers with more and more information, but when it comes to transparency there is no one-size-fits-all standard and everyone is free to choose what to tell.

Blockchain technology helps to make this information available quickly: by scanning a QR code or NFC chip, information on the entire product life cycle can be obtained.

According to Fashion Revolution's Transparency Index 2020, which annually ranks brands based on transparency, the number of brands sharing information on the garment production chain has increased: 40% of the brands analysed provide information about the companies who cut, assemble and sew their garments; 24% provide information on the material processing supply chain, i.e. the spinning, weaving and finishing stages, if we are talking about fabric, or the treatment and tanning stage for leather accessories. But only 7% of brands indicate who their suppliers are in terms of materials.

Designer Bruno Pieters in the past tried to create a completely transparent brand, Honest By: a completely transparent and traceable fashion company, ethically sourced and produced, that unfortunately closed in 2019. Pieters' customers could trace the manufacturer and composition of the garment, including fabrics and lining and all the accessories. For Honest By, it was a hard work to persuade textile suppliers to reveal details about origins and sources and collect information about the supply chain: raw materials, yarn spinners, weavers, printers and dyers, fashion producer. Pieters also used to publish an itemized breakdown of the garment's cost, including his wholesale and retail mark-up percentages.

Other brands that work in a virtuous way are, for example, Rifò, which online shares the list of local companies it works with, or HundHund, a Berlin-based brand, which shares information about the cost voices, the productions they work with, educational information about fibres and maintenance of the garments and also the names of the designers who designed the clothes.

Transparency is not just about communicating your sustainable processes, but also about being honest to your customers. Ganni, a popular Danish brand, is not afraid to declare that it is not entirely sustainable yet but committed to constant improvement.

With the slogan 'it's about progression not perfection' the brand has a social channel parallel to that for the presentation of its collections where it conveys information about its production and the materials used, where it is possible to monitor this improvement.

In addition, it has a dedicated platform, Provenance, where it communicates information on the materials supply chain, where it is possible to obtain information on the origins of the raw materials and other processing stages of many of the garments in the collection, complete with the names of the supplying companies and locations.

Sharing this information creates in the customer a sense of trust in the brand, which appears as an organism in the process of transformation, of improvement, of which the customer feels part and support through his or her choices and not a flawless example of sustainability.

Finally, certifications are essential to give credibility to the information you share with your customers. In the next chapter we will go deeper on this topic with presenting all the most important certifications related to the fashion industry.

Traceability

Unfortunately, as fashion production chains are complex and fragmented, tracking garments from raw material to consumer is a real challenge.

There are numerous production steps that lead to the creation of a garment and not on all of them there is the same willingness to share information, so it is difficult to trace the entire production history of a product. This requires the use of standardized methods of measurement, which nowadays are not yet available.

Most likely no brand knows for sure where the raw material from which they make their garments comes from. Traced cotton is no different from untraced cotton: it is the accompanying paperwork that makes the difference. And altering the paperwork can be very easy for those willing to defraud. So, what can you do as a brand to avoid such situations?

First, define strict specifications for your suppliers and collaborate with auditors, external controllers who go and check what is happening in the factories you work with.

But the most effective thing is to involve your suppliers in a common project of transparent improvement, which involves sharing the same values.

One useful tool is surely the blockchain, a set of technologies that is based on a decentralized system of information that is recorded in a database and shared within a community. The various links in the chain can also have access to information from previous stages, which have the characteristic of being immutable.

It is important to remember that blockchain is a self-certification method, and there are no guarantees that what is entered is true. In fact, the information entered is not controlled unless the system is linked to a certification process.

A virtuous example is that of Womsh, a brand of sustainable shoes made in Italy, which has certified the origin of all the materials used to make its shoes, as well as validated the effectiveness of its circular program to recycle. They relied on Genuine Way, a Blockchain company that focuses on environmental sustainability and allows the physical product to be directly linked to the consumer to certify its production history: on the website of the Genuine Way it is possible to read their suppliers and partners and see the relative documentation.

Womsh is also an example in terms of transparency. Within their code of ethics, a self-regulatory tool that reinforces the values and responsibilities that the brand has and wants to pursue, shared within its website, the brand has defined its pillars of sustainability, which include sharing the history of the product and specifically: what materials it is made of; where it was made; who made it; under what conditions these people worked; they were paid; how Womsh returns part of the profits generated to the environment and society.

Innovative and less polluting maintenance systems

As a brand, it is crucial to start thinking about this phase of the garment's life cycle: when the garment has arrived in the hands of the consumer and it is not in our store anymore, but it continues to generate a large impact on the environment.

A good choice in terms of materials is a great start.

Clothes made from "crease-resistant" fabrics, such as polyester or wool, for example, do not need to be ironed, so we can save energy, water, and CO2 emissions.

Unfortunately, synthetic fabrics have another big problem: the release of microplastics during the machine wash cycle. These tiny particles come loose from synthetic garments, such as fleece and other sportswear, due to the intensity of the spin cycles that stress the fibre and given their very small size, cannot be captured by the washing machine filters, ending up directly in our seas.

There are special bags on the market for collecting microplastics during the washing cycles of clothes. Brands that work with these materials could, for example, sell them along with the garments, to educate customers about responsible use and make it easier for them.

Other wise choices in terms of materials involve the temperatures and chemicals used during washing. Some fabrics can be washed at very low temperatures, resulting in energy savings, while some washes, such as dry cleaning, in addition to being an inconvenience for the customer who must necessarily go to the laundry, employ solvents that are highly polluting and hazardous to human health.

Martina Fuchshubert is a designer reflecting on these issues. Her Toile pant explores the potential of an underrated and surprising material: raw cotton canvas, usually used for making prototypes. This untreated and unbleached cotton, initially smooth and stiff, shrinks and transforms into a soft, organic material with a simple wash. Designed with extra length to account for the shrinkage that occurs after the first wash, the pants use the uneven, textured appearance of un-ironed cotton as an intentional aesthetic element.

Another interesting project that reflects on the use of clothing while thinking about more sustainable alternatives is Petit Pli, a company that produces clothing that adapts to the various stages of a child's life, from 6 to 36 months: elastic pants, stretchable jackets, stretchable shirts. As we know in the first years of life children grow very fast and have to change their clothes every couple of months. This design reflects on a real problem and finds an effective solution ecologically, economically, but also practically, making us consume and pollute less.

Repair

A brand that wants to be sustainable has a huge responsibility, not only to make its products in an environmentally and human-friendly way, but also to inform and educate the consumer.

Offering repair services for one's garments is a practice that contributes to conceiving and building a new way of relating to one's clothing, taking care of it and prolonging its life cycle, instead of getting rid of it at the first tear.

Producing quality garments is obviously the first step, but we also must deal with our clothes, because they obviously get damaged over time due to use or washing.

Apart from provocative operations, such as that of Balenciaga, which launched already ruined shoes on the market in opposition to the novelty and programmed obsolescence of the fast fashion world, there are many brands that have integrated repair services within their company and offer customers the possibility of repairing or fixing their products.

For Patagonia, the extension of product life is a key aspect, and they are working on several fronts to ensure that products last as long as possible. The project, which goes by the name of Worn Wear,

has evolved over the years. The goal is to make Patagonia garments last as long as possible, to buy less, to avoid waste and hyper-consumerism, with a priority to reuse and recycling, through:

- education on the correct maintenance of one's garment to take care of it in the best possible way, through tutorials and other online information material, e.g. on different types of fibres and washes,
- training in repair techniques: the brand shares online over 100 do-it-yourself guides that customers can consult to repair their garments, not just about clothes but also bikes, videogames etc.,
- free and unlimited repair service, in store or during dedicated tours,
- the resale of second hand and defective garments; in the first case, the customer can give back his/her item of clothing and get a discount for their next purchase.

Another virtuous example is that of Freitag. The Swiss brand, which has become famous for its bags and backpacks made from old truck tarpaulins, offers its customers the possibility of both repairing and replacing bags in case of damage.

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5. CASE STUDY

Case study 1: Hundhund

CONTEXT:

The brand started its activity from a concern regarding the fashion industry: its use of beautiful campaigns, shows and retail spaces to mask what can be a very destructive production process - both in terms of fabric manufacture, garment sewing and workers' conditions.

They also wanted to provide their fashion at an affordable price for their community.

DESCRIPTION:

HUNDHUND is a Berlin-based creative studio dedicated to creating clothes with an environmental and social focus. Conceived by designer Isabel Kücke and her partner Rohan Hoole while living together in India, the brand was born in 2016 when they returned to Berlin.

For HUNDHUND transparency is a core thing in the brand and its communication.

They provide price transparency, with a transparent breakdown and markup so the customer can understand why things cost what they cost and come to their own conclusions about value and fairness.

For them, it is important that their clothes not only reflect the values of their community, but that they are also affordable for it. For this reason, when they founded the brand, they decided to only sell directly to the customers to avoid the mark-ups of retail shops or other middlemen. Today, they essentially offer their customers what the wholesale price would be if they had a more conventional business model.

"Most independent brands increase the production price and then sell it to a shop that increases it another 2.5-3 times to sell it to you. This means that you are paying 4-5 times (or more) the production price for your purchase. We are completely transparent. We process our costs and then sell them to you for a mark-up of about 2 times (our margin also pays for our office, designers, sampling and prototypes, marketing etc.). Our model allows us to spend substantially more on materials and finishes than many brands that sell for twice the price" this is what they declare on their website.

They care not only about transparency, but also about responsible production.

They make their clothes together with small European ateliers that treat their workers fairly, and source the fabrics through innovative methods to reduce their environmental impact.

Besides working with small factories in Europe that develop environmentally friendly fabrics, HUNDHUND also like to use deadstock fabric - the fabric left over from luxury brands. In this way they can reuse beautiful fabrics that would otherwise have been discarded, but also allows their customers to enjoy them at a fraction of the price they would have paid through a luxury brand.

LESSON LEARNT:

Sharing your story, choices, processes with your audience creates customer awareness of what fashion is: not just a pretty picture in a magazine, but a complex system, often made up of injustice and exploitation, both environmental and social.

Inclusion in fashion is also a matter of price. By making wise choices in terms of materials, communication and distribution, you can drastically lower the price of your products, making sustainable fashion accessible to a wider audience.

Case study 2: Studio Mend

CONTEXT:

Our system encourages voracious consumption of clothing. Often, clothes are worn just a few times before being thrown away and they end up in the trash bin when they get damages, rather than

being repaired. All this comes at a very high cost environmentally. How to extend their life cycle and minimize this impact?

DESCRIPTION:

Studio Mend is a high-quality garment repair service founded by designer Sunniva Rademacher Flesland, specializing in visible mending of defects due to long-term use such as holes, stains and weakened fabrics.

The project was created to give an alternative to all those garments that are thrown away despite the fact that they still have great potential to be used and valued.

Each repaired garment is approached with the aim of using the imperfection to enhance the quality and uniqueness of the garment.

Inspired by the Wabi-sabi technique that gives value to imperfection, the project wants to make the embroidery operation majestic, instead of hiding it. By making the mending visible, the intention is to validate the gesture of mending as a practice that contrasts with a system that encourages disposable fashion consumption.

The customer can choose between four darning techniques and the color combination he or she likes best, such as hand darning, darning around holes, patches, indicating types of fabrics or garments on which it works best and those on which it does not.

The customer can simply send an e-mail with the chosen technique, the color combination and the damaged garment and then wait for the receipt of their repaired garment.

Lately the designer has been working on the creation of DIY repair kits and started collaboration with big fashion brands, in order for the project to have a wider audience and impact.

LESSON LEARNT:

Design has enormous potential to restructure current consumption patterns, using method and aesthetics to serve this cause. By creatively reworking an old garment seen as ugly or useless, you can completely change its appearance and make it trendy and commercially appealing again. By systematizing this process, you can change current patterns of production, use and consumption and create new, less impactful habits. The designer is a complex figure who has the competencies to trigger a change in habits in the customer and in the system.

6. PRACTICAL ACTIVITIES

TRUE OR FALSE:

1. Brands must respect mandatory rules about transparency. (false)
2. Tracking the history of a textile product is easy. (false)
3. Blockchains allow you to have a discount from suppliers. (false)
4. Microplastics can't be captured by the washing machine filter. (true)
5. Shelter services educate consumers to take care of their clothes. (true)
6. Certifications are essential to give credibility to the information you share with your customers. (true)
7. There are special bags on the market for collecting microplastics during the washing
8. Most of the brands communicate where their materials come from. (false)

SINGLE CHOICE SET

1. Garments made of synthetical fibers don't need:
 - a. To be washed
 - b. To be ironed
 - c. To be dyed

2. Petit Garment realize clothing that:
 - a. Do not need detergent
 - b. Grow with the child
 - c. Don't use synthetical material
3. Textile production chain is
 - a. Complex and fragmented
 - b. Linear and standard
 - c. The same for the same typology of product
4. Freitag make their product up-cycling:
 - a. Truck tires
 - b. Truck tarpaulins
 - c. Truck seat
5. According to Fashion Revolution's Transparency Index 2020:
 - a. The number of brands sharing information on the garment production decreased
 - b. Only 7% of brands indicate who their suppliers are in terms of materials
 - c. All the brands provide information about the companies produce their garments

Answers:

1. Garments made of synthetical fibers don't need to be ironed.
2. Petit Garment realize clothing that grow with the child.
3. Textile production chain is complex and fragmented.
4. Freitag make their product up-cycling truck tarpaulins.
5. According to Fashion Revolution's Transparency Index 2020 only 7% of brands indicate who their suppliers are in terms of materials.

DRAG THE WORD

Words: user, care, pollution, behaviours, maintenance, information

Big part of the ... generated by fashion is determined by the ... and disposal of garments, which is directly dependent on the ...

Through innovative solutions that address ... use, care, disposal, and the dissemination of ... and culture, brands can trigger more responsible customer

Answers:

Big part of the pollution generated by fashion is determined by the maintenance and disposal of garments, which is directly dependent on the user.

Through innovative solutions that address product use, care, disposal, and the dissemination of information and culture, brands can trigger more responsible customer behaviours.

7. REFERENCES

Francesca Rulli, *Fashionisti Consapevoli: vademecum della moda sostenibile*, Palermo, Dario Flaccovio Editore, 2021

Francesca Romana Rinaldi, *Fashion Industry 20230, Reshaping the future through sustainability and responsible innovation*, Milano, Bocconi Univ Pr, 2019

Silvia Gambi, 14 ottobre 2022, *La trasparenza prima di tutto: alla scoperta di Ganni, for solomodasostenibile.it*, <https://www.solomodasostenibile.it/2022/10/14/ep54-la-trasparenza-prima-di-tutto-alla-scoperta-di-ganni/>

Silvia Gambi, 17 Dicembre 2020, *Perché è così difficile garantire la provenienza della materia prima tessile*, for solomodasostenibile.it, <https://www.solomodasostenibile.it/2020/12/17/perche-e-cosi-difficile-garantire-la-provenienza-della-materia-prima-tessile/>

Silvia Gambi, 18 Settembre 2020, *Tracciabilità + sostenibilità = blockchain, la sfida del futuro*, for solomodasostenibile.it <https://www.solomodasostenibile.it/2020/09/18/ep20-tracciabilita-sostenibilita-blockchain-la-sfida-del-futuro/>

Lottozero, THE DIRECTORY, <https://www.lottozero.org/directory>

Genuine Way, Ethical Catalogue, on brand website https://catalogue.genuineway.io/?_ga=2.63575725.329787667.1666347604-1483877337.1666347604

Womsh, Codice Etico, on brand website, https://www.womsh.com/assets/images/CODICE_ETICO_ITA.pdf

Flavia Masci, 14 Dicembre 2021, *Qual'è il consumo medio di acqua in una famiglia?*, Luce e gas .it by Selecta, <https://luce-gas.it/acqua/consumo-medio-famiglia>

Eveline, 11 Novembre 2020, *8 Fabrics That Require Less Washing! (Make Washing Your Clothes Sustainable!)*, YANATIN, <https://www.yanantin-alpaca.com/8-fabrics-that-require-less-washing-make-washing-your-clothes-sustainable/>

Martina Fuchshuber, brand website, <https://martinafuchshuber.com/Pantaloni-Toile>

Alberto Motta, 18 Dicembre 2017, *Petit Pli - i vestiti che crescono insieme ai bambini*, WIRED, <https://www.wired.it/lifestyle/design/2017/12/18/petit-pli-vestiti-moda-bambini-crescita/#:~:text=Petit Pli video,-Petit Pli%2C i&text=Fondata nel 2017 a Londra,%2C giacche estensibili e%2C camicie>

Maurizio Badiani, 17 Maggio 2022, *Balenciaga ha rotto le scarpe*, SPOT and WEB, <https://www.spotandweb.it/news/843852/balenciaga-ha-rotto-le-scarpe.html#gref>

Patagonia, Portail reparation, <https://eu.patagonia.com/fr/fr/repairs/>

Worn Wear, Patagonia shop, <https://wornwear.patagonia.com/shop>

HUNDHUND, brand website, <https://www.hundhund.com/>

Studio Mend, brand website, <https://studiomend.net/>

GANNI, TRANSPARENCY WITH PROVENANCE®, <https://www.ganni.com/en-it/provenance.html>

8. EXTERNAL RESOURCES

https://issuu.com/fashionrevolution/docs/fti_2022 , Fashion Revolution's Transparency Index, Report which annually ranks fashion brands based on transparency

<https://wornwear.patagonia.com> , Patagonis's hub to extend the life of products

9. WORKSHEET

Giveaways:

1. Raw materials determine as much as two thirds of a fashion product's impact in terms of water, energy, emissions, waste, and land consumption. Even if there aren't fibres that are completely sustainable, there are some alternatives that impact less, such as regenerated fibres, organic fibres, recycled materials, biobased materials, waste/deadstock materials, cruelty free materials, vegan materials.

2. Designers, artisans, and brands wishing to increase their level of sustainability have a variety of choices that can significantly lessen the impact of their production cycle: slow, sartorial, on-demand and/or local production, up-cycling, recycling, zero waste design, less impactful chemical treatments, minor resource consumption, ethical work.

3. Big part of the pollution generated by fashion is determined by the maintenance and disposal of garments, which is directly dependent on the user. Brands and designers also need to strategically think and design innovative solutions that address product use, care, disposal, and the dissemination of information and culture, which are key to creating awareness and triggering more responsible behaviours.

Activity for self-reflection:

Read the following sentences about fashion and decide which are true and which false.

- A. Cotton production requires low water consumption.
- B. A garment made of different types of fibres is more easily recyclable
- C. Pre order and on demand models limit waste.
- D. Garments made of synthetical fibers don't need to be washed.

Case study

Rifò, is a clothing brand entirely produced in the Prato textile district with regenerated fibres. The project started in 2017 with the mission to minimize the waste of the fashion industry.

MODULE TITLE

Module 2: Customers behaviors and digital and technological changes

SHORT MODULE DESCRIPTION

Module 2 examines changing customer behaviours in the fashion industry and how fashion companies are responding to these changes by adopting sustainable and ethical practices. It covers key factors that influence customer behaviour such as price, quality, style, brand reputation, convenience and sustainability. The module also explores the slow fashion movement, which emphasizes conscious consumption and durable, timeless designs. In addition, it examines the impact of online shopping, social media and artificial intelligence on fashion consumer behaviour, including personalised experiences, targeted advertising and virtual trial technologies. Overall, the module highlights the importance of understanding customer behaviour in the digital age to stay relevant in the fashion industry.

TOPICS FOR COLLABORATIVE FORUM

- 1. The influence of fashion influencers and bloggers: do they have too much power in shaping consumer behaviour?
- 2. Artificial intelligence and the future of fashion: Will virtual trial technologies replace traditional in-store shopping experiences?

1. SUB-MODULE TITLE: Customer behaviors in the fashion industry



- 2.1.1 Trends and shifts in customer attitudes towards fashion and sustainability
- 2.1.2 Understanding the key drivers of consumer demand
- 2.1.3 A look at the key factors that drive customer behaviour in the fashion industry
- 2.1.4 The Shift towards Slow Fashion and Conscious Consumption in the Fashion Industry
- 2.1.5 Conclusions

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

This section describes changing customer attitudes towards fashion, including the demand for transparency and accountability from brands, personalization options and the desire for socially conscious clothing. It describes the key factors that influence customer behaviour, including price, quality, style, brand reputation, convenience and sustainability. In addition, the module explains the slow fashion movement and its emphasis on conscious consumption and durable, timeless designs. It highlights how fashion brands are responding to these changing behaviours by adopting sustainable and ethical practices, using eco-friendly materials, implementing waste reduction measures and promoting transparency and accountability.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- Explain the impact of social, cultural and environmental factors on customer attitudes towards fashion.
- List the factors that influence customer behavior in the fashion industry.
- Explain how each of these factors affects customer behavior in the fashion industry.
- Recall the key elements of the slow fashion movement and the principles of conscious consumption.

4. LEARNING CONTENT

Trends and shifts in customer attitudes towards fashion and sustainability



Source: © Bente Stachowske / [Greenpeace](#)

A key trend in customer attitudes towards fashion is the increasing demand for transparency and accountability from brands. Customers are increasingly interested in knowing where their clothes come from, how they were made and who made them. They want to ensure that the clothes they buy are not only stylish and functional but also that they are produced in an ethical and sustainable way. This has led to an increase in certifications and labels that signify a brand's commitment to sustainability and ethical practices, such as fair trade, the Global Organic Textile Standard* (GOTS) and B Corp**. Another trend in customer attitudes towards fashion is the desire for personalised and unique products. Customers are increasingly looking for clothing that reflects their individual style and values, rather than mass-produced items that are identical to those worn by millions of others. This has led to an increase in personalisation options, such as bespoke clothing or personalised designs, as well as a growing interest in vintage and second-hand clothing.

In addition to sustainability and personalisation, customers are also increasingly aware of the social and cultural impact of fashion. They are increasingly interested in clothes that reflect their cultural identity or support social causes they care about. This has led to an increase in brands that prioritise diversity, inclusion and social justice, such as those that offer inclusive sizes or partner with organisations that support marginalised communities.

* *Global Organic Textile Standard (GOTS)* is a private standard for organic clothing for the entire post-harvest processing (including spinning, knitting, weaving, dyeing and manufacturing) of apparel and home textiles made with organic fibres (such as organic cotton, organic wool etc.). It includes both environmental and social criteria.

** *B Corp* is a private certification of for-profit companies of their "social and environmental performance".

Understanding the key drivers of consumer demand



Source: Image by senivpetro on [Freepik](#)

The fashion industry is a dynamic and ever-changing industry driven by customer demand. Customers are influenced by several factors when making purchase decisions, such as price, quality, style, brand reputation, convenience and sustainability. Each of these factors can play an important role in shaping customer behavior and can influence sales and brand loyalty for fashion companies.

Price is often the most critical factor for customers when choosing fashion products, as they seek to find products that fit their budget while offering the best value for money.

Quality is another important factor, as customers value products that are durable and long-lasting. **Style** is a highly influential factor in the fashion industry, as customers are attracted to the latest trends and styles.

Brand reputation is also important to customers, who prefer to buy products from brands known for quality, sustainability and ethical practices. **Convenience** is another key factor, with customers often choosing brands that offer convenient shopping options. Finally, **sustainability** has become an increasingly important factor influencing customer behaviour in the fashion industry, with customers seeking out brands that prioritise environmentally friendly materials and production methods, reduce waste and promote ethical working practices.

Understanding the factors influencing customer behaviour in the fashion industry is essential for fashion brands wishing to succeed in this highly competitive market. By considering these factors in their marketing and production strategies, fashion companies can attract and retain customers, build brand loyalty and contribute to a more sustainable and ethical industry.

A look at the key factors that drive customer behaviour in the fashion industry



Source: Image by [Freepik](#)

Price: Price is often the most significant factor influencing customer behavior in the fashion industry. Customers are likely to choose products that fit within their budget and offer the best value for money. Some customers are willing to pay a premium for high-end designer brands, while others prefer budget-friendly options.

Quality: Customers also value high-quality products that are durable and long-lasting. Quality can influence customer behavior in the fashion industry by driving customer loyalty and repeat purchases. Customers are more likely to pay a higher price for products that they perceive to be of higher quality.

Style: Fashion is a highly style-driven industry, and customers are often influenced by the latest trends and styles. Fashion brands that stay up-to-date with the latest fashion trends and offer unique, fashionable products are more likely to attract and retain customers.

Brand reputation: A fashion brand's reputation is a significant factor influencing customer behavior. Customers are more likely to purchase products from brands with a positive reputation for quality, sustainability, and ethical practices. On the other hand, brands with a negative reputation can suffer from decreased customer loyalty and reduced sales.

Convenience: Convenience is another important factor influencing customer behavior in the fashion industry. Customers are more likely to choose brands that offer convenient shopping options, such as online shopping and fast shipping.

Sustainability: In recent years, sustainability has become an increasingly important factor influencing customer behavior in the fashion industry. Customers are more likely to purchase products from brands that prioritize sustainability, including using eco-friendly materials and production methods, reducing waste, and promoting ethical labor practices.

The Shift towards Slow Fashion and Conscious Consumption in the Fashion Industry



Source: Image by [Freepik](#)

Over the last decade, an increasing number of consumers have started to change their attitude towards fashion, placing more emphasis on sustainability and ethical issues. A key aspect of this change has been the rise of the slow fashion movement, which promotes a more sustainable and ethical approach to fashion.

At the heart of the slow fashion movement is the idea that quality is more important than quantity. Instead of chasing the latest trends and buying cheap, disposable clothes that quickly fall apart, slow fashion advocates prioritise timeless designs that are built to last. By investing in higher quality pieces that can be worn for years, customers can reduce their environmental impact and support more sustainable and ethical fashion practices. Conscious consumption is another key element of the shift towards sustainable fashion. This means a more careful and deliberate approach to purchasing decisions, taking into account not only the style and price of a garment, but also its environmental and social impact. By choosing clothes made from organic and recycled materials, for example, or supporting brands that prioritise fair labour practices, customers can have a positive impact on the planet and society.

Customers who embrace slow fashion and conscious consumption tend to value durability, functionality and versatility in their clothes. They may choose classic, timeless designs that can be worn for many years, rather than chasing fleeting trends that quickly go out of style. They may also prefer versatile pieces that can be dressed up or down and worn in different contexts, rather than disposable clothes that serve a specific purpose. In response to this shift in customer attitudes, many fashion brands have begun to incorporate sustainable and ethical practices into their operations. They may be using environmentally friendly materials such as organic cotton, hemp or recycled polyester, for example, or implementing waste reduction measures such as recycling or zero waste production. Some brands also focus on transparency and accountability, providing information on their supply chains and labour practices to help customers make more informed purchasing decisions.

Conclusions

Meeting Evolving Customer Demands and Trends: As a fashion entrepreneur, it is important to keep up with changing attitudes and trends in customer behaviour towards fashion. To meet the growing demand for transparency and accountability, consider

implementing ethical and sustainable practices in your supply chain and obtain certifications or labels that demonstrate your commitment to these practices. In addition, consider offering personalisation options or exploring the vintage and second-hand clothing market. To support social and cultural causes, partner with organizations that align with your brand values and promote diversity, inclusion and social justice. By prioritizing these trends, you can better meet evolving customer demands and expectations and set your brand apart in the competitive fashion industry.

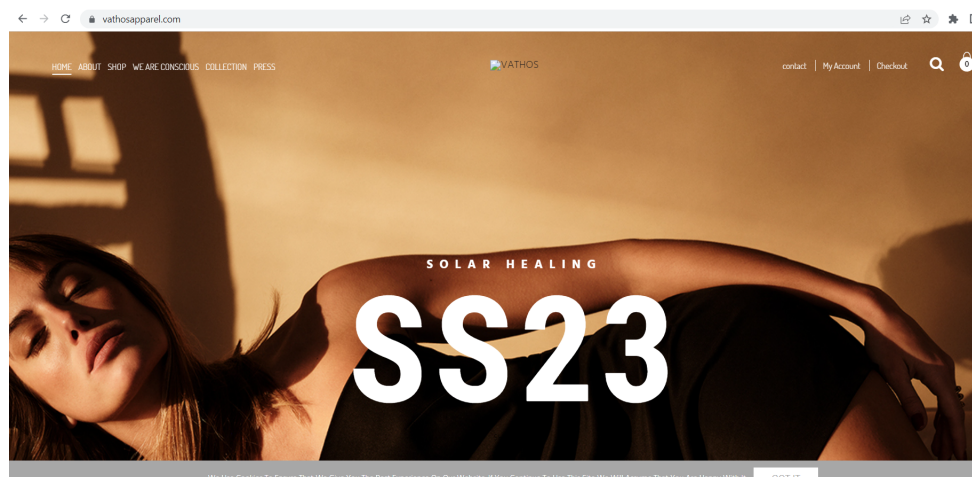
Factors Influencing Customer Behaviour in the Fashion Industry: It is vital to understand the factors that influence customer behaviour in the fashion industry. To attract and retain customers, it is crucial to offer products that meet their expectations in terms of price, quality, style, brand reputation, convenience and sustainability. Fashion industry entrepreneurs need to understand these factors to build brand loyalty and contribute to a more sustainable and ethical industry. It is necessary to strike a balance between these factors and prioritise sustainable and ethical practices. In addition, offering convenient purchasing options and building a strong brand reputation can help create competitive advantage.

Embracing Sustainable and Ethical Practices in the Fashion Industry: It is important to pay attention to the changing attitudes towards sustainability and ethical practices in the fashion industry. The rise of the slow fashion movement and conscious consumption means that customers are increasingly interested in high-quality, timeless designs that are built to last, rather than disposable, trend-driven pieces. To meet this demand, consider prioritising sustainable and ethical practices in your operations. Use environmentally friendly materials and reduce waste in your production processes. You may also consider offering more versatile pieces that can be worn in different contexts, rather than disposable clothing that serves a specific purpose. In addition, focus on transparency and accountability by providing information about your supply chains and labor practices to help customers make informed purchasing decisions. You can differentiate your brand and build a loyal customer base that appreciates your commitment to the planet and society.

5. CASE STUDY

Context:

The case of VATHOS Apparel – Greece



Source: VATHOS Apparel [website](#)

Description:

Sustainability and the impact of the production process on the natural environment remains an important topic of discussion for the fashion industry for several years now and it is obvious that interest is growing in Greece as well. Brands specializing in ethical fashion production are gaining ground in Greece, with the demand for sustainable products increasing by 91% (number of exit clicks on products from sustainable brands by GLAMI.gr visitors), compared to 2019!

VATHOS Apparel is a modern brand with an ethical character, which stands for environmentally friendly and responsible fashion in Greece. You will find comfortable and stylish pieces in "clean" and minimalist lines, created from 100% organic materials and ecological practices. To produce the clothes, the brand works with small, family-run businesses, boosting small economies and contributing to the upgrading of the profession.

VATHOS Apparel's practices are considered ethical and sustainable for several reasons. Firstly, the use of 100% organic materials and ecological practices ensures that the clothes produced are environmentally friendly and do not harm the planet. This is an increasingly important factor for customers who are concerned about the impact of fashion on the environment and want to make more sustainable choices.

Secondly, by working with small, family-run businesses, VATHOS Apparel is supporting local economies and contributing to the growth and development of the fashion industry in Greece. This is a socially responsible practice that resonates with customers who value ethical and sustainable business practices.

Finally, the minimalist and clean lines of the clothing created by VATHOS Apparel appeal to customers who value quality, versatility, and longevity in their clothing choices. By creating timeless designs from high-quality materials, the brand is encouraging conscious consumption and discouraging the fast fashion trend of disposable clothing.

Lesson Learnt:

It is possible for fashion brands to prioritize both style and sustainability. By using environmentally friendly materials, partnering with small, family-run businesses, and promoting ethical labor practices, VATHOS Apparel demonstrates a commitment to responsible fashion. This not only contributes to the protection of the environment and the well-being of workers, but also appeals to customers who are increasingly interested in sustainable and ethical fashion options. Therefore, by adopting sustainable and ethical practices, brands can attract customers who share their values and contribute to a more sustainable future for the fashion industry.

6. PRACTICAL ACTIVITIES

Activity 1: Multiple Choice Questions

1. Which of the following is NOT a trend in customer attitudes towards fashion?
- a) Increasing demand for transparency and accountability from brands
 - b) Desire for personalised and unique products
 - c) Decreased interest in vintage and second-hand clothing
 - d) Growing interest in brands that prioritise diversity and inclusion

Correct answer: c) Decreased interest in vintage and second-hand clothing

2. What is the most critical factor influencing customer behaviour in the fashion industry?

- a) Quality
- b) Brand reputation
- c) Style
- d) Price

Correct answer: d) Price

3. Which of the following is a label that signifies a brand's commitment to sustainability and ethical practices?

- a) Organic Trade Association (OTA)
- b) Global Organic Textile Standard (GOTS)
- c) Sustainable Fashion Alliance (SFA)
- d) Ethical Fashion Initiative (EFI)

Correct answer: b) Global Organic Textile Standard (GOTS)

4. Which of the following is NOT a factor that influences customer behaviour in the fashion industry?

- a) Sustainability
- b) Convenience
- c) Comfort
- d) Quality

Correct answer: c) Comfort

5. Which of the following is a trend in customer attitudes towards fashion?

- a) Decreased interest in personalised and unique products
- b) Reduced focus on brand reputation
- c) Growing interest in clothes that reflect cultural identity
- d) Less concern for sustainability and ethical practices

Correct answer: c) Growing interest in clothes that reflect cultural identity

Activity 2: Matching Activity

Match the following sustainable fashion practices with their benefits

- Choosing classic, timeless designs that can be worn for years
- Prioritizing durable, functional, and versatile clothing
- Conscious consumption and careful purchasing decisions
- Supporting brands that prioritize fair labor practices
- Choosing clothes made from organic and recycled materials

Benefits:

- Reducing environmental impact
- Supporting more sustainable and ethical fashion practices
- Reducing waste and promoting circular fashion
- Improving working conditions and fair wages in the fashion industry
- Investing in higher quality pieces that can be worn for a long time

Answers:

Fashion practice	Benefit
Choosing classic, timeless designs that can be worn for years	Investing in higher quality pieces that can be worn for a long time
Prioritizing durable, functional, and versatile clothing	Reducing waste and promoting circular fashion
Conscious consumption and careful purchasing decisions	Reducing environmental impact
Supporting brands that prioritize fair labor practices	Improving working conditions and fair wages in the fashion industry
Choosing clothes made from organic and recycled materials	Supporting more sustainable and ethical fashion practices

7. REFERENCES

Zhang, K. Z., & Benyoucef, M. (2016). Consumer behavior in social commerce: A literature review. *Decision support systems*, 86, 95-108.

Shen, Z. (2023). Mining sustainable fashion e-commerce: social media texts and consumer behaviors. *Electronic Commerce Research*, 23(4), 949-971. <https://doi.org/10.1007/s10660-021-09498-5>

Pinnock, O. (2022). Ethical fashion: A rising trend or empty rhetoric? *Unesco Courier*. Retrieved from <https://en.unesco.org/courier/2022-1/ethical-fashion-rising-trend-empty-rhetoric>.

Vathos Apparel. Retrieved May 2, 2023, from <https://vathosapparel.com/>.

8. EXTERNAL RESOURCES

- Jain, S.A. (n.d.). Consumer Buying Behaviour in Fashion Industry. Textile Learner. Retrieved from <https://textilelearner.net/consumer-buying-behaviour-in-fashion-industry/>: Consumers' buying behavior in the fashion industry is a complex process that includes emotional self-image, impulse purchases, continuously changing fashion, cost, personal circumstances, overconsumption, and lack of awareness, which makes it difficult to change, and plays a crucial role in the success of the fashion business.
- Xiang, X. (2021). Factors That Influence Consumers' Behaviors in Fashion Market. *Open Journal of Business and Management*, 9, 2772-2779. doi: 10.4236/ojbm.2021.96154: This paper analyzes factors that influence consumer behavior in the fashion market, including consumers' needs, social identity, and psychological irrationality, using Maslow's theory of hierarchical needs, social identity theories, and human irrationality theories as a basis for future studies.
- Hambleton, H. (2017). How can consumer behaviour change the fashion industry? *Textile Consult*. Retrieved from <https://textileconsult.wordpress.com/2017/04/28/how-can-consumer-behaviour-change-the-fashion-industry/>: The article discusses how consumer behavior can affect the fashion industry and suggests that consumers can drive change in the industry by

being more conscious of their purchasing habits, demanding transparency and accountability from brands, and supporting sustainable and ethical fashion practices.

1. SUB-MODULE TITLE: Sustainable fashion and consumer behavior in the digital age

- 2.2.1 Online shopping and its influence on fashion consumer behaviour
- 2.2.2 The impact of social media on fashion consumer behaviour
- 2.2.3 The impact of artificial intelligence on fashion consumer behaviour
- 2.2.4 The influence of influencer marketing on fashion consumer behaviour
- 2.2.5 Conclusions

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

This section examines the impact of online shopping, social media and artificial intelligence on the behaviour of fashion consumers. Online shopping has made fashion products more accessible and convenient for consumers, leading to increased competition among fashion retailers. Social media has changed the way fashion brands reach and communicate with their target audience, with influencers and bloggers playing an important role in shaping fashion consumer behaviour. AI has delivered personalised experiences to fashion consumers, including personalised recommendations, targeted advertising and virtual trial technologies. These three factors have transformed the way fashion consumers shop and interact with brands and will continue to shape fashion consumer behaviour in the future.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- Explain the ways in which online shopping has impacted traditional fashion retailing, including the need for stores to adopt online channels.
- Describe how social media has made the fashion industry more accessible to the general public.
- Recall the ways in which AI can influence the behavior of fashion consumers.
- Explain how influencer marketing impacts consumer behaviour in the fashion industry

4. LEARNING CONTENT

Online shopping and its influence on fashion consumer behaviour



Source: Image by rawpixel.com on [Freepik](#)

Online shopping has become an integral part of modern shopping culture, and fashion retailers are no exception. With the convenience of being able to shop from anywhere, at any time, and with access to a huge range of products, online shopping has changed the way consumers interact with fashion brands. As a result, it has had a significant impact on fashion consumer behaviour.

Convenience and accessibility: Online shopping has made it easier for fashion consumers to access a huge range of products from various brands at the click of a button. This has increased convenience and accessibility for consumers, who no longer need to visit physical stores to buy clothes. As a result, they can shop at their own pace and time, from the comfort of their home. This change in consumer behaviour has also impacted traditional stores, forcing them to adopt online channels to reach their target audience.

Increased product discovery: Fashion consumers can now discover new brands and products that they may not have otherwise found in physical stores. This has increased competition among fashion retailers and they now compete not only with their direct competitors but also with other brands offering similar products. With more brands and products available online, fashion consumers are now more likely to experiment with new styles and trends.

Personalization: Online shopping has also enabled fashion retailers to provide personalised shopping experiences for consumers. With access to consumer data, retailers can tailor their offerings to individual customer preferences, making the shopping experience more relevant and engaging. This has also led to an increase in customisation and personalisation options, allowing consumers to design their own products, such as shoes or dresses, using online tools.

Price and offers: Online shopping has made it easier for fashion consumers to compare prices between different brands and retailers. This has increased the price sensitivity of consumers, who are more likely to choose brands that offer the best value for money. In addition, online shopping has also increased the availability of offers and discounts, which have become an important factor in consumers' decision-making process.

Influence of social media: The rise of social media has had a significant impact on the behaviour of fashion consumers. Social media platforms have become a key tool for fashion brands to reach and engage with their target audience. Influencers and celebrities also play a key role in shaping the behaviour of fashion consumers as they promote

brands and products to their followers. This has led to the rise of influencer marketing, where brands partner with influencers to promote their products to a wider audience. Online shopping has transformed the way fashion consumers shop and interact with brands. It has increased convenience, accessibility and personalized experiences for consumers, while increasing competition among fashion retailers. With the rise of social media, fashion consumers are now more connected and engaged with their favourite brands, leading to changes in fashion consumer behaviour. As the fashion industry continues to evolve, online shopping will remain a critical factor in shaping fashion consumer behaviour.

The impact of social media on fashion consumer behaviour



Source: Photo by Georgia de Lotz on [Unsplash](#)

Social media has had a significant impact on the behaviour of fashion consumers in recent years. With the emergence of social networking sites such as Facebook, Twitter and Instagram, the fashion industry has been able to connect with consumers using the latest social networking technology. The fashion industry uses social media to study trends and predict fashion behaviours. Social media has become an effective marketing tool, creating a new dimension of marketing and providing many opportunities for marketers to create brand awareness among consumers.

Fashion designers and brands that realize the true value of social media are the ones that have massive followings. Not only that, but fashion bloggers also have a key role to play in the industry. They are considered thought leaders and have a voice in the industry. Brands rely on fashion bloggers for feedback on their products and act as a link between target consumers and brands. Blogs give designers the opportunity to receive feedback on their collections.

Blogging has created a new muse, providing consumers with the opportunity to connect with the brands they love and adore. Initially, print media was dominant and powerful, but now the power has shifted to consumers and what they consider trustworthy. If they perceive bloggers to be trustworthy, then they are also perceived to be powerful. The fashion industry is now becoming more accessible to the general public, all thanks to social media, which has grown massively in recent years.

For brands and designers who join the social media bandwagon, the benefits are many. In addition to being a free PR tool, social media also connects potential buyers with marketers. Up-and-coming designers, as well as high-end labels, are using social media as one of their marketing strategies. With major brands and designers in the industry using social media to create hype and buzz of fashion shows and events just before their actual launch, it would be safe to conclude that the future of the fashion industry looks promising.

While some brands are still uncertain, others have incorporated social media as a fundamental part of their marketing strategies. The passion with which both consumers and designers alike have embraced social media is staggering. Without a doubt, social media is the hottest fashion trend in today's world and we have every reason to believe in its power and impact on fashion consumer behaviour.

The impact of artificial intelligence on fashion consumer behaviour



Source: [Artificial Intelligence \(AI\) in Fashion Industry](#)

The impact of AI on the behaviour of fashion consumers is significant. AI has changed the way consumers interact with fashion brands and products, providing personalised and seamless experiences that were not possible before.

Personalized Recommendations: One of the main ways in which AI influences the behaviour of fashion consumers is through personalised recommendations. AI recommendation engines analyse a customer's shopping history, preferences and behaviour to recommend products that best match their interests. This not only helps customers discover new items they may have missed, but also makes the shopping experience more efficient and enjoyable.

Targeted Advertising: AI can also influence the behaviour of fashion consumers through targeted advertising. By analysing customer data, AI can predict which types of products a

customer is likely to buy and show them relevant ads. This helps brands maximize their advertising spend and improve the effectiveness of their campaigns.

Virtual Try-On Technologies: Another way in which AI can influence the behaviour of fashion consumers is through virtual try-on technologies. AI virtual try-on technologies allow customers to see how clothes look to them without having to physically try them on. This not only saves time and effort but helps customers make more informed purchase decisions, leading to greater customer satisfaction.

Access to sustainable and ethical products: AI can influence the behaviour of fashion consumers by providing access to more sustainable and ethical products. AI tools can analyse a brand's sustainability credentials and help customers make more informed choices about the products they buy. This helps customers feel good about their purchases and can lead to increased brand loyalty.

AI has the potential to revolutionize the way consumers interact with fashion brands and products. By providing personalized and seamless experiences, targeted advertising, virtual try-on technologies, and access to more sustainable and ethical products, AI can have a significant impact on fashion consumer behaviour.

The influence of influencer marketing on fashion consumer behaviour



Source: Image by [Freepik](#)

In recent years, influencer marketing has become a popular strategy for fashion brands looking to expand their reach and increase sales. By partnering with social media influencers, brands can tap into their engaged and loyal audiences, leveraging their influence to promote products and drive consumer behaviour.

One of the key ways in which influencer marketing affects fashion consumer behaviour is through trust. Influencers have built loyal followings by consistently providing valuable content, connecting with their audience and sharing authentic experiences. As a result, consumers are more likely to trust their recommendations and opinions on fashion products.

In addition, influencer marketing has a significant impact on brand awareness and brand discovery. By partnering with influencers that align with their target audience, fashion

brands can reach a wider audience and introduce their products to new customers. This can be particularly effective for emerging or niche brands looking to enter the market. In terms of buying behaviour, influencer marketing can lead to both online and in-store sales. By showcasing products in their content, influencers can generate interest and excitement among their followers, leading to increased traffic and sales for the brands they work with. In addition, influencers can provide valuable product reviews and feedback, which can help consumers make more informed purchase decisions. However, it is important for fashion brands to choose their partners carefully and ensure that their messages are aligned with their brand values and target audience. Consumers can quickly spot inauthentic or coercive partnerships, which can damage both the brand and the influencer's reputation. Influencer marketing has proven to be a powerful tool for fashion brands looking to reach new customers and drive consumer behaviour. By building trusting relationships with influencers and leveraging their influence, brands can effectively promote their products and increase sales in today's digital age.

Conclusions

Develop a strong online presence: To succeed in the modern fashion industry, you need to develop a strong online presence. You should focus on creating a user-friendly website, maintaining active social media accounts, and developing a strong digital marketing strategy.

Focus on personalization: Consumers now expect personalized shopping experiences. As a fashion entrepreneur, you should also strive to offer personalized shopping experiences to your customers. To do this, collect consumer data and use it to tailor your offerings to individual customer preferences.

Offer competitive prices and promotions: It's important to offer competitive prices and promotions to attract and retain customers, given the convenience of online shopping and the ease with which consumers can compare prices.

Leverage influencer marketing: To increase brand awareness and reach a wider audience, consider leveraging influencer marketing. Partnering with influencers and celebrities can have a significant impact on the behavior of fashion consumers.

Stay on top of trends: Staying on top of trends is critical to remaining competitive in the fashion industry. Conduct market research, attend fashion events, and keep up with industry news to offer innovative products that appeal to your target audience.

5. CASE STUDY

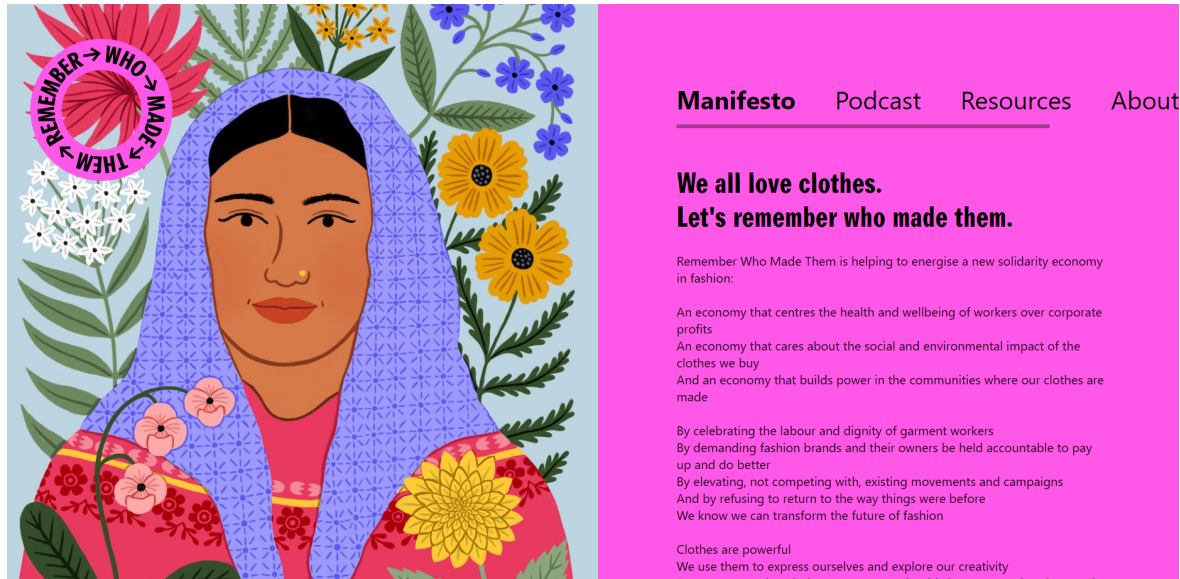
Context:

Amplifying Garment Makers' Voices: The Work of Venetia La Manna and Remember Who Made Them

Description:

Venetia La Manna is a prominent campaigner in the fair fashion movement, known for her advocacy efforts on social media platforms. She actively challenges fashion brands for their detrimental impact on the environment and exposes retailers' unethical practices,

often leading initiatives against major players in the industry. Venetia is a co-founder of [Remember Who Made Them](#), a movement that seeks to invigorate a new solidarity economy within the fashion industry, with a focus on amplifying the voices and concerns of garment makers.



Source: 'Remember who made them' [website homepage](#)

Remember Who Made Them is leading the charge towards a new solidarity economy within the fashion industry, prioritizing the wellbeing of workers over corporate profits, promoting greater social and environmental responsibility in the clothes we purchase, and empowering the communities in which these clothes are produced.

Remember Who Made Them addresses the critical issue of labor and dignity for garment workers, advocating for fashion brands and their owners to be held accountable and to pay fair wages. The movement seeks to elevate existing campaigns and avoid competing with them, while refusing to return to the status quo. By transforming the future of fashion, *Remember Who Made Them* recognizes the power of clothing as a means of self-expression and creativity, but emphasizes the importance of remembering the people behind the garments we wear.

Lesson Learnt:

The story of Venetia La Manna and Remember Who Made Them highlights the critical importance of sustainability in the fashion industry, and the power of digital media to support change. The lesson learned is that the fashion industry needs to prioritize the well-being of workers over corporate profits, promote greater social and environmental responsibility, and empower the communities in which the clothes are produced. In addition, the fashion industry must be accountable for its practices and pay fair wages to its workers. Social media and digital platforms can be powerful tools for activists and campaigners, allowing them to expose unethical practices and mobilise support for their cause. By supporting fair fashion initiatives and advocating for sustainability, we can transform the future of the fashion industry and create a more just and equitable world.

6. PRACTICAL ACTIVITIES

Activity 1: Matching Activity

Match the following impact of online shopping on fashion consumer behavior with their corresponding description:

1. Convenience and accessibility
2. Increased product discovery
3. Personalization
4. Price and offers
5. Influence of social media

- A. Fashion consumers can now compare prices between different brands and retailers easily, and are more likely to choose brands that offer the best value for money.
- B. Fashion retailers can now provide personalized shopping experiences for consumers based on their individual preferences, leading to a more engaging and relevant shopping experience.
- C. Online shopping has made it easier for consumers to access a huge range of products from various brands at any time and from anywhere.
- D. Online shopping has increased competition among fashion retailers and has encouraged consumers to experiment with new styles and trends.
- E. Social media platforms have become a key tool for fashion brands to reach and engage with their target audience, and influencers and celebrities have a significant impact on shaping the behavior of fashion consumers.

Answers:

1-C, 2-D, 3-B, 4-A, 5-E

Activity 2: Multiple choice questions

1. How do AI recommendation engines influence fashion consumer behaviour?
 - a) By analyzing customer data to show them relevant ads
 - b) By providing access to more sustainable and ethical products
 - c) By analyzing a customer's shopping history and preferences to recommend products that best match their interests
 - d) By allowing customers to see how clothes look on them without having to physically try them on

Answer: c

2. How does AI use targeted advertising to influence fashion consumer behaviour?
 - a) By analyzing a customer's shopping history and preferences to recommend products that best match their interests
 - b) By predicting which types of products a customer is likely to buy and showing them relevant ads
 - c) By allowing customers to see how clothes look on them without having to physically try them on
 - d) By analyzing a brand's sustainability credentials and helping customers make more informed choices about the products they buy

Answer: b

3. How do virtual try-on technologies influence fashion consumer behaviour?

- a) By analyzing customer data to show them relevant ads
- b) By providing access to more sustainable and ethical products
- c) By allowing customers to see how clothes look on them without having to physically try them on
- d) By analyzing a brand's sustainability credentials and helping customers make more informed choices about the products they buy

Answer: c

4. How does AI provide access to more sustainable and ethical products for fashion consumers?

- a) By analyzing customer data to show them relevant ads
- b) By providing access to virtual try-on technologies
- c) By analyzing a customer's shopping history and preferences to recommend products that best match their interests
- d) By analyzing a brand's sustainability credentials and helping customers make more informed choices about the products they buy

Answer: d

7. REFERENCES

- Ahmad, N., Salman, A., & Ashiq, R. (2015). The impact of social media on fashion industry: Empirical investigation from Karachiites. *Journal of resources development and management*, 7.
- Wenzl, M. (2021). Understanding Online Consumer Behaviors for a Better Customer Journey. <https://www.shipbob.com/blog/online-consumer-behavior/> [2021, 25 December].
- Certilogo. (2022). The impact of artificial intelligence on fashion industry. Certilogo Insights. <https://discover.certilogo.com/blogs/insights/impact-of-AI-on-fashion-industry>.
- Wholey, A. (2022). How Influencer Marketing Affects Consumer Buying Behavior. Freelance contribution especially written for Find Your Influence. <https://findyourinfluence.com/how-influencer-marketing-affects-consumer-buying-behavior/>.
- Venetia La Manna website. <https://venetialamanna.com/>.
- Remember who made them website. <https://rememberwhomadethem.com/>.

8. EXTERNAL RESOURCES

- Imago (2023). How Artificial Intelligence is changing the fashion industry. <https://immago.com/ai-fashion-industry/>: This article outlines how AI is changing how products are designed, manufactured and sold.
- Liang, Y., Lee, S.-H., & Workman, J. E. (2020). Implementation of Artificial Intelligence in Fashion: Are Consumers Ready? *Clothing and Textiles Research Journal*, 38(1), 3–18. <https://doi.org/10.1177/0887302X19873437>: The study aims to examine consumers' attitudes and purchase intentions towards an AI device, Echo Look, and found that perceived usefulness, perceived ease of use, and performance risk significantly influenced consumers' attitudes, which in turn positively impacted their purchase intentions.

- Dhillon, K. (2023). The influence of fashion bloggers and influencers on consumer behavior: examination of the impact that fashion bloggers and influencers have on consumers' purchasing decisions, brand perception, and personal style. *Academy of Marketing Studies Journal*, 27(S5), 1-9.: A survey of 500 people who follow fashion bloggers and influencers on social media showed that they significantly impact consumer behavior, affecting shopping choices, brand awareness, and fashion preferences.

9.WORKSHEET

Giveaways:

1. *Fashion brands need to understand evolving consumer demands for transparency, personalization, sustainability, and convenience. Success hinges on aligning strategies with these demands, maintaining a strong brand reputation, and keeping pace with the 'slow fashion' trend.*
2. *Fashion consumer behaviour is shaped by online shopping, social media, AI, and influencer marketing. Brands should harness these tools for tailored experiences and targeted advertising. Staying current with trends, offering competitive pricing, and leveraging digital insights are critical for success in the contemporary fashion market.*

*Activity for self-reflection: Reflecting on **online shopping***

*Use the following questions to explore your **online shopping behaviour and patterns.***

Convenience: How has it affected your shopping habits?

Discovery: Mention a brand or style you discovered online.

Personalization: Have you ever customized an online purchase?

Pricing: Does comparing prices online influence your purchasing decisions?

Social media influence: Has a social media post ever led you to make a purchase?

Case study

*Social media and digital platforms can be powerful tools for activists and campaigners, allowing them to expose unethical practices and mobilise support for their cause. **Venetia La Manna**, a leading advocate in the fair fashion movement, co-founded **Remember Who Made Them**, a campaign that uses digital media to promote a solidarity economy in the fashion industry, prioritizing worker wellbeing, fair wages, environmental responsibility,*

and community empowerment, thereby demonstrating the power of activism to create sustainable change in the fashion world.

MODULE TITLE
3. Understanding the supply chain and sourcing
SHORT MODULE DESCRIPTION
<p>Knowing and managing your supply chain is very important to make sustainable choices in terms of materials, suppliers, manufacturers. Even if you do not directly manage all the stages of the production of your products, you are still involved in them and must take responsibility for how they take place, track the history of materials and production, and ensure that your suppliers work to certain standards, socially and environmentally. Certifications are therefore essential to ensure how a certain fabric or product is made, how a factory or even your own brand works. Sharing this information transparently, supported by clear and accurate data contributes to the development of a truly sustainable industry.</p>
TOPICS FOR COLLABORATIVE FORUM
<ol style="list-style-type: none"> 1.How do you choose companies to collaborate with? What aspects do you take into consideration? 2.Which are the main challenges you have in terms of sourcing and manufacturing? 3.Do you communicate your commitment to sustainability through clear and precise data? 4.Are you using any traceability systems or tools? 5.Do you have any certifications for the materials and suppliers you work with?

10. SUB-MODULE TITLE
1.4. Transparency and traceability
11. INTRODUCTION (SUB-MODULE DESCRIPTION)
<p>Globalization has led to the fragmentation of the supply chain, displacing a great part of the manufacturing that was originally carried out locally to developing countries, searching for low cost labor and proximity to sources of raw materials. In this scenario it is difficult to keep trace of all the production cycle. This contributed to the creation of an opaque system, where information about processes and suppliers are difficult to obtain, often hiding terrible working conditions. It is essential for fashion brands to adopt structured strategies to implement traceability and transparency in their business, collect reliable information about their production chains and share them with all the actors in the field, in order to identify where fashion has negative environmental and social impacts and therefore be able to address a positive change.</p>
12. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- a. Identify the different stages of the supply chain
- b. Acquire tools to improve traceability
- c. Distinguish transparent communication from greenwashing

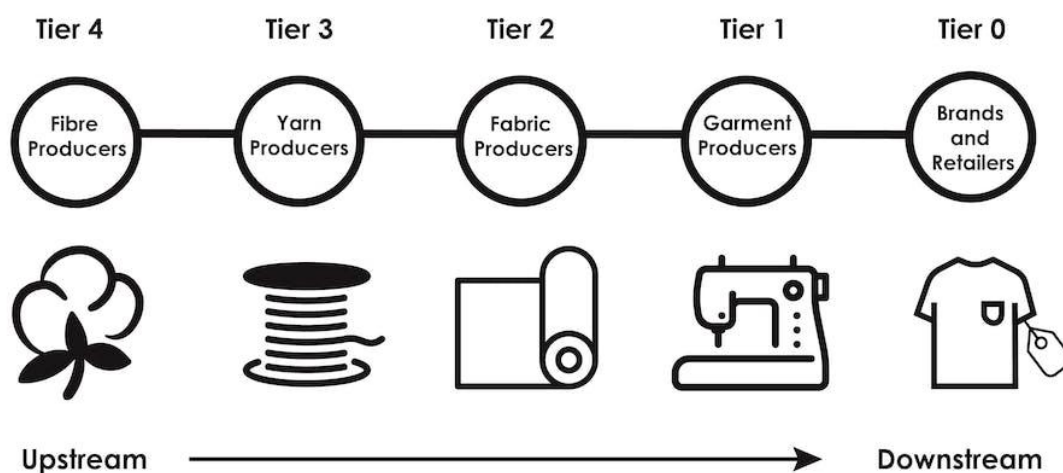
13. LEARNING CONTENT

The complexity of the supply chain

When we talk about the production chain, we are referring to all the steps from the raw material to the finished garment.

Today, the fashion supply chain is a dense chain of suppliers and sub-suppliers scattered from one side of the planet to the other; it is difficult to know them and monitor them. Globalization played a big role in this, allowing production to be optimized by distributing it to very different geographical areas. Without this dislocation, it would be impossible to bring dozens of collections a year to the shops at the cheap prices of fast fashion. We know that this production model has a huge impact, environmentally and socially, and this complexity and opacity of the value chain makes it difficult to identify where such impacts occur and to devise necessary targeted actions.

Although there is no single model of a fashion supply chain, since its products are so different from each other and therefore follow different processes, simplifying a lot we could have a similar structure, where every Tier is a different level:



Source: [UTS](#)

- Tier 0: design, logistics, marketing
- Tier 1: final product making
- Tier 2: fabric manufacturing
- Tier 3: raw material processing
- Tier 4: raw material production, e.g. cotton cultivation

On average, in Tier 1 alone, each structured brand has a network of between 300 and 3000 suppliers, each of which in turn has between 50 and 200 others.⁵

⁵ Francesca Rulli, *Fashionisti Consapevoli: vademecum della moda sostenibile*

The landscape with which the brands are confronted is therefore extremely complex and made up of very different actors and sustainability issues: a company that deals with cotton cultivation has completely different environmental issues than a company that deals with cutting and tailoring, for example.

Moreover, being millions of kilometers apart, these companies are usually subject to different regulations and for a single brand it is difficult to follow all of them and make sure they are respected.

Traceability

Professor Marina Romana Rinaldi, in her book *“Fashion Industry 2030. Reshaping the future through Sustainability and responsible innovation”*, provides us a clear definition of what it is traceability: « Traceability is understood as the ability to trace the history, application or location of an object' in a supply chain. In this context, it is defined as the ability to identify and trace the history, distribution, location and application of products, parts and materials, to ensure the reliability of sustainability claims, in the areas of human rights, labor (including health and safety), the environment and anti-corruption and 'the process by which enterprises track materials and products and the conditions in which they were produced through the supply chain. »⁶



Source: [unsplash](#)

Traceability transmits data about the various components of a product, as well as information about its processes all along the value chain. It ensures the accuracy of information such as quality, compliance with regulatory standards and the respect of social and environmental best practices. In particular, it helps labels and participants in the supply chain to know when and to whom orders

⁶ Francesca Romana Rinaldi, *Fashion Industry 20230, Reshaping the future through sustainability and responsible innovation*, p.68

are outsourced or subcontracted and can be used to monitor the movement of orders across the various geographical regions.

Although legislation, particularly in Europe with the due care requirement, encourages companies to find out more about the origins of their materials and show the conditions under which they are made, traceability remains a voluntary action, and is currently unregulated and this often results in marketing actions rather than substance.

In the absence of information, none of us know what is happening and what is damaging our planet and people, and what could be done to limit this.

Monitoring the supply chain makes it possible to verify the compliance of each stage of production with national and international regulations; it helps identify opportunities for efficient and sustainable management of resources, as well as risks for health, the environment and labor rights; it makes it possible to improve the reliability and reputation as a brand; to take more responsible decisions regarding the partners with whom to collaborate; to manage all suppliers efficiently and to optimize costs and risks related to fragmentation and dislocation.

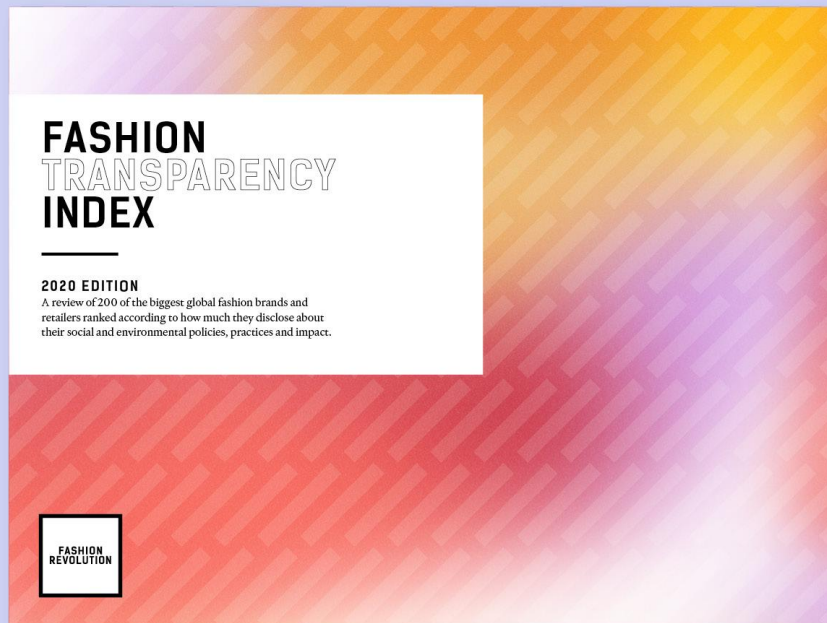
Even if a brand does not manage all the steps in the production of its products directly itself, it is anyway involved in them and has to take a responsibility in how they take place.

A brand that decides to relocate production to countries that are not regulated by minimum standards to protect the environment and workers, should compensate for any regulatory shortcomings, and take personal responsibility for sustainability along the supply chain, imposing rules on its suppliers and making sure they are respected.

Current situation and obstacles

Each year Fashion Revolution compiles the **Fashion Transparency Index**, a report that rates companies on their commitment to transparency and traceability. The index ranks 250 brands with annual turnover of at least \$400 million on the information they publicly disclose about sustainability across 246 topics, from animal welfare and biodiversity to working conditions and recycling.

HOW TRANSPARENT ARE THE 250 BIGGEST FASHION BRANDS?



FASHION TRANSPARENCY INDEX 2020
www.fashionrevolution.org/transparency

Source: [Fashion revolution](https://www.fashionrevolution.org/transparency)

Although the overall score increased by 2 percentage points in 2020, there is still a lot to be done, as many companies do not even reach a 20 % score.

Supply chain responsibility is a recent subject and requires major investments from brands, which is why supply chains are still unknown. Added to this is the fact that until now, the logics that have guided market choices have been strongly related to a better value for money.

The right application of traceability principles requires the active collaboration of all the partners involved in the same production network. The many intermediaries and the multiple stages in development complexify data collection.

Traceability is still challenged by a lack of transparency in the industry and the complexity of actually gathering the information. Without tools specifically for that purpose, retracing the chain of development is a complicated task.

This is also linked to the low level of technology of many of the actors involved, e.g. artisans working in small workshops or even at home, a situation that is widespread in Italy, or factories in some Asian countries. If they were asked to implement blockchain to track processes, these actors would

probably find it difficult: without computers, an internet connection, software and the skills to use them, it would be very difficult to collect information in a structured and organic way.

Another big obstacle to transparency and traceability is related to privacy and data security. The need to monitor supply chains for environmental and social standards clashes with the need to protect one's trade secrets. Suppliers generally have an interest in keeping their processes and partners as confidential as possible.

What can a brand do to improve traceability?

Streamlining these processes is certainly a way to facilitate traceability: simplify the materials used, to focus on better overall management of its value chains; favoring vertically integrated suppliers and limiting the number of partners and intermediaries.

The OECD (Organization for Economic Co-operation and Development) has defined guidelines on how to trace the supply chain according to the requirements of the International Labor Organization. Given that suppliers are scattered across the globe, how does a brand verify that these principles are applied?

There are various platforms, such as the BSCI, Business Social Compliance Initiative, Higg Index, 4 sustainability, which collect data on certain parameters, such as employees, occupational safety measures, expected overtime hours, accidents, etc. of supplier companies. In this case, a brand can choose, for the same service provided, the suppliers that are more responsible towards their workforce.

Strive to trace materials back to their origin, collecting and securing data. The most popular technologies in this regard are blockchain and markers at the heart of the material.

Like a digital passport, blockchain is a centralized and secure digital ledger, presented as impossible to falsify, which allows information to be collected and combined as the product develops. Crystalchain, Trustrace, Textile Genesis™ and others accompany a range of labels, suppliers and operators in their efforts to authenticate transactions.



FiberTrace, Source: [Climate-pact Europa](#)

A more experimental but expanding technique is represented by Applied DNA Science's molecular markers and FiberTrace's luminescent nanoparticles, which allow information to be stored in the fibers, through tracers embedded within the material that resist the various treatments and steps in the production process.

A real asset for the leather industry is laser marking, which inserts a code on the surface of the material without altering it, allowing the leather to be traced from the slaughterhouse and during the tanning and finishing processes.

Transparency

An implicit element of traceability is transparency, i.e. sharing relevant information about the product and the processes needed to make it, to all the actors involved, in a clear, accessible and standardized way. This means to share clear and comparable data, rather than generic claims of sustainable approaches, better if supported by a certification issued by an external reliable institute. For example, certifications, documentation of the percentage of specific sustainable materials contained in the product, measurement of Product Environmental Footprint, the CO2 footprint report.

Presenting the information in a standardized form supports common understanding, accessibility, clarity and comparison, and fosters credible communication towards consumers and the public.

Transparency is not to be confused with sustainability. However, without transparency, achieving a sustainable and fair fashion industry will be impossible.

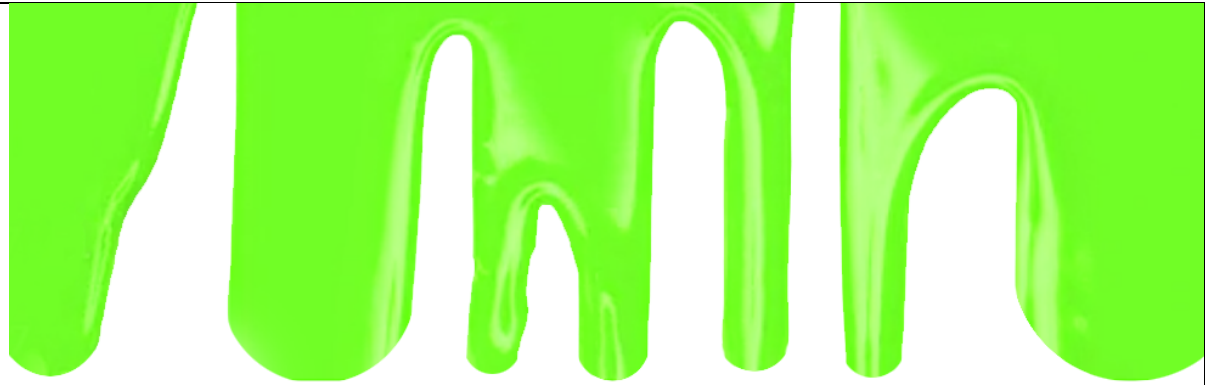
Marina Romana Rinaldi states that key actors in the industry have identified how “the public disclosure of credible, comprehensive, and comparable information about fashion’s supply chains, business practices and impacts on workers, communities and the environment is crucial to driving systemic change. Transparency enables investors, lawmakers, journalists, NGOs, trade unions, workers, and their representatives to hold brands and retailers to account by:

- Scrutinizing what companies say they are doing to address human rights and protect the environment,
- Holding brands and retailers accountable for their policies and practices, which is especially important when things go wrong, like they did when Rana Plaza collapsed,
- Collaborating to cease, mitigate, prevent and remedy environmental and human rights abuses,
- Collaborating to share strategies and best practice on these issues “.⁷

At the end of March 2022, the European Commission approved the European Strategy for Sustainable Textiles, with the aim of reducing the negative environmental and social impact of products during their life cycle and making the information needed to make informed purchasing choices more accessible. The regulation also envisages for the future a digital passport for textile products, which would allow information about the product, such as materials, supply chain but also disposal, to be recorded and shared with companies, authorities and consumers . To bring this initiative to fruition, the textile labelling regulation will also be reviewed.

Greenwashing

⁷ Francesca Romana Rinaldi, *Fashion Industry 20230, Reshaping the future through sustainability and responsible innovation*, p.21



TOO **GREEN** TO BE TRUE? 5 WAYS TO IDENTIFY **GREENWASHING**



Source: [Climate-pact Europa](#)

Recent data from the European Commission shows that many fashion brands and retailers are guilty of greenwashing and exaggerating their sustainability credentials without evidence.

This is what we define as “greenwashing” : companies giving a false impression of their environmental impact or benefits.

For examples, many brands make a wide range of claims about the fibers they use without providing evidence of their environmental credentials.

Consumers should also pay attention to the meaning of labels and certifications (see next chapter): there are more than 200 environmental labels active in the EU, and more than 450 active worldwide, some of these methods and initiatives are reliable, some not.

Brands may also claim that their products are sustainable, taking into account only certain components of their products, e.g. by talking about materials and environmental aspects, but leaving out processes and social aspects, and thus sharing misleading information.

This unclear and inconsistent attitude between words and actions also affects social commitment. Many major fashion brands have publicly supported social causes, for example in solidarity with movements such as Black Lives Matter and Stop Asian Hate on social media. This support must translate into responsible action in addressing discrimination and inequality in their operations and supply chains.

However, Fashion Transparency Index reports that only 3% of brands voluntarily disclose the annual ethnic pay gap in their operations and only 8% publish their actions on racial and ethnic equality in their supply chains.⁸

This is particularly surprising considering that huge volumes of production take place in regions where issues of migration, caste and ethnicity facilitate labor abuse and exploitation, such as in

⁸ Fashion Transparency Index 2022 , p.11

India, Bangladesh, Pakistan, Nepal and Sri Lanka. In India, for example, home-based garment workers are almost entirely women and girls from historically oppressed ethnic communities who suffer high volumes of exploitation; or workers from a lower caste community are targeted by recruiters of migrant garment workers.

Greenwashing misleads market players and does not give the right value to companies that really make an effort to green their products and processes. Ultimately, it damages attempts to move towards a greener economy.

To address this problem, the European Strategy for Sustainable Textiles gives directives on greenwashing. The regulation states that environmental claims that are not supported by tools for measuring environmental performance, such as recognized certifications, will be banned, and voluntary sustainability labels covering environmental or social aspects will have to be based on third-party verification or be established by public authorities.

While the European Union is thinking about how to set up these directives, the Kering group has just released a "Guidance for Sustainability Claims", as part of the group's guide for sustainability strategy, that explore many aspects of sustainability communication, such as the use of precise and verifiable claims, that do not misuse images related to nature. All brands belonging to the group will have to comply with a series of precise guidelines to make their communication to consumers more transparent.

Ultimately, it is essential that environmental performance declarations of companies and products are reliable, comparable, and verifiable across the EU, to encourage market actors - consumers, businesses, investors - to make greener decisions.

14. CASE STUDY

Cotton production in Xinjiang



Cotton workers in Xinjiang , Source: [BBC](#)

CONTEXT:

After polyester, cotton is the second most widely used fiber for clothing production, and many fast fashion and sportswear brands above all, but also luxury brands, source from Chinese companies.

DESCRIPTION

One fifth of the world's cotton supply and 85% of China's cotton is harvested in the Xinjiang region of China. Harvesting and processing it, is an army of more than half a million slaves belonging to the Islamic ethnic minority of the Uighurs.

In addition to work in the fields, to which more than a million people are believed to have been assigned, the minorities are also forced to work in textile factories.

Numerous international NGOs have denounced situations of human rights violations, speaking of torture, violence and forced sterilization.

The Chinese government denies the allegations, insisting that the camps are 'vocational training schools' and the factories are part of a massive and voluntary 'poverty alleviation' program despite the evidence reported by NGOs.

The US has banned products made in Xinjiang since July 2021, while the French justice system has opened an investigation for crimes against humanity against several fashion groups, following a complaint filed by several NGOs and humanitarian associations.

Despite being called to account, many brands have not spoken out clearly on the matter: some have denied having direct business relations with the suppliers involved, others have claimed to have no information regarding their suppliers' subcontractors or have distanced themselves by saying that they had signed charters of good conduct banning forced labor in their production chains prior to the scandal.

This situation is possible because brands are not held legally responsible for the bad practices of their suppliers.

These arguments put at the center of the debate the question of corporate responsibility for the lack of knowledge of their supply chain.

Strict rules are needed to regulate the human rights conduct of companies in order to identify and prevent abuses arising from their business activities along the supply chain. But if such violations come to light, it is imperative to implement effective and immediate remedial actions and take action on their own.

LESSON LEARNT

This happens in the region of Xinjiang, but in other parts of the world workers in the fashion industry are subjected to forced and hazardous labor.

Any brand who cares about ethics should ask and get as much information as possible about their suppliers and source materials with certifications from competent and reliable institutions, to not support this kind of situations.

Under the shining surface of fashion there are often injustices and violations, we all need to start questioning how we work.

Ganni Provenance®

CONTEXT:

It is difficult for consumers to figure out which product is more sustainable; they often lack the tools and/or time to do so. Greenwashing does not facilitate responsible purchasing choices, while certain brands sharing vague and unverified information that does not

DESCRIPTION:

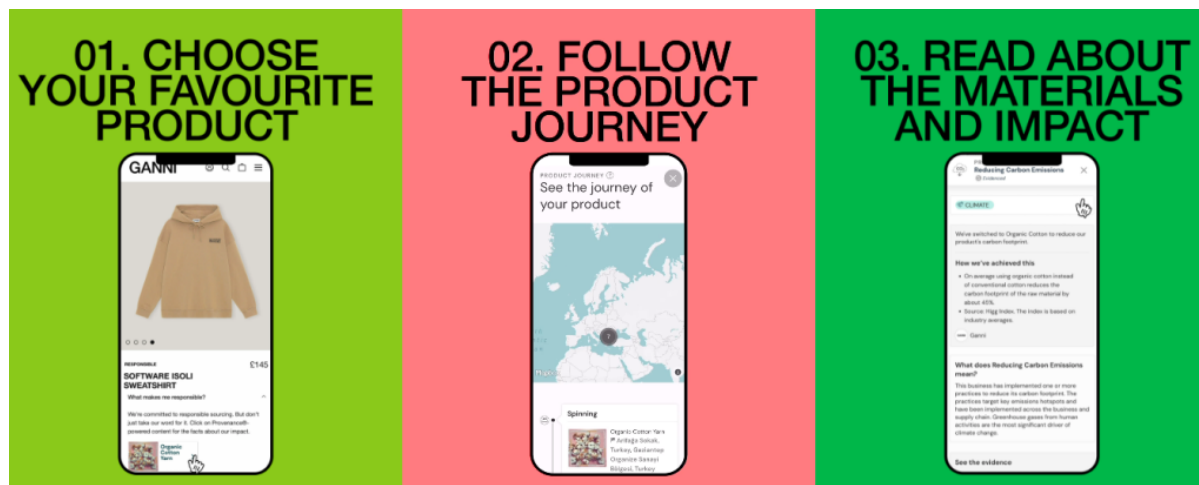
The brand, in order to protect its customers from greenwashing, has chosen to rely on Provenance®, a transparency technology solution for reliable sustainability claims. In fact, every Provenance®-based claim is backed by easily searchable third-party evidence and verification.

Information about materials and companies is available for several items in the collection.

Once the product is selected, it is possible to click on the Provenance® icon and see the various stages of its supply chain, from design, through yarn spinning, fabric making, garment production - in short, all the companies where the product was processed.

In doing so, Ganni makes it easier for customers to consciously inform themselves and make responsible purchasing choices.

With the slogan "We believe in being honest not perfect," Ganni shares its sustainability journey in a transparent way, even where its practices are not perfect, showing the difficulties of this journey and sharing it with its customer.



Ganni Provenance, Source: [Solomodasostenibile](https://www.solomodasostenibile.com)

LESSON LEARNT

Sustainability should be approached as a continuous improvement process made up of small steps and you should not be afraid to show the difficulties relate to it.

The modern consumer is increasingly attentive to these issues; their active involvement is perceived as a form of authenticity, which creates a sense of trust in the brand.

15. PRACTICAL ACTIVITIES

TRUE OR FALSE

1. There is one single model of supply chain in the fashion system. (FALSE)
2. Traceability transmits data about the various components of a product, as well as information about its processes all along the value chain. (TRUE)
3. Traceability regarding materials is still a voluntary action. (TRUE)
4. Suppliers generally want to keep their processes and partners as confidential as possible. (TRUE)
5. The many intermediaries and the multiple stages in the supply chain facilitate a transparent and sustainable system. (FALSE)
6. Greenwashing favorites the development of a greener economy. (FALSE)
7. Limiting the number of materials used and favoring vertically integrated suppliers helps shaping a more traceable process. (TRUE)
8. Blockchain is a centralized and secure digital ledger, which allows information to be collected and combined as the product develops. (TRUE)
9. Through laser marking it is possible to insert a code on the surface of leather products and trace them through the various steps of the finishing process. (TRUE)

SINGLE CHOICE SET

1. To be truly transparent, you need to:
 - d. Communicate clear data about your processes and materials
 - e. Share your mission
 - f. Make green claims
2. FiberTrace is:
 - a. A new sustainable fiber
 - b. A system which allows information to be stored in the fibers
 - c. A cotton factory
3. To improve traceability you should:
 - a. Work with a huge number of partners and suppliers around the world
 - b. Limit the number of partners and intermediaries, favoring vertically integrated suppliers
 - c. Stop dyeing your garments
4. Fashion Transparency Index communicates:
 - a. Fashion companies' commitment to transparency and traceability
 - b. Fashion companies' sustainability scores
 - c. List of sustainable materials' suppliers
5. Monitoring the supply chain:
 - a. Affects the sustainable management of resources
 - b. Guarantees the efficiency of your partners
 - c. Facilitates more responsible choices regarding the partners with whom to collaborate

Answers:

1. To be truly transparent, you need to communicate clear data about your processes and materials.
2. FiberTrace is a system which allows information to be stored in the fibers.

- 3.To improve traceability you should limit the number of partners and intermediaries, favoring vertically integrated suppliers.
- 4.Fashion Transparency Index communicates fashion companies 'commitment to transparency and traceability.
- 5.Monitoring the supply chain facilitates more responsible choices regarding the partners with whom to collaborate.

DRAG THE WORD

WORDS: blockchain, greenwashing, technology, traceability, supply chain

...is still challenged by a lack of transparency of in the industry and the complexity of gathering the information.

Retracing the chain of product development is a complicated task, also because of the low level of ...many of the actors involved.

Like a digital passport, ... allows information to be collected along the ... and combined as the product develops.

... does not give the right value to companies that really try to improve their products and processes in a sustainable way.

Answers:

Traceability is still challenged by a lack of transparency of in the industry and the complexity of gathering the information.

Retracing the chain of product development is a complicated task, also because of the low level of technology many of the actors involved.

Like a digital passport, blockchain allows information to be collected along the supply chain and combined as the product develops.

Greenwashing does not give the right value to companies that really try to improve their products and processes in a sustainable way.

16. REFERENCES

Romana Rinaldi, F. (2019). *Fashion Industry 20230, Reshaping the future through sustainability and responsible innovation*. Milano: Bocconi University Press.

Rulli, F. (2021). *Fashionisti Consapevoli: vademecum della moda sostenibile*. Palermo: Dario Flaccovio Editore.

Simpliciano L., Galvin M., Barry C., Williot D. (2022). *Fashion Transparency Index* [Fashionrevolution](#)

Various authors (March 2022). *A look at the industry's major challenges with Première Vision*. [Refashion](#)

(19 February 2021). *Il punto sulla tracciabilità nel fashion*. [FeelTheYarn](#)

Initiative on substantiating green claims European commission.

[Environment initiative europa](#)

Circular economy action plan 2020. [Environment plan europa](#)



Gambi, S. (5 October 2022). *Claims relativi alla sostenibilità, Kering approva la sua policy contro il greenwashing.* [solomodasostenibile](#)

Gambi, S. (31 marzo 2022). *Alla scoperta della nuova strategia per il tessile sostenibile.* [solomodasostenibile](#)

Gambi, S. (19 May 2022). *Cosa prevede la richiesta di regolamento sulla Sustainable Product Initiative e cos'è il Digital Passport.* [solomodasostenibile](#)

(24 January 2021). *Se il cotone cinese dei nostril abiti è raccolto dagli schiavi uiguri. La rivelazione che ci costringe a riflettere.* [Repubblica](#)

Guinebault , M. (12 April 2022). *I marchi che non hanno mai risposto alle accuse di lavoro forzato degli uiguri.* [Fashionetwork](#)

GANNI, TRANSPARENCY WITH PROVENANCE. [Ganni](#)

Gambi, S. (14 ottobre 2022). *La trasparenza prima di tutto: alla scoperta di Ganni.* [solomodasostenibile](#)

17. EXTERNAL RESOURCES

[Sourcery](#) , sourcing service that connects brands and suppliers directly to growers

[FibreTrace](#), fiber's tracing system

[4sustainability](#) , sustainability reporting label

[Apparel Coalition](#) , standardized measurement of value chain sustainability

[Kering](#) , Kering Guide for its sustainability strategy, including a Guidance for Sustainability Claims

[Environment Europa](#) , EU strategy for sustainable and circular textiles

9. SUB-MODULE TITLE

1.5. Sourcing of materials and producers

10. INTRODUCTION (SUB-MODULE DESCRIPTION)

This module is a very broad overview of the world of sourcing, which can include both materials and producers. Usually it's one of the issues most young designers and brands have a lot of problems with, as the information is complex and often mystifies. This module is meant to be a very practical guide to the ins and outs of finding the suppliers for a sustainable fashion business.

11. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- Have an overview of all major European fashion trade shows
- Have a productive fair visit
- Be able to source materials and producers independently

12. LEARNING CONTENT

Sourcing of materials and producers

Armed with your framework of what you need from a supplier in terms of both product price, quality, quantities, sustainability criteria and certifications you now need to find suppliers for your materials and production, whether you are creating clothing, accessories, jewelry or footwear.

Finding a supplier can be tricky, especially if you are small, but don't be put off, it is possible. There are a variety of ways of doing this; trade shows, peer recommendations, online catalogues, agents, showrooms or supplier marketplace platforms, stockists or fabric shops. We will be focusing on Trade shows and agents.

Trade Shows

What is a trade show? A trade show is an event where a variety of professionals of a specific industry meet, connect, show, sell and buy, they are places to display the latest achievements, exchange information and technologies, hold workshops, and gather experts. Events like these provide a variety of opportunities for industry actors and are drivers of industry growth.

Trade shows of the fashion industry include all stages of the supply chain: they range from the industrial machinery, to the materials, to the production suppliers, to the distribution of end product.



Premiere Vision Fair, Source: [paris.premierevision](https://paris.premierevision.com)

The allow to maximize:

Quality:

Trade shows are known for bringing together some of the best supply chain partners in the world to one (mainly) easy to navigate location. That is because not just anyone can exhibit in a trade

show. Exhibitors not only pay fees that start from thousands of Euros to participate, but they also need to apply and be approved. Going to a textile trade shows makes meetings with lots of suppliers in the span of a day or two possible. You can then go home, think about everyone you met and decide who is the best fit for you.

Time:

Sifting through each supplier's website in search of the perfect product can be a lengthy and often unfruitful process because quite often suppliers do not have the full or updated catalogue online. In the past a lot of producers and suppliers didn't even put the energy into their website because they have so much more traffic and traction from tradeshow or individual showroom visits. So visiting them in person will allow you to see everything in one place, ask your questions there and then, and choose which samples you want to see.

Network and inspiration:

In recent years trade shows have evolved to become multifaceted events, which include curated sector relevant exhibitions with mood and trend areas that could give you the chance to understand the wider industry and be inspired. Presentations, panels, awards, talks, educational moments, the speaker stages are a highlight, bringing together trending themes from across the design industry, and case studies with brands. Here you may discover a mill or innovator that you otherwise may not have heard of, and it will direct you to where you can find them - it'll also give you a talking point on their stand.

Europe's Most Relevant Trade Shows

Milano Unica

Milano Unica is a textile fair which takes place twice a year in Milan and is a reference point for the textile and accessories sector. It is attended by most significant high-end Italian and European producers of menswear, women's collections, accessories and many innovative fabrics, it also features the producers of the Japan and Korea Observatories.

With the Sustainability Project, the event focuses on and increases the visibility of the companies engaged in the implementation of sustainability-oriented innovations. The event features numerous curated areas, like the Tendenze (trends) area, with focuses on upcoming and future trends. The projects and special areas offer insights and knowledge on each aspect of the fashion industry and particular attention is paid to projects that involve young talents and students of fashion schools.

Munich Fabric Start

Munich Fabric Start is one of the largest European textile trade fairs, takes place twice a year in Munich and attracts over 20,000 people. It features a high-quality portfolio of multinational fabric and accessory manufacturers showing their latest advances and ideas. Showcasing over 1,800 collections in a full spectrum of textiles, accessories, finishings, and sourcing solutions, as well as delivering specialist information and inspiration.

Première Vision Paris

Première Vision Paris is a world-renowned event that brings together the entire fashion industry twice a year. Nearly 62000 visitors from all around the world will come to Paris to get inspired and

expand their business in this sector. Premiere Vision Paris consists of 6 different shows and 6 business activities that are PV Yarns, PV Fabrics, PV Leather, PV Designs, PV Accessories and PV

Pitti Filati

Pitti Filati brings together Italian and international yarn manufacturers to present their collections twice a year. The section features a diverse combination of big names, historic companies that have always supported the mission of the fair, along with new entries and manufacturers with a global reach. Pitti Filati highlights the experimental directions in the knitwear industry designed by both rising designers and students.

Lineapelle

Lineapelle is an international trade exhibition for the tannery and leather goods sector, it is the most important international exhibition dedicated to leather, accessories, components, synthetics, and models for footwear, leather goods, garments, and furniture. Lineapelle which is held twice yearly in the fair district of Milan, Italy: in February for the following year's Spring/Summer season and in September for Fall/Winter covers an area of around 45,500 m² and features around 1,300 exhibitors and 20 thousand visitors from more than 100 countries. The trade show and its connected events showcases the high quality of the exhibiting companies, with their outstanding style and customer service.

Techtextil

Techtextil is the leading international trade fair for technical textiles and nonwovens. Twice a year international exhibitors showcase the full range of technical textiles, functional apparel fabrics, and textile technologies at Techtextil in Frankfurt am Main.

Techtextil is held concurrently with Texprocess, the largest trade show for the garment manufacturing and textile processing industries. It is a trade fair that features a full range of applications for architecture, automotive, construction, clothing, personal protective equipment, aviation and aerospace, medicine, furniture, and sports.

ITMA

ITMA, brings the industry together every four years to show off the latest textile and garment processing technologies, machinery, and materials, as well as foster collaborations and partnerships. It is known as the textile and garment technology industry's "Olympics." It is the world's largest international textile and garment technology exhibition, showcasing technologies that will assist textile and garment manufacturers to transform and grow their businesses.

For designers and brands it is fundamental to see what will happen in the future of textile and to see what will be possible in the upcoming years. But it is also the location to meet important decision-makers from the world's top textile and garment companies and leading brand owners, acquire market intelligence, and form collaborative connections with a worldwide audience in attendance.

HOW TO MAKE THE MOST OF A VISIT TO A FAIR

Nowadays fairs are multi-day, complex events where numerous players have significant roles. This gives designers, suppliers, visitors and even students unprecedented opportunities to meet, interact and learn, but can also cause confusion, a feeling of being overwhelmed and powerless and if one does not come prepared.

The best way to come prepared is to plan, and planning starts with deciding, according to ones ambitions, needs, but also budget, as fairs tend to take place in expensive cities in which few sleeping opportunities are contended by many different people, which trade shows are worth a visit in person and which ones are not. We will be listing Europe's most important trade shows and the attributes that characterize them. It can be very useful to buy the tickets as soon as they go on sale and to download the official app most trade fairs offer. This allows to have an exact overview of all the participating exhibitors, side events like talks, presentations and panels and curated exhibitions that will take place during the fair.

Most trade shows are massive events which run for multiple days and it is necessary to go for more than one day to be able to have an overview of everything they offer. Smaller brands may decide to go for just one day arriving in the morning and staying until the same evening, but even if you do have the opportunity to stay longer and see more, an action plan is essential to making the most of your visit.

It can be very useful to have a list of all time sensitive events that one is interested in participating in and their exact location, this allows you to understand in which areas of the trade show you will be in which moment of the day and will allow you to plan your visit to the exhibitors closest to this area accordingly.

This brings us to the next point, having a complete overview of all the exhibitors is of paramount importance to maximize time; this will allow you to subdivide essential exhibitors, from ones that can be seen if there is a little time left. Use any spare time to visit the ones you didn't have as much information but that may become potential suppliers, as these will require additional time. Knowing the exhibitors location by hall and stand allows to cluster exhibitors by local proximity saving precious footsteps. For your visits calculate at least 10 minutes minimum with each exhibitor, 30 minutes if you are looking and choosing fabrics, even more if you are also placing orders.

Finally, make sure you plan for food and drink breaks, considering that most restaurants and cafés inside the fair are usually overfilled at lunchtime with huge cues forming which are always a waste of time.

As we had mentioned all trade shows nowadays have curated exhibitions areas that feature current and upcoming trends, technologies & innovations, young designers and brands or other interesting themes. These curated exhibitions within the trade fair are well worth the visitors' time and will give you a very good overview of the most interesting products by selected exhibitors focusing on a specific theme or subject.

If you have time try to attend one of the collateral events, this could be a talk or panel. These events are usually extremely cutting edge and great for asking specific questions to world experts and can be useful for networking, they will allow you to gain access to people who are already in the business and who could help you with your project



Premiere Vision panel, Source: [paris.premierevision](https://paris.premierevision.com)

HOW TO PLAN YOUR MEETING WITH AN EXHIBITOR

Going to a large international trade show as a young designer or up-and-coming brand with the specific purpose to find new suppliers can be quite intimidating, but there are a couple of tips and tricks that can make this task easier and more productive:

- Do your research: study the exhibitor list and decide which companies are the best match for what you are looking for. This means you will need to study their website, learn where they're based, understand their line of products and decide if they could be interesting for you
- Organize your trip: while it is true that most suppliers go to a tradeshow to find new customers, many may also be less interested in working with smaller brands and smaller clients and might decide to focus their energy on the bigger clients, don't let that scare you. Most suppliers are extremely busy during these tradeshow and if they don't already know you they might not take the time to sit down with you, show you their newest collections and explain their policies to you as well as you would need.
- Make an appointment: there are some extra steps you can do to assure that your potential supplier will take the right amount of time to discuss your project and your relationship. The best way is to email the supplier a couple of weeks before the show presenting yourself, your activities or your future project, your ideas, your needs. This will allow the supplier to get to know you and allot you the best moment for a visit to their stand. Usually the last day of the fair is the least busy day and can be dedicated to younger designers, brands and even students.

Having an appointment will make you will feel much more comfortable when you're at their stand and will allow you to get the most from the experience, but be aware, not all exhibitors work with appointments, if that is the answer you get to your email, you can still ask when they suggest you visit their stand.

- Have a professional appearance: this does not mean your brand need to be showing at Paris fashion week it just means you should be prepared with a professional email address and a phone number. If you wish to receive samples from the potential supplier also prepare a physical address that can accept packages, even if you do not yet have a headquarter. We you may not want to spend money on a business card, but at a fair it is great to always have your contact ready to hand out.

- Know what you are looking for: ask relevant questions and even more importantly write the answers down, possibly in a notebook where every page is dedicated to just one supplier so you are sure that you don't get your information mixed up or that you don't forget important details and feelings for the exhibitor. If you have the energy, make more extensive notes on the journey home or back at your hotel after each day. The fundamental questions, other than the ones regarding the product, are minimum order quantities, delivery times (consider that many suppliers only start production after you place your order and therefore the delivery could take months) and eventual contacts to a local agent in or near your city that you could talk to in the future.
- Finally don't get discouraged: even if it may seem like you did not get what you were expecting from that exhibitor during this trade show visit. If you didn't get an appointment and the stand is busy, take a card and contact the exhibitor later. Many suppliers like to help young start ups and young brands with stock fabrics which usually have lower minimum order quantities and free samples because they know that this is how they grow their future client base. If you don't hear from them as expected get back to them via email



Premiere Vision, Source: [Pambianconews](https://www.pambianconews.com)

Agents and showrooms

If you cannot make it to a trade show, no problem, most textile companies have local representative who may work with a showroom or independently. Call or email the companies to receive their list of agents (some even cite them on the website).

When you meet them bring a clear visual overview of your project to show them and be prepared to detail who your target market is so they understand the price point and end look. If you have similar fabrics swatches you are interested in bring them to show what you like.



Source: [unsplash](#)

Agents are very knowledgeable, they are the experts in their field, you can have a look through the range but if you give them an idea of what you are looking for they will be able to suggest a variety of fabrics and guide you to what would best match your design idea and that they have in their portfolio.

Each fabric agent will offer a different range of fabrics, so you will need to work with a variety of agents to cover your various fabric needs.

For your visit with the agents the same recommendations as for trade shows apply; be professional, take notes after each visit to remember everything they show you and be prepared for the next visit.

If instead of working with your local agent you would rather visit the textile company directly this is not a problem at all. Textile companies are often clustered in the same areas, for example in Italy the area of Biella is specialized in woven high woolen fabrics, the area of Como is specialized in Jacquard and silks and the area of Prato is a little bit more encompassing but specialized in recycled wool.

If you decide to go to one of these areas it is definitely best to write to more than one textile company to make appointments, during your visit you will be able to see the current catalogue, the archive and maybe even the production site.

Textile companies in Italy usually have minimum order quantities (MOQ) of 300 in case of production and 50m in case of sampling (with a 40% surcharge).

Deliveries take about 70 days but lately given the supply chain difficulties it has gone up to 90/100 days.

Anything a textile company has in stock can usually be bought without MOQ) and this brings us to buying deadstock.

Stockists



Source: [unsplash](#)

Stock fabric is a fabric that a factory overproduces for a variety of reasons or a fabric that a big brand is not using anymore, basically it's any leftover fabric that can't be used for its original purpose or order fulfilment anymore.

Deadstock fabric is usually leftover fabric in textile mills (generally from the previous season). This fabric is sold in large quantities at a discounted rate directly by the mills, and many "sustainable" brands buy this fabric to use in their own clothing line.

Where deadstock fabric is generally found in textile mills, overstock fabric is what we call the extra fabric that has already been bought by fashion brands. Generally, this is the stock that ends up in landfills because it ends up unused and sitting in fashion houses for months, and sometimes even years until it is finally disposed of.

It may not be the incredibly sustainable choice some brands make it sound to be but it's a good option for brands just starting out. Because the fabric is already made, there are smaller minimums, usually 10 meters. This makes it easy for designers that are small and self-funded to buy a few less, and not have to invest capital into fabric they may not need.

The negative side is that it is virtually impossible to find more of a specific fabric for future production.

In a textile district like Prato there are over 100 companies of fabric stock. The best way to navigate them is to contact an agent, they are paid commission by the stockist so it will come to no extra cost to the designer or brand. Some have a minimum total expense of fabric, which is usually around 2.000 Euros but others only take their percentage fee.

Many Stocks and Agents have started working with online catalogues and websites so the need to come to the physical location is reduced.

Sourcing producers

Working with domestic garment makers has several advantages; meeting with manufacturers, seeing their facilities, and discussing your special demands is considerably easier when they are based locally. You'll also benefit from higher quality production, shorter shipment times and easier

returns of potentially faulty pieces, not to mention same time zone and holiday schedule and No import duties or tariffs.

In general in Europe there are higher regulations and stricter labor laws in place compared to the rest of the world, as well as better working conditions.

Consumers are becoming more aware of these issues, and being "produced locally" may be an effective marketing pitch. All of this, though, comes at a price cost. Using domestic producers often costs more, but products with a local made in label demand a higher price point.

When you are sourcing garment manufacturers, you're very likely to hit a bunch of dead ends.

Maybe your order will be too small, maybe they can't do what you need them to do, or maybe they are just too busy to take on new customers.

While these may feel like dead ends and setbacks, you can still make the most of each of these conversations by asking every person and company you speak with if they know any other factories or manufacturers that they could recommend.

13. CASE STUDY

TECO
FASH

Lanificio Bisentino and Manifattura BiG

CONTEXT:

Lanificio Bisentino is one of the historic textile mills of the district of Prato. It has a 70 year experience making luxury wool fabrics and up to this very day collaborates with a network of qualified suppliers to implement a sustainable production practice.

Lanificio Bisentino is a historical company, witness of local excellence, but also pioneer in the interpretation of new trends. With its accessories division, now Manifattura BiG, it specialized in the use of sustainable natural fibers and regenerated material. Manifattura BiG produce accessories for the most prestigious brands in the world.

DESCRIPTION

Lanificio Bisentino and Manifattura BiG are sensitive to the needs of smaller brands and designers. Wherever it is possible they try to support them with their dedication of time at tradeshow or within their company and production site, free samples or the activation of collaborations.

This is slightly simpler for the textile mill, as they may have stocks of fabric the has already been produced available and the costs connected to offering this is smaller quantities are limited.

For a company specialized in production of accessories, such as Manifattura BiG this is far more complicated. The production of new accessories is very complex and it is not so simple to start production on a project from scratch. Every new project comes with quite some costs associated with it; this makes working with small designers and emerging brands almost impossible.

What Manifattura BiG does in these cases, is to support projects they particularly like. They expect an email with a professional presentation of a project, the moodboard, designs, exact ideas of where the brand is going, who they are planning to target and what they need from their production suppliers. If they are enthusiastic about a project they may chose to support it and to help with production.

LESSON LEARNT

Don't give up, don't let a first no from one supplier get you down. Be professional, organized, interesting and convincing. Be prepared to pitch your project, be prepared to convince suppliers to give you a chance and invest in you.

Texmoda

CONTEXT:

Texmoda is a textile mill of the textile district of Prato, with a more than 40 year experience making luxury wool fabrics The production is entirely Made in Italy, using only first quality raw materials and selected third party companies.

DESCRIPTION

Texmoda Tessuti is very sensitive to sustainability, ecology and the respect of the environment.

The mill takes part to the major textile fairs throughout the world, showing their innovative and sustainable collections. The production is entirely Made in Italy, using only first quality raw materials and selected third party companies. Texmoda nowadays is well known in all national and international markets and work with many of the major fashion industry players, this is why their days at textile trade fairs are extremely busy and they often don't have time to sit down with smaller brands and emerging designers.

What they offer instead is access to their online catalogue where all their existing textile samples and stock are available for consultation.

LESSON LEARNT

Don't despair if you don't receive all the info you need at a trade show, companies are more than willing to help you out with online catalogues, visits to their production sites and their local agents and showrooms.

14. PRACTICAL ACTIVITIES

TRUE OR FALSE

1. Any company can participate in trade shows as long as they have sustainability certificates
2. It is a good habit to always have contact information ready to give to people we interact with, such as social or business card contacts
3. Side activities at trade shows are often unnecessary and uninteresting, consequently resulting in a waste of time

Answers:

1. *Any company can participate in trade shows as long as they have sustainability certificates (false)*
2. *It is a good habit to always have contact information ready to give to people we interact with, such as social or business card contacts (true)*
3. *Side activities at trade shows are often unnecessary and uninteresting, consequently resulting in a waste of time (false)*

SINGLE CHOICE SET

1. Usually textile products:
 - a. are always available to order
 - b. need only a few days to be prepared and shipped
 - c. can take up to months before they delivered
2. When we go to a trade show:
 - a. we have to eat a lot earlier so we don't have to eat during the fair
 - b. we have to bring food and water from home so we don't waste time in the bar lines
 - c. We always have to eat at the fairground café so we can get known each other while standing in line
3. Planning the trip across the exhibition show:
 - a. allows us to finish and go home earlier
 - b. allows us to be in the right place at the right time, for example at a conference, without having to go back
 - c. It saves us money on supplies, because suppliers' first customers receive discounts
4. How much time should we dedicate to each exhibitor?
 - a. 5 to 10 minutes, because is important to take as much business card as possible
 - b. 10 to 30 minutes, because we can ask specific question on delivery time and cost for young designer
 - c. 30 to 45 minutes, because we have to figure out whether we can trust or not
5. Suppliers usually update more:
 - a. Website, so if we have just to see the catalogue visiting them in person is not really usefull
 - b. Phisycal catalogue, so is really important to meet them in person
 - c. Front office people, so calling them directly is always the best option

Answers:

1. Usually textile products can take up to months before they delivered
2. When we go to an exhibition, we have to bring food and water from home so we don't waste time in the bar lines
3. Planning the trip across the exhibition show, allows us to be in the right place at the right time, for example at a conference, without having to go back
4. How much time should we dedicate to each exhibitor? 10 to 30 minutes, because we can ask specific question on delivery time and cost for young designer
5. Suppliers usually update more, Phisycal catalogue, so is really important to meet them in person

DRAG THE WORD

expensive
unnecessarily
useful
absolutely
a great way

Going to a trade show can be very _____, but at the same time it is essential to secure the materials needed for production activities.

These are very large fairs that host a lot of events, so it is necessary to plan so as not to waste time _____ and make the most of it by consulting spaces and events in advance.

Events, if pertinent to our interests, can be incredibly _____, to get information from the greatest experts in the field.

Making an appointment by email in advance, can be very helpful to make sure we have the time we need to discuss with vendors, plus we can prepare ahead of time the points we _____ want to discuss so we don't forget . Taking business cards and notes is a _____ to keep companies and their highlights in mind.

Answers:

Going to a trade show can be very expensive, but at the same time it is essential to secure the materials needed for production activities.

These are very large fairs that host a lot of events, so it is necessary to plan so as not to waste time unnecessarily and make the most of it by consulting spaces and events in advance.

Events, if pertinent to our interests, can be incredibly useful, to get information from the greatest experts in the field.

Making an appointment by email in advance, can be very helpful to make sure we have the time we need to discuss with vendors, plus we can prepare ahead of time the points we absolutely want to discuss so we don't forget . Taking business cards and notes is a great way to keep companies and their highlights in mind.

15. REFERENCES

Milano Unica, [Milano Unica](#)
Munich Fabric, [Munich Fabric Start](#)
Premiere Vision, [Premiere vision](#)
Pitti Immagine , [Pitti Immagine](#)
Lineapelle , [Lineapelle](#)
Techtextil , [Techtextil](#)

ITMA website, [ITMA](#)
 Manifattura big , [Manifattura big](#)
 Texmoda [Texmoda](#)
 Alya George Kapoor, *What is Deadstock Fabric And Where Can You Source Your Own.* [Theuptide](#)
 Richard Lazazzera, *How to find clothing manufacturers.* [Abetterlemonadestand](#)
 Personal interviews to Francesca Nardi (Texmoda), Guido Gramigni (Lanificio Bisentino) and Marco Badiani (textile agent)

16. EXTERNAL RESOURCES

FAIRS:
 Milano Unica website, [Milano Unica](#)
 Munich Fabric start website, [Munich Fabric start](#)
 Premiere Vision website, [Premiere Vision](#)
 Pitti Immagine website, [Pitti Immagine](#)
 Lineapelle website, [Lineapelle](#)
 Techtexil website, [Techtextil](#)
 ITMA website, [ITMA](#)

9. SUB-MODULE TITLE

1.1. Certifications

10. INTRODUCTION (SUB-MODULE DESCRIPTION)

In this sub module you will get a complete overview of all the most common certifications currently present in the fashion industry and beyond. They have been organized in 4 subcategories, Environmental, Organic, Recycled, Animal.

This list of certifications, although very exhaustive, is not complete, many more certifications exist, and many acquire (or lose) importance over the years.

On the other hand there are certifications that we do not present in this list and that can and will be relevant to anyone starting a career in fashion design, like the B Corp certification, The Sustainable Apparel Coalition (SAC) and more. We focused on the certifications that can help a fashion designer in their sourcing activities.

11. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

- Have a visual overview of the main certifications existing in the world of fashion
- Know their main claims and criteria
- Know how to select a certification both for the sourced materials, suppliers, and for ones company

12. LEARNING CONTENT

CERTIFICATIONS

What is a certification and why is it important to have an overview of the main certifications currently circulating in the fashion industry?

A certification is a set of rules and actions for proper management of systems validated by independent third-party organizations. It is a means of shared communication for those who want to communicate their commitment and demonstrate their integrity in countering the environmental and social impacts our capitalistic system generates.

Certifications provide mutual rules and allow a certain culture to be spread among all stakeholders.

In the last couple of years, the very necessary commitment to sustainability and environmental impact has become more mainstream. This will hopefully lead to important and necessary changes in the fashion industry, but as long as some actors business models are not fully revisited it often times just means that it is growing increasingly difficult to tell the difference between a meaningful commitment and greenwashing.

To date, no entity is required to certify its materials, finished products, brand or factories. It is a voluntary process that depends on a company's desire to demonstrate their commitments, their budget and their activity sector.

But all this may change very soon with the introduction of new European legislature regarding consumer rights and transition to a more circular economy and the EU strategy for sustainable textiles.

The lack of international common legislature has left open a space in which a number of sustainability labels and certifications have co-existed and become so important today, each attesting to various commitments in terms of a textile, a product, a factory or even a brand. Here are a few international environmental labels we believe are important to know.

1. ENVIRONMENTAL

Oeko tex certification

Oeko-Tex is an international label that ensures the innocuousness of raw materials, processed textiles and finished products (clothing, accessories, household linens) for both people (workers and consumers) and the environment. Labeled articles are deemed free of harmful toxic substances. It was created by an independent German association, and is also called 'Confiance Textile' in France. There are seven different Oeko-Tex certifications, which concern various sectors and levels of impact in the textile industry. The "Standard 100" label is the most common.



Source: [Oeko-Tex](#)

(FSC) Forest Stewardship Council certification

FSC is an international non-profit organization that certifies forests, supply chains, retailers and finished wood and wood pulp products (hardwoods, eucalyptus, bamboo, etc.). These trees are from sustainably managed forests. In fashion, this can apply to so-called cellulosic or regenerated materials (such as viscose, rayon, lyocell/Tencel, modal) or cardboard packaging. There are 3 types of FSC labels:

- FSC 100%, the material comes entirely from FSC-certified forests.
- FSC Recycled, the material comes from recycled materials originating from FSC forests.
- FSC Mix, the material comes from FSC-certified forests and recycled materials.
-



Source: [FSC](#)

Bluesign certification

Bluesign is an international certification for textile manufacturers of sintetic and chemical fibers whose production process is considered safe for people and the environment. It takes into account environmental criteria, such as the reasoned management of water and the toxicity of dyes, and social criteria such as the safety of workers and consumers. Bluesign aims to connect everyone involved in the chain – chemical suppliers, textile manufacturers and brands – to promote a healthy, responsible and profitable textile industry.



Source: [Bluesign](#)

2.ORGANIC

GOTS (Global organic textile standard) Certification

GOTS is a global standard for textile fibers from organic supply chains. It sets forth environmental requirements and social criteria, and is based on independent certification of the entire supply chain. The standard covers the processing, manufacturing, packaging, labeling, trading and distribution of all textiles containing a minimum of 70% certified organic natural fibers. Currently, this label has the most demanding specifications. Two main auditors – Ecocert and Control Union – deliver the certification.



Source: [GOTS](#)

Organic content standard certification (OCS)

OCS is an international label initially developed to certify the organic nature of a cotton crop. It was later broadened to include other textiles. It guarantees strict traceability from the production of the raw material to the finished product and can be applied to any type of non-food product.



Source: [Textile Exchange](#)

Regenerative Organic Certified (ROC)

The Regenerative Organic Certified (ROC) certification was created in 2017 by a consortium of business leaders and farmers, one of whose founding members is the Patagonia brand. ROC covers fibers from regenerative agriculture. It is the most demanding organic standard, ensuring soil rehabilitation, animal protection, the improvement of farm workers' lives, fair working conditions and the opportunity to improve farm workers' socio-economic status.



Source: [Regenorganic](#)

3.RECYCLED

Global Recycled Standard (GRS)

Global Recycled Standard (GRS) is a voluntary international standard released by Textile Exchange that assesses recycled content and restricts the chemical composition of a finished product. The standard applies to the full supply chain and addresses traceability, environmental principles, social requirements, chemical content and labeling. With GRS certification, you can communicate to customers your commitment to truth in materials and support for a circular economy that reduces waste by using it to make new products.

GRS-labelled products must contain a minimum of 50% recycled content.



Source: [Textile Exchange](#)

The Recycled Claim Standard (RCS)

The Recycled Claim Standard (RCS) is an international, voluntary standard released by Textile Exchange that sets requirements for third-party certification of Recycled input and chain of custody. The goal of the RCS is to increase the use of Recycled materials and uses the chain of custody requirements of the Content Claim Standard (CCS). The Recycled Claim Standard is intended for use with any product that contains at least 5% Recycled Material. Each stage of production is required to be certified, beginning at the recycling stage and ending at the last seller in the final business-to-business transaction. Material Collection and Material Concentration sites are subject to self-declaration, document collection, and on-site visits.



Source: [Textile Exchange](#)

4.ANIMAL:

Responsible Wool Standard (RWS)

The certificate called Responsible Wool Standard (RWS) is an independent, voluntary standard released by Textile Exchange that addresses the welfare of sheep and the land they graze and is especially concentrated on cruelty free wool production.

The certification ensures that wool comes from farms that have a progressive approach to managing their land, practice holistic respect for animal welfare of the sheep and respect the Five Freedoms of animal welfare: freedom from hunger and thirst; freedom from discomfort; freedom from pain, injury, and disease; freedom to express normal and natural behavior and freedom from fear and distress. Through the processing stages, certification ensures that wool from certified farms is properly identified and tracked. Labels with this certificate source mulesing free wool.



Source: [Textile Exchange](#)

Responsible Down Standard (RDS)

The Responsible Down Standard (RDS) is a certification released by Textile Exchange and aims to ensure that down and feathers come from animals that have not been subjected to any unnecessary harm. The standard is used to reward and influence the down and feather industry to incentivize practices that respect the humane treatment of ducks and geese.



Source: [Textile Exchange](#)

Caregora

The Caregora certifies responsible and reliable angora fibre, and breeding managed in total compliance with the European Animal Welfare Standards and the Codes of recommendations for the Welfare of Livestock recommended and promoted by DEFRA.

The certificate is developed by NATURFASERN, a renowned German company passionate about sourcing precious natural fibres for the textile industry, and the leading angora specialist.



Source: [Caregora](#)

PETA-Approved Vegan

PETA-Approved Vegan certification is awarded free of charge to companies in order to highlight clothing, accessories, furniture, and home decor items made of vegan alternatives to animal-derived materials, such as leather, fur, silk, feathers, and bone.

Companies use it to better emphasize their commitment to animal rights and vegan fashion, i.e. animal-free products. To receive the logo, companies must complete a questionnaire and sign a binding declaration of assurance. A license agreement is then concluded with PETA for individual vegan items or for the entire company. The logo helps consumers identify vegan items at a glance while shopping and make purchases that align with their values.



Source: [Peta](#)

Others

The Higg Index

The Higg Index was developed by the Sustainable Apparel Coalition and sets a non-binding, holistic standard that measures social and environmental impact on the value of goods made by brands, retailers, and facilities of the apparel and footwear industry

The Higg Index isn't a certification, it's a suite of tools for the standardized measurement of value chain sustainability.

It isn't necessarily useful for consumers, but it can be useful for brands when they evaluate themselves, the metrics created Higg Index are limited to a company's internal use for the evaluation and improvement of environmental performance.



Source: [Apparel Coalition](#)

13. CASE STUDY

Fake GOTS certificates in India

CONTEXT:

In 2020 fake organic cotton was found by GOTS in India; An investigation into organic cotton fraud in India has revealed 20,000 metric tonnes of cotton were incorrectly certified as organic through a scam abusing the Indian government certification system

DESCRIPTION:

Following up rumors about systematic fraud, surveillance audits were carried out by the Global Organic Textile Standards (GOTS) accreditation body IOAS, which detected fake Raw Cotton Transaction Certificates (TCs).

These transaction certificates had been created by fraudsters using templates with fake QR codes, which led to a cloned website of the APEDA (Agricultural and Processed Food Products Export Development Authority of the Indian Government) to pretend the TCs were authentic.

GOTS accepts raw organic cotton if it is certified to any of the iFoam Family of Standards. In India, the nodal agency to certify organic raw cotton for export is APEDA. Its system is similar to GOTS, where TCs are issued by certification bodies and carry information about certified produce (volume, transport details, buyer, seller, etc).

After these revelations GOTS instructed its approved certification bodies to cancel all wrongly issued upstream transaction certificates in order to prevent affected goods being sold with GOTS labels and a certification ban has been imposed on 11 companies, and the contract with one

approved certification bodies was terminated. GOTS has submitted all facts to APEDA urging investigation, criminal prosecution and improvement. All GOTS certified organisations have been informed on the matter and are being provided guidance accordingly.

Being a processing standard, GOTS had until that point relied on national law-based and governmentally supervised organic cotton production – but after this incident GOTS introduced its own measures to secure against such fraud. All incoming transaction certificates (for organic raw material) into the GOTS supply chain are checked by GOTS itself for authenticity and credibility.

Textile Exchange, which has been working in collaboration with GOTS for many years in both policy alignment as well as being recognised as an acceptable input into its Organic Content Standard (OCS) also banned the fraudulent companies. A certification body has also had its licensing contract with Textile Exchange terminated.

LESSON LEARNT:

We can't be 100% sure of the accuracy of certifications. For example, some big factories can be certified "ethical" but use smaller contractors, to help them create different garments, that are not using ethical practices.

No brand can be blindly trusted, especially for some lifelong labels that don't audit enough and never by surprise. So, what can we do?

Research, as we said, it is hard work, but it needs to be done.

Another good option is local and small companies. Certifications can be costly when you are just a brand-new company and just because you cannot afford the label doesn't necessarily mean that you are not ethical. The lack of certification on local or small companies doesn't mean we have to avoid them.

14. PRACTICAL ACTIVITIES

SINGLE CHOICE SET

1. You are producing a wool knitted dress certified by animal welfare and trade standards, which certification do you look for while sourcing the yarn:
 - a. GOTS
 - b. RWS
 - c. GRS
2. You are producing linen pants and want high traceability in production, social, and environmental procedures, which of the following certifications do you look for while sourcing the linen:
 - a. Eco-Tex
 - b. PETA-APPROVED VEGAN
 - c. RDS
3. You are producing a puffer jacket with real feathers which certification do you look for to make sure its responsibly made:
 - a. RDS
 - d. Caregora
 - e. PETA-APPROVED VEGAN
4. Which one of these certifications are obligatory:
 - a. OCS Organic content standard certification
 - b. Global Recycled Standard Certification
 - c. None of the above
5. Which of the following is not an adequate certifications for cotton:

- a. GOTS
- b. Bluesign
- c. OEKO-Tex

Answers:

1. To certify a knitted dress by animal welfare and trade standards you need to look for RWS Responsible Wool Standard certified yarn.
2. To make linen pants with high traceability in production, social, and environmental procedures you need to look for OEKO-Tex certified linen.
3. To produce a puffer jacket with real feathers you should look for RDS Responsible Down Standard certification look for to make sure its responsibly made
4. None of the above, at the moment certifications are voluntary processes
5. Purely natural fibers (including cotton, linen, wool and silk) currently do not fall under the bluesign criteria as it certifies synthetic and chemical fibers

DRAG THE WORDS

optional
differentiating
helpful
transparency
greenwashing
Independent

A sustainable fashion certification is given by an third party to confirm that a brand meets specific standards from an eco-friendly or ethical point of view.

In an industry that's plagued by, ethical fashion certifications are incredibly They are important to businesses as a way of themselves, and they are important to consumers as a means of instantly gauging a business' approach to work.

Currently, there are no certification requirements for sustainable products; certification is entirely..... Brands can choose which certifications to apply for based on factors such as their industry, revenue, and level of operations required.

Answers:

A sustainable fashion certification is given by an independent third party to confirm that a brand meets specific standards from an eco-friendly or ethical point of view.

In an industry that's plagued by greenwashing, ethical fashion certifications are incredibly helpful. They are important to businesses as a way of differentiating themselves, and they are important to consumers as a means of instantly gauging a business' approach to work.

Currently, there are no certification requirements for sustainable products; certification is entirely optional. Brands can choose which certifications to apply for based on factors such as their industry, revenue, and level of operations transparency required.

TRUE OR FALSE

1) Certifications are mandatory
True/False

2) The Higg Index is the best certification

True/False

3) Certification are given by independent third parties

True/False

15. REFERENCES

Oeko.tex, website. [Oeko-Tex](#)

Fsc, websit. [FSC](#)

Bluesign, website. [bluesign](#)

Regenorganic, website. [regenorganic](#)

Global organic textile standard, website. [Global-Standard](#)

Textile exchange, website. [Textile Exchange](#)

The Organic Content Standard aims to increase organic agricultural production. [Textile Exchange](#)

The RCS and GRS are designed to boost the use of recycled materials. [Textile Exchange](#)

Ecocert group, website. [Ecocert](#)

Apparel coalition, website. [Apparel Coalition](#)

Cradle to cradle, certified website. [Cradle to cradle](#)

Caregora, website. [Caregora](#)

Peta, website. [Peta](#)

Circular Economy: Commission proposes new consumer rights and a ban on greenwashing on European Commission website. [europa commision](#)

GOTS press release (30th October 2020). *GOTS detects evidence of organic cotton fraud in India.* [GOTS](#)

Gambi, S. (30th October 2020). *EP24: La giungla delle certificazioni nella moda.* [solomodasostenibile](#)

16. EXTERNAL RESOURCES

[Apparel Coalition](#) - The SAC is a global, multi-stakeholder non-profit alliance for the consumer goods industry.

[Textile Exchange](#) - Textile Exchange is a global nonprofit that creates leaders in the preferred fiber and materials industry.



[Textile Exchange](#) and
[GOTS](#) - List of fraudulent companies banned by GOTS and Textile Standard

[ZDHC Gateway](#) - a verified database of safer chemistry for the apparel and footwear industry

17. WORKSHEET

Giveaways:

1. Thanks to transparency and traceability strategies a brand can collect reliable information about their production chains and share them with all the actors in the field, in order to identify where fashion has negative environmental and social impacts and therefore be able to address a positive change.
2. To find suppliers for materials and production independently, a sustainable fashion brand can consult trade shows, online catalogues, agents, showrooms or supplier marketplace platforms, stockists or fabric shops.
3. Certifications are essential to ensure how a certain fabric or product is made, how a factory or even your own brand works. The most common certifications have been organized in 4 subcategories, Environmental, Organic, Recycled, Animal.

Activity for self-reflection:

Recent data from the European Commission shows that many fashion brands and retailers are guilty of greenwashing and exaggerating their sustainability credentials without evidence. For examples, many brands make a wide range of claims about the fibers they use without providing evidence of their environmental credentials; others claim that their products are sustainable, taking into account only certain components of their products, e.g. by talking about materials and environmental aspects, but leaving out processes and social aspects, and thus sharing misleading information. Greenwashing misleads market players and does not give the right value to companies that really make an effort to green their products and processes. Ultimately, it damages attempts to move towards a greener economy.

And you? Do you communicate your commitment to sustainability through clear, precise and clear data?

Case study

In order to protect its customers from greenwashing, in 2022 the brand Ganni has chosen to rely on Provenance[®], a transparency technology solution for reliable sustainability claims. Once the product is selected, it is possible to click on the Provenance[®] icon and see the various stages of its supply chain, from design, through yarn spinning, fabric making, garment production-in short, all the companies where the product was processed. In doing so, Ganni makes it easier for customers to consciously inform themselves and make responsible purchasing choices.

Module title
Waste and recycling
SHORT MODULE DESCRIPTION
<ol style="list-style-type: none"> 1. Circular economy 2. Eco-design <p>The circular economy addresses actors at all stages of a product's life cycle. Eco-design is one of the fundamental pillars of the circular economy and is aimed at economic actors. That is to say, producers of goods or services. The fact of thinking, optimizing and revaluing a product in its entirety is a necessary step towards an economy that preserves the planet. In this context, eco-design allows to:</p> <ul style="list-style-type: none"> ● Extend the life of a product; ● Optimize the quantity and type of raw materials used; ● Anticipate the reuse of sub-systems; ● Anticipate the recycling of what cannot be reused. <p>Eco-design minimizes the impact of the product on the environment by taking into account its entire life cycle. All aspects of the product are taken into account: raw materials, manufacturing methods, use, life span, possible repairs or recycling, etc. The main objective of the circular economy is to do better with less natural resources, while reducing the amount of waste that can be generated. An eco-designed product is not intended to be simply destroyed at the end of its life. Its purpose is to be deconstructed in order to reuse or revalue the maximum of its components. This is why the use of toxic components is to be proscribed for an easier reuse.</p> <p>Eco-design minimizes the impact of the product on the environment by taking into account its entire life cycle. All aspects of the product are taken into account: raw material</p>
TOPICS FOR COLLABORATIVE FORUM
<ol style="list-style-type: none"> 1. Fast fashion - what is behind this term? 2. Upcycling - is it a new fashion? 3. Sustainable fashion - how to learn to want less and love what is in the closet? 4. Zero waste fashion design 5. How can each of us contribute to the creation of sustainable fashion? 6. Is sustainable fashion about consumption and creativity?

7. Ecodesign - a big challenge?

18. SUB-MODULE TITLE

1. Circular economy

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

Today's dominating economic model is linear: We take virgin natural resources and make products from them which we then discard once we're done using them — often after a relatively short time. Sometimes the short lifespan is due to planned obsolescence where products break easily and are difficult to repair and upgrade.

In a circular economy, resources are handled in a more responsible way. The goal is to extend product lifetime and recirculate all materials without producing any waste.

Product reuse is more resource efficient than recycling since most materials lose value every time they are recycled. Therefore, extending product lifetime is the best way of lowering its environmental impact. In a circular economy, products are built to last. They are durable and can be upgraded and repaired.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

Upon completing this sub-module, you should be able to do the following:

1. Describe the main principles of the circular economy in fashion industry.
2. Identify the impact of fashion industry on the environmental.
3. Describe upcycling tendencies in the fashion industry.

4. LEARNING CONTENT

Circular economy in fashion

Textiles and clothing are a fundamental part of everyday life and an important sector in the global economy. This learning path explores how the principles of the circular economy can be applied to the fashion industry, beginning by covering why the fashion industry of today is not fit for purpose. Following that, it examines the vision for a new textile's economy through three focus areas that are critical to realising this vision:

- New business models that increase clothing use
- Safe and renewable inputs
- Solutions so used clothes are turned into new

Finally, you will learn about the opportunities that exist for innovative business models that can be employed by the fashion industry, including clothing rental, increased durability, and boosting clothing care.

Fashion industry's impact on the environment

Along with these positive economic impacts, there are hidden costs to the fashion system. These costs deplete natural resources, exacerbate climate change, harm wildlife, and impact our health.



Source: Image by lunduniversity.lu

CO2 emissions: More than flights or shipping, the fashion industry contributes to climate change. Estimates suggest that it is responsible for 10% of worldwide carbon dioxide emissions each year.

The reason? Fashion has become more dependent on polyester (plastic) fibers than cotton or other natural fibers. These synthetic fibers are made from fossil fuel feedstocks, and they require three times the amount of energy (282 billion tons of carbon dioxide) to produce than cotton.

A fifth of all plastic produced each year—about 60 million tons—is used by the fashion industry. This amount is expected to increase as oil companies compensate for declining demand for gas used in transportation.

The problem is we cannot afford to shift this fossil fuel burning burden from one industry (transportation) to the next (plastics and fashion). It's time for industries across the board to lower their GHG emissions to avoid the disastrous consequences of climate change.

UPCYCLING, ONE OF THE HOTTEST TRENDS IN FASHION RIGHT NOW

Fashion is going through a period of transition, facing new paradigms to keep up with the changing habits and sensibilities of new generations of consumers. The pandemic, accomplice of a radical change in the way of shopping, has led to a surge in online purchases and recycling of clothes. Reuse and resource savings are just some of the virtuous processes introduced by emerging companies.



Source: Image by [revibe-upcycling](https://www.revibe-upcycling.com/)

Fast fashion is stepping aside to make room for a new vision of fashion, sustainable and a bit nostalgic for the past. New luxury brand garments are born from revisitations of beloved and iconic archive garments. The new generation of buyers is attentive to the environmental impact of waste and energy saving. It is in this context of transformation, or rather, evolution, that a new craze is emerging: the reuse and enhancement of the old, what we call upcycling.

5. CASE STUDY

THE FASHION INDUSTRY OF TODAY

Changing the system will unlock billion dollar economic opportunities.

Globally, the USD 1.3 trillion clothing industry employs more than 300 million people along the value chain; the production of cotton alone accounts for almost 7% of all employment in some low-income countries.

Clothing represents more than 60% of the total textiles used and in the last 15 years, clothing production has approximately doubled, driven by a growing middle-class population across the globe and increased per capita sales in mature economies. At the same time, clothing use has declined by almost 40%. Both developments are mainly due to the 'fast fashion' phenomenon, with quicker turnaround of new styles, increased number of collections offered per year, and often, lower prices.

By moving to a circular system the industry can unlock a USD 560 billion economic opportunity. Realising this opportunity requires new business models and collaboration across the value chain (e.g. production, marketing, and after-sales care), to keep safe materials in use.

THE VISION OF A NEW TEXTILES ECONOMY



Creating business models which are restorative and regenerative.

The overarching vision of a new textiles economy is that it aligns with the principles of a circular economy: one that is restorative and regenerative by design and provides benefits for business, society, and the environment. In such a system, clothes, textiles, and fibres are kept at their highest value during use and re-enter the economy after use, never ending up as waste. A new textiles economy is an attractive vision of a system that works

Realising this vision of a new global textiles system relies on three focus areas:

New business models that increase clothing use
Safe and renewable inputs
Solutions so used clothes are turned into new

LEADERS IN CIRCULAR FASHION WHERE YOU MIGHT NOT EXPECT THEM...

The entire sector, under scrutiny from responsible investors, is (slowly) moving towards circular thinking. Paradoxically, considering its status as a fast fashion giant, Hennes & Mauritz (H&M) appears to be one of the leaders in this field. H&M is a partner of the Ellen MacArthur Foundation, a pioneering circular economy organisation, and has recently revisited its business model with a focus on circularity. H&M uses artificial intelligence to predict customer behaviour, produce the right quantities and avoid unsold stock, which many brands still burn. The eco-design of products is an important pillar in rendering reuse or recycling easier: the goal is to recycle 30% of materials in clothing design by 2025 (18% in 2021). The company also offers repair services for used clothes and is developing rental platforms (these services are not yet widely available). It also allows customers to bring their used clothes back to its shops.

5 ways the fashion industry can be more sustainable

The fashion industry is with no doubt, known for its huge increasing waste of textiles and the constant growth of consumption, but the future is not all this dark.

As a part of the new generation and for the future of fashion we have to be able to work in the industry in a revised and more sustainable way to not lose the passion and love of fashion itself.

1. Invest in garments and clothing that will last

The first and probably most obvious change starts with us as the consumer. The fashion industry is built and is driven from the needs and response of the audience. As an example, monthly trends come and go at such a fast pace that no customer would really want to spend a reasonable price on quality.

Real original personal style is the answer: creating your very own personal style means you can be browsing and shopping at your own pace.

This in turn makes the purchases more conscious and will reduce consumption, which the brands will recognise and produce less. Invest in garments and in a quality that will last. It pays to invest, be able to enjoy the piece for a lifetime.

2. Produce less

The fashion industry produces too much, which then cannot be sold, it seems like an easy problem to fix. Although huge brands are built on profit and therefore the production cost is so low that profit is made with any purchased item, big high street brands especially.

Change will need to start from the top, the big fashion houses and designers must cut down their collections so this reduction will be echoed on the high-street. The high street will not be imitating as many trends which means less clothing will be produced. But also production should be moved to where the customers and audience lives. Save on the shipping and enhance quality of working.

3. Re-use materials, off-cuts and fabrics

As a designer: stop using virgin resources. The fashion industry is an amazing way for creatives to communicate. With every new collection a designer can offer you a new dream, desired aesthetic and a fresh personality.

But with time garments and styles come back or are only inspired by fashion we have seen before. This is when we need to revise completely.

With reusing, deconstructing and recycling second hand materials, as anything like offcuts and remnants of other fashion houses or firms.

Repurposing old archived stock of material as well as a focus on experimentation with unconventional materials will create something new. Using materials in this way requires even more innovative design skill and technical knowledge, challenging designers to use this material approach to create refined and timeless pieces.

4. Go vintage

As a consumer and a follower of fashion you should know that there are still possibilities to go shopping and treat yourself or your loved ones to new pieces of clothing in a sustainable way.

Go vintage! This is the easiest and most effective way to make the fashion industry more sustainable. Soon will you realise that a wide selection of high-end, quality fashion vintage pieces can still be found due to the great manufacture besides being timeless, still in trend and affordable, it ticks all the boxes.

5. Know your facts

The fifth way to make this fashion industry more sustainable is to know your facts. By knowing those big and shocking numbers it is easier to convince yourself to be a part of the change for a more sustainable future in fashion.

Understanding sustainable fashion also gives you the chance to spread this word, increase the awareness and stop greenwashing, which disables an efficient growth of solutions and a presentation of results. It is a threat to the fashion system.

Zero waste fashion

Zero waste fashion, as the name implies, is the process of designing and making clothing without wasting any fabric. This could mean that the garment pattern is designed in such a way to utilize every last bit of fabric – the pattern pieces fit together perfectly, kind of like pattern tetris. It could mean that garments are designed and cut in a way that creates “scraps” in useful shapes and sizes that can be used to make other, smaller products. Or, zero waste fashion could be a brand that cuts garments in the traditional way but utilizes all of their offcuts – whether it be to make additional products or to recycle their scraps into new fabric.

Zero waste fashion can look different for each brand or individual adopting the zero waste mentality, but the core concept is eliminating waste from the garment production process.

Zero waste fashion is not new

While the term “zero waste” is a relatively new one within the fashion industry, the concept of zero waste fashion has been around for centuries. Before fabric and garment production became as industrialized as it is today, it was typically frowned upon to waste fabric when making clothing. Traditional utilitarian garments across many cultures were created through zero waste practices. Examples include the Japanese Kimono and the Indian Saree. Even in ancient Greece and Rome, clothing was typically made from loosely draped rectangles or other simple shapes that didn’t waste much, if any, fabric.

However, with fast fashion taking over the industry, the benefits of zero waste garment production were temporarily lost in western culture. Thankfully, increased attention on sustainability across many different industries is bringing low-waste practices back into fashion.

FabricSight approach Zero Waste

Another side of the zero waste concept is how some brands, independent designers or other professionals can source materials.

At FabricSight we offer two main ways to do this:

DeadStock Fabrics or Selected Surplus: most of the deadstock fabrics you will find come directly from top notch European fabric factories based in Italy, Spain and Portugal. Thanks to strong partnerships we have with such mills, we are able to offer high quality surplus fabrics at competitive prices and without MOQ (minimum order quantity). Why producing more when what you need has already been produced?

Re-orderable: these are fabrics that are always available to order starting from 1 meter. This means our customers are able to order just the needed amount, as there is no MOQ, so they won't have surplus on any of these beautiful fabrics.

Most of these fabrics are available in good ranges of colors and are certified by well known certifications that ensure their sustainability.

Zero waste fashion

Each year, the fashion industry creates huge amounts of fabric and garment waste that gets added to our landfills, contributing to carbon emissions and global warming. However, it's not just avoiding adding to our growing landfills that makes zero waste fashion a more environmentally friendly option. Using zero waste pattern cutting results in brands needing less yardage of fabric to produce the same number of garments – which means ordering less fabric over time, reducing the resources used to produce fabric.

Benefits of zero waste fashion design

There are many benefits to using zero waste processes to create clothing. Here are just a few.

- Less waste destined for landfills.
- Less fabric needed to produce the same number of garments.
- More efficient production.
- Save money by ordering less fabric and reducing waste in the production process.
- Explore creative and unique designs that aren't available elsewhere.
- Communicate your dedication to reducing waste through marketing to reach the right customers.

Drawbacks of zero waste fashion design

While zero waste design and practices are a great basis to create a sustainable fashion brand on, there are a few drawbacks that you'll need to consider.

Designs may be limited – if you have a design in mind but can't come up with a creative way to make it zero waste, you may have to remove a design you love from consideration.

Traditional pattern-making processes and techniques will not necessarily work for zero waste designs.

If your goal is to limit the amount of fabric you waste, you're also limiting the amount of fabric you order and use – meaning some fabric suppliers who are focused on their profits may not want to work with you.

A brand become “zero waste”

As a fashion brand, adopting a zero waste approach is a great way to connect with sustainability-minded customers as well as do your part to reduce the impact of the fashion industry on the environment. Here are a few ways you can move your fashion brand towards a more sustainable, zero waste system.

- Creatively design patterns so that they fit together perfectly to use an entire piece of fabric.
- Make secondary products from any unavoidable leftover pieces of fabric. Examples are smaller items like bags or scrunchies, pieced together items such as a patchwork top, or items like throw pillows that can be stuffed with small scraps.
- Shred any tiny, unusable scraps and recycle them into new, unique fabrics that can go back to the beginning of the process and be used for new designs.
- Don't over-order or over-produce – try to order only as much fabric as you need and produce only as many garments as you need. Massively overestimating your needs wastes resources and creates more waste.

- Try a made-to-order system. As a way to avoid issues caused by not overestimating fabric and garment production needs, try producing each garment after it has been ordered. Your sustainability-focused customers will appreciate your goals to eliminate waste and be happy to wait for their new, quality piece.
- Pair a zero waste system with sustainable, ethically sourced fabrics. We offer a huge selection of gorgeous, sustainable fabrics.

Designing zero waste patterns

Designing zero waste patterns is different than traditional methods of designing and drafting sewing patterns. Instead of starting from the design idea and sketch and considering the pattern and fabric requirements last, your process will be flipped to start with planning the pattern and lastly considering the look of the finished piece.

This process will use your creativity in a different way than traditional design. Instead of focusing your creativity on the silhouette and design details, you will be focused on creating unique and different patterns that fit with your no-waste ideals and that can also become flattering and wearable pieces.

5 awesome zero waste sewing patterns

Here are a few great options for zero waste sewing patterns that would be a great introduction to no-waste sewing:

- Zero Waste Suede Trench Coat by Milan AV-JC

Milan AV-JC is a brand run by Mylène L'Orguilloux, who designs and provides open source zero waste sewing patterns. She believes that traditional design is a part of the issue when it comes to the wastefulness of the fashion industry, so wants to bring zero waste designs to more people. Her suede trench coat pattern is a stylish, belted trench with a classic silhouette. However, though the silhouette is classic, the pattern and construction are not, as they utilize zero waste techniques such as skipping the lining, facings, and edge finishings.

- Maynard Dress by Elbe Textiles

Elbe Textiles is a sewing pattern company based in Australia. They provide sewing patterns with the goal of encouraging more people to sew and to help consumers to see that ethical and environmentally friendly fashion is possible by making your own clothing. While not all of Elbe Textile's patterns are zero waste, they do have a great one, the Maynard Dress pattern. This dress is a stylish, asymmetrical wrap dress with a v-neckline and a relaxed fit.

- Zero Waste Workwear Jacket by Birgitta Helmersson

Birgitta Helmersson is a sewing pattern and clothing designer based in Sweden who designs beautiful zero waste patterns and garments. You can purchase thoughtful, quality, no-waste clothing from her shop or browse through her selection of zero waste patterns, including the Workwear Jacket pattern. This jacket is a loose fitting, utilitarian coat with a button front, collar,

and three front pockets. Birgitta Helmersson’s patterns do not come with printable pattern pieces, instead they include instructions to draw the pattern pieces onto the fabric before cutting.

- Zero Waste Wrap Skirt by Make/Use

Make/Use is a project led by Holly McQuillan that was started with the goal of reducing waste in the fashion industry. One way they work towards that goal is by providing information on creating garments using methods that reduce or eliminate waste and by encouraging modification by the end consumer to extend the garment’s life. On their website, Make/Use offers several zero waste patterns, including a wrap skirt pattern. The wrap skirt design is simple and timeless, yet stylish.

- Zero Waste Shirt by Schnittchen Patterns

Schnittchen Patterns is an indie pattern company based in Munich, Germany that creates fashionable, modern patterns. Their focus is on empowering creativity through sewing and making the process of creating a garment as simple as possible through detailed sewing instructions and tutorials. They currently offer two zero waste sewing patterns, including their “Zero Waste No. 2” shirt pattern. The shirt is a simple but modern shape with gathering at the hem of the center front and back. It also features an adorable pocket with a ruffle detail.

6. PRACTICAL ACTIVITIES

TRUE OR FALSE

1. The fashion industry is responsible for 10% of worldwide carbon dioxide emissions each year. (True)
2. The fashion industry's dependence on polyester fibers reduces its carbon footprint compared to cotton. (False)
3. UPCYCLING is a new trend in the fashion industry, driven by a desire for sustainable and nostalgic fashion. (True)
4. The circular fashion industry could potentially unlock a USD 560 billion economic opportunity. (True)
5. Zero waste fashion is a relatively new concept in the fashion industry. (False)
6. The five ways to make the fashion industry more sustainable include investing in garments that will last, producing more clothing, reusing materials, going vintage, and knowing the facts about sustainability. (False)

TEST:

1. What percentage of worldwide carbon dioxide emissions does the fashion industry contribute each year?
 - a. 5%
 - b. 10%
 - c. 20%
 - d. 50%
2. Why is the fashion industry contributing significantly to climate change?
 - a. Overuse of natural fibers
 - b. Dependence on cotton
 - c. Reliance on synthetic fibers, especially polyester

- d. Lack of fashion regulations
3. What is the primary reason for the high carbon footprint of synthetic fibers like polyester?
- Low production energy
 - Use of renewable resources
 - High energy requirements and fossil fuel feedstocks
 - Sustainable manufacturing practices
4. What is upcycling in the fashion industry?
- Discarding old clothes
 - Creating new garments from old or discarded materials
 - Designing high-end fashion
 - Embracing fast fashion trends
5. How much of the clothing industry's impact on the environment is due to the production of cotton?
- Less than 5%
 - Around 30%
 - Almost 60%
 - Over 90%
6. Which brand is mentioned as a leader in embracing circularity and using AI to predict customer behavior?
- Chanel
 - H&M
 - Gucci
 - Zara
7. What does the term "zero waste fashion" refer to?
- Producing clothing with no fabric scraps
 - Reducing waste in fashion design
 - Creating disposable fashion
 - Focusing on high-end garments
8. What are the core benefits of zero waste fashion design?
- Increased fabric waste
 - Cost savings in production
 - Limited design options
 - Less waste destined for landfills
9. What is a drawback of adopting a zero waste approach in fashion design?
- Unlimited design options
 - Difficulty in recycling offcuts
 - Low fabric costs
 - Limited design flexibility
10. How can fashion brands move towards a more sustainable, zero waste system?
- Overestimate fabric and garment production needs
 - Avoid made-to-order systems
 - Design patterns to utilize every piece of fabric
 - Increase the production of clothing

Answers:

1. 10%
2. Reliance on synthetic fibers, especially polyester
3. High energy requirements and fossil fuel feedstocks
4. Creating new garments from old or discarded materials
5. Almost 60%
6. H&M
7. Producing clothing with no fabric scraps
8. Less waste destined for landfills
9. Limited design flexibility
10. Design patterns to utilize every piece of fabric

DRAG THE WORD

Words: sustainable, zero waste, eco-friendly, upcycling, circular economy

Creating products that minimize environmental impact and promote long-term resource use is a key principle of the _____.

_____ fashion design aims to reduce or eliminate fabric waste in the production process.

Choosing to use materials that do not harm the environment is a characteristic of _____ practices.

_____ involves transforming discarded items or materials into new, useful products.

The _____ promotes waste reduction and recycling to maintain a closed-loop system.

Answers:

circular economy

zero waste

eco-friendly

upcycling

sustainable

7. REFERENCES

Nacho Allende ZERO WASTE FASHION DESIGN <https://www.fabricsight.com/blogs/posts/zero-waste-fashion-design>

Eco-design and circular economy

<https://altermaker.com/eco-design-circular-economy/>

Eco-design and circular economy A course by Ximena Corcuera, Fashion Designer

[Online Course - Sustainable Fashion: Introduction to Upcycling \(Ximena Corcuera\) | Domestika](#)

THE CIRCULAR ECONOMY TAKES ON FAST FASHION

<https://www.mirabaud.com/en/the-view/news-detail/article/1651586801-the-circular-economy-takes-on-fast-fashion>

8. EXTERNAL RESOURCES

<https://www.circularity-gap.world/2021> "The circularity gap map 2021"

<https://ellenmacarthurfoundation.org/a-new-textiles-economy> "A new Textiles Economy: Redesigning fashion's future"

<https://greenstrategy.se/seven-forms-of-sustainable-fashion/>

"Seven forms of sustainable fashion"

17. SUB-MODULE TITLE



18. Eco-design

19. INTRODUCTION (SUB-MODULE DESCRIPTION)

Global environmental problems have become one of the reasons for the formation of a new concept in design. In the fashion industry, the term “environmental sustainability” or “conscious fashion” - the safe use of the planet's natural resources and ensuring environmental and social safety - is becoming increasingly common.

It is known that clothes should not only aesthetic, but also have a direct physiological impact on people, so clothing design has rapidly responded to the need for a conscious approach to environmental issues. The search for new materials, new methods of natural dyeing of fabrics, the use of recycled fibers in weaving, the restoration of traditional crafts that are used in clothing production - all this has grown from an unpopular theory to a stable and generally applied practical activity under the general definition of eco-design.

20. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

Upon completing this sub-module, you should be able to do the following:

1. Describe what is the biggest challenges of eco-design in fashion industry.
2. Indicate the steps how to start eco-design product

21. LEARNING CONTENT

In March 2022, the European Commission submitted a proposal for a regulation for Eco-Design for Sustainable Products (ESPR) (European Commission, 2022d). The proposal establishes a framework for eco-design requirements that can be applied to specific product groups to enhance their durability and sustainability. These requirements, which will apply to most products produced and consumed in the EU, will have important economic implications for developing countries that rely on the EU as a key import market. On the one hand, they can incentivise trading partners to improve circularity in their production.

With the increasing awareness of sustainability, eco-design has been an important trend in the fashion industry. Many fashion brands such as Nike, Adidas, and The North Face have developed sustainable fashion by incorporating eco-design elements. Eco-design is an important part of sustainable supply chains.



Source: Image by greenbusinessjournal.co.uk

Sustainable fashion is a design philosophy and movement that promotes environment and social responsibility. Sustainable fashion is defined as clothing, shoes, and other accessories that are

manufactured and used in the most sustainable manner possible, taking into accounts both environmental and socio-economic.

Challenges of eco design

The fashion and textile industry are described as one of the most environmentally destructive industry. That's why companies are encouraged more focus on the eco- friendly and sustainable fashion product. Some eco-fashion companies include sustainability of their garment quality and longevity while others focus to reduce the water and carbon footprints of their products. But still fashion and textile companies face significant challenges in implementing eco-fashion practices:

- *Greenwashing*: Some fashion brands claim to be eco-friendly, but they're just mislead consumers. To prevent greenwashing fashion companies must demonstrate genuine and legitimate eco changes.
- *Cost of raw materials*: Production relies on raw material supplies, and recent years have seen increased costs in materials. Consequently, the cost of treating raw materials and transforming them into new fabrics has also risen.
- *Material selection*: choosing sustainable and eco-friendly materials is a significant challenge. Fashion designers must seek alternatives to traditional materials like cotton or synthetic fibers, which often have a high environmental impact due to water consumption, pesticide use, and energy-intensive production processes.
- *Supply chain transparency*: Ensuring transparency in the fashion supply chain can be difficult. Eco-conscious consumers increasingly demand to know the origins of the materials used in their clothing and the ethical treatment of workers at every stage of production.
- *Energy efficiency*: Reducing the energy consumption associated with fashion production and distribution is essential. Designers need to find ways to minimize the carbon footprint of their products, from manufacturing to transportation.
- *Innovation and technology*: Keeping up with the latest sustainable fashion technologies and innovations can be a challenge. Fashion companies need to invest in research and development to stay ahead in eco-friendly practices.
- *Recycling challenges*: The recycling of textiles and fashion products remains a significant challenge. The industry must find innovative solutions to effectively recycle materials and incorporate recycled materials into new products while educating consumers about the importance of recycling."
- *Fast fashion vs slow fashion*: The fashion industry generates approximately 40 million tons of textile waste annually. Many fashion companies have been hesitant to change their traditional production methods due to customer reluctance to pay higher prices for sustainable clothing.
- *Consumer education*: Raising awareness and educating consumers about sustainable fashion choices is an ongoing challenge. Many people are unaware of the environmental impact of their clothing choices and need to be informed about the benefits of sustainable options.
- *Market Demand*: While there is a growing market for sustainable fashion, there's also a need to create more demand for eco-friendly products. Encouraging consumers to prioritize sustainability over fast fashion trends can be a challenge.

Fashion companies that are committed to eco-design must address these challenges creatively and strategically to promote sustainable practices throughout their operations and products. Collaboration among industry stakeholders, consumers, and regulatory bodies is essential to drive meaningful change in the fashion industry's approach to sustainability.

Embarking on eco-fashion: Steps to initiate sustainable design in the fashion industry

In a world increasingly driven by environmental consciousness and sustainability, the fashion industry has found itself at the forefront of a transformative movement. As concerns about the ecological and social impact of clothing production continue to rise, fashion designers and companies are seeking innovative ways to align their creative vision with a commitment to eco-friendliness. The result is the emergence of eco-design in the fashion industry, a creative and ethical endeavor aimed at redefining the very essence of style.



Source: Image by [greenbiz.com](https://www.greenbiz.com)

Creating an eco-design product in the fashion industry involves several steps to ensure that the product is not only stylish but also environmentally sustainable. Here some steps to start an eco-design product in the fashion industry:

- **Establish Sustainability Goals:**
Define clear sustainability goals and objectives for your company. Determine the specific environmental and social impact areas you want to address through eco-design products.
- **Form a Sustainability Team:**
Assemble a cross-functional team dedicated to sustainability, including designers, product developers, sourcing specialists, and marketing experts.
- **Research and Analysis:**
Conduct comprehensive research to understand current sustainability trends, market demands, and the competitive landscape in your fashion niche.
- **Material Sourcing and Selection:**
Identify sustainable materials suitable for your fashion product. Consider options like organic cotton, recycled fibers, eco-friendly dyes, and sustainable alternatives to conventional materials.
- **Design with Sustainability in Mind:**
Integrate eco-design principles into the product development process. Focus on factors such as longevity, repairability, recyclability, and minimizing waste.
- **Prototyping and Testing:**
Create prototypes of your eco-design fashion products and rigorously test them for sustainability, functionality, and quality.
- **Supply Chain Assessment:**

Evaluate your supply chain for sustainability, from raw material sourcing to manufacturing and distribution. Ensure that suppliers adhere to ethical and eco-friendly practices.

- **Sustainable Manufacturing:**

Implement sustainable manufacturing practices, such as reducing water and energy consumption, minimizing waste, and promoting ethical labor practices.

- **Transparency and Traceability:**

Enhance transparency by tracing the origins of materials and ensuring that consumers can access information about the eco-friendly aspects of your products.

- **Branding and Marketing:**

Develop a sustainability-focused branding strategy and marketing plan. Communicate the eco-design features and environmental benefits of your fashion products to consumers.

- **Continuous Improvement:**

Foster a culture of continuous improvement within your company. Encourage innovation and seek new ways to enhance the sustainability of your eco-design products.

- **Education and Advocacy:**

Educate your employees, customers, and stakeholders about the importance of eco-friendly fashion and sustainable consumption. Advocate for sustainable practices within your industry and collaborate with other companies to drive positive change.

Such steps could be the way to successfully initiate eco-design products that align with their sustainability goals and meet the demands of environmentally conscious consumers.

22. CASE STUDY

Eco Design – A Simple Definition

Eco design is both a principle and an approach. It consists of integrating environmental protection criteria over a service or a product's lifecycle. The main goal of eco design is to anticipate and minimize negative environmental impacts (of manufacturing, using and disposing of products). Simultaneously, eco design also keeps a product's quality level according to its ideal usage.

The principles of eco design were formally published in 2002 and they can be found in ISO/TR14062.



Source: Image by [pexels.com](https://www.pexels.com)

The Eco Design Approach

Eco design is part of a global approach called “multi-step” and “multi-criteria”. This approach supports a product’s entire lifecycle in a circular economy perspective by saving and recycling at maximum natural resources. It has to do with considering specific criteria in different stages: Successive stages:

- Raw material extraction and supply
- Manufacturing
- Product distribution
- Consumer use
- End of life (recovery and recycling)

Main criteria taken into account:

- Consumption of raw materials
- Energy consumption
- Releases in the natural environment and other pollutions
- Climatic impacts
- Impacts on biodiversity

Some goals and principles are specifically about:

- Using fewer materials and resources for manufacturing products
- Using materials and resources obtained with a minimum environmental impact
- Producing the least waste and pollution possible
- Reducing the ecological impacts of distribution
- Making reusing and recycling easier by intelligent design that makes disassembly easy

An eco design approach involves the organization that extracts materials as well as manufacturing. All the people and structures involved along the rest of a product's lifecycle, such as retailers or consumers, are also included. And all the processes along a product's value-chain are covered too.

Tools For Eco-Design

eco design example principles

Before implementing an eco-design approach, we first need to find out first which are the most environmentally relevant stages of a product's lifecycle. Questions like "are the materials used biodegradable?" or "is the energy used for extraction renewable?" should be asked. Answering them will allow the identification of measures that need to be taken to effectively reduce the environmental impacts of the product under analysis.

From a more individual perspective, eco-design can also be used in designing homes. In this scenario, eco-design is mostly about using renewable building materials like bamboo or cork, buying second-hand furniture or using recycled fiber carpets. At the same time, eco-design at home also has to do with using energy efficiently. In this way, using double paneled glass windows for better insulation and investing in solar panels to generate energy are also usual.

Strategies to be implemented throughout the life cycle of the textile product

In today's ever-evolving landscape of environmental consciousness and sustainability, the textile industry finds itself at a crossroads. As the demand for eco-friendly and socially responsible products grows, so too does the need for innovative strategies that span the entire life cycle of textile products. The quest for sustainable textiles has transcended being a mere trend; it has become a fundamental shift in the way we approach textile design, production, and consumption.

The implementation of strategies throughout the life cycle of a textile product is a visionary approach that recognizes the intricate web of environmental and social considerations inherent to the textile industry. From the moment raw materials are sourced to the eventual disposal or recycling of products, each stage of a textile product's life journey presents unique opportunities and challenges.

These strategies are not just about reducing the environmental footprint; they encompass the entire spectrum of sustainability, encompassing ethical sourcing, responsible manufacturing, and empowering consumers to make eco-conscious choices.

Implementing strategies throughout the life cycle of a textile product is crucial for minimizing its environmental impact and promoting sustainability. Picture shows some key strategies to consider.

Key strategies



Source: Image created by LATIA

The textile-clothing eco-design wheel

The Textile-Clothing Eco-Design Wheel represents a dynamic approach to sustainability in the textile and clothing industry. It acknowledges the profound environmental and social impacts associated with the production of textiles and apparel and seeks to address these challenges through eco-design principles.



Source: Image by [freepik](#)

The “Eco-conception for responsible brands” guide from the French Federation of Women’s Ready-to-Wear, the French Federation of Men’s Clothing Industries and Promincor – French Lingerie presents an eco-conception wheel applicable to textile products. It identifies the points of attention at each stage of the life cycle.



Source: Image by ecodesingcircle.eu

Concept: strategy/management, design/style.

Materials: specifications, origin/type, quality.

Weight/volume: product, sizing/production/sales forecast, logistics.

Production: environmental management, process, localization, quality management, human rights/animal welfare.

Distribution : shops, distances, means of transport, packaging.

Use : adapted products, consumer messages, frequency, temperature, pollution.

Optimized life cycle: impact analysis, adaptability, sustainability, new services.

End of life: circularity, sector.

Eco-design isn't just eco-friendly product label, it's an evolving concept, that includes innovative design solution in products, service and production. This concept promotes changes of producers and customers behaviour.

23. PRACTICAL ACTIVITIES

Multiple choice:

Read questions and choose one or more correct answers.

1. Eco- desing described as...
 - a. A way to create new product model
 - b. A way to reduce energy and water waste
 - c. **A way to increase sustainability on the product and reduce environmental pollution**
 - d. A way to increase production optimization

2. What is eco- desing concept ?
 - a. Reuse, reporting
 - b. Recycle, reduce, reuse
 - c. **Reuse, repaire, recycle, reduce, reporting**

3. What is eco- desing benefits?

- a. Materials and energy optimization
 - b. Creativity stimulation
 - c. Application of innovation
 - d. All**
4. What is eco-design goals?
- a. To use more materials and resources for manufacturing products
 - b. To use materials and resources obtained with maximum environmental impact
 - c. Produce the least waste and pollution possible**
 - d. Reduce the ecological impacts of distribution**

TRUE or FALSE

TRUE - In March 2022, the European Commission submitted a proposal for a regulation for Eco-Design for Sustainable Products (ESPR).

FALSE - The proposal for eco-design aims to enhance the durability and sustainability of specific product groups.

FALSE - Sustainable fashion encompasses both environmental and socio-economic considerations.

TRUE - Some fashion companies engage in greenwashing by falsely claiming to be eco-friendly.

FALSE - Sustainable fashion requires prioritizing sustainability over fast fashion trends.

TRUE - Eco-design principles were formally published in 2002 and can be found in ISO/TR14062.

TRUE - The textile industry is experiencing a fundamental shift towards sustainability.

1. What is the primary goal of eco-design in the fashion industry?

- a. Maximizing profits
- b. Minimizing product quality
- c. Aligning creative vision with sustainability
- d. Promoting fast fashion trends

2. What is greenwashing in the context of sustainable fashion?

- a. A process for cleaning eco-friendly fabrics
- b. A method to reduce energy consumption
- c. False claims of eco-friendliness by fashion brands
- d. A sustainable dyeing technique

3. What is one of the key challenges faced by fashion companies in implementing eco-fashion practices?

- a. Overproduction of clothing
- b. Lack of demand for sustainable clothing
- c. High costs of raw materials
- d. Use of eco-friendly materials

4. What is the main focus of eco-design in the fashion industry?

- a. Reducing energy consumption
- b. Maximizing waste and pollution
- c. Increasing the carbon footprint
- d. Minimizing environmental and social impact

5. What is the goal of "continuous improvement" in eco-design?

- a. To keep production methods unchanged
- b. To minimize energy efficiency
- c. To seek new ways to enhance sustainability
- d. To promote fast fashion trends

6. What are the main criteria taken into account in eco-design?

- a. Fashion trends and consumer demand
- b. Price and profit margins
- c. Environmental and social factors
- d. Brand popularity and marketing strategies

7. What is the Textile-Clothing Eco-Design Wheel used for in the textile and clothing industry?

- a. To promote fast fashion trends
- b. To ignore sustainability concerns
- c. To address environmental and social impacts
- d. To minimize the carbon footprint

8. Why is transparency in the fashion supply chain important in eco-conscious consumer demands?

- a. To increase manufacturing costs
- b. To enhance brand popularity
- c. To reduce carbon emissions
- d. To ensure ethical and eco-friendly practices

9. What is the primary goal of eco design in a circular economy perspective?

- a. To save and recycle as little natural resources as possible
- b. To focus only on the raw material extraction stage
- c. To reduce ecological impacts of distribution
- d. To save and recycle at maximum natural resources

Answers:

1. Aligning creative vision with sustainability
2. False claims of eco-friendliness by fashion brands
3. High costs of raw materials
4. Minimizing environmental and social impact
5. To seek new ways to enhance sustainability

6. Environmental and social factors
7. To address environmental and social impacts
8. To ensure ethical and eco-friendly practices
9. To save and recycle at maximum natural resources

24. REFERENCES

Eco Design: Definition, Examples, Principles

- <https://youmatter.world/en/definition/definition-eco-design-examples-definition/>
<https://refashion.fr/eco-design/sites/default/files/fichiers/Replays%20&%20Pr%C3%A9sentations%20Matin%C3%A9%20%C3%A9co-conception.pdf>
<https://extranet.refashion.fr/rapport-activite/2020/> Re_fashion “Activity Report 2020”
<https://www.eco-conception.fr/articles/h/eco-textile-8-la-roue-des-strategies-d-eco-conception-specifique-aux-textiles.html> Eco-textile #8 : La roue des stratégies d’éco-conception spécifique aux textiles
<https://eur-lex.europa.eu/legal-content/FR/TXT/PDF/?uri=CELEX:32009L0125&from=BG>
 DIRECTIVE 2009/125/CE DU PARLEMENT EUROPÉEN ET DU CONSEIL
<https://www.la-federation.com/fr/news-breves/le-guide-ecoconception-pour-marques-responsables-1894.html> "Le Guide "Ecoconception pour marques responsables"
https://www.textile.fr/documents/1587377119_essentiel-Filiere-TLC-Mars2020.pdf LOI RELATIVE À LA LUTTE CONTRE LE GASPILLAGE ET À L’ÉCONOMIE CIRCULAIRE
<https://www.sciencedirect.com/science/article/abs/pii/S0921344920303062> Environmental life cycle assessment of textile bio-recycling – valorizing cotton-polyester textile waste to pet fiber and glucose syrup
<https://www.sciencedirect.com/topics/materials-science/life-cycle-of-product>
 An Overview on the Development of Natural Renewable Materials for Textile Applications
<https://www.mdpi.com/2071-1050/15/2/1549> “Sustainability Innovation in the Textile Industry: A Systematic Review”

25. EXTERNAL RESOURCES

- State of the art on nexus between sustainability, fashion industry and sustainable business model:
<https://www.sciencedirect.com/science/article/pii/S2352554123000025>
 Eco-design design strategy: case study biomimicry approach in design product materials:
https://www.researchgate.net/profile/Amine-Taieb/publication/372121913_Eco-design_Design_Strategy_Case_Study_Biomimicry_Approach_in_Design_Product_Materials/links/64d515ce1290c33cce869e49/Eco-design-Design-Strategy-Case-Study-Biomimicry-Approach-in-Design-Product-Materials.pdf “Indigenous-Led Sitcom ‘Acting Good’ Returns for Season Two, Amplifying Indigenous Narratives”
<https://onlinelibrary.wiley.com/doi/abs/10.1111/raq.12763> Sustainability outcomes of aquaculture eco-certification: Challenges and opportunities

WORKSHEET

Giveaways:

1. The fashion industry generates a significant environmental impact, with raw materials accounting for up to two-thirds of a product's effects on water, energy, emissions, waste, and land usage.



While completely sustainable fibers are rare, there are alternatives with lower environmental footprints, such as regenerated fibers, organic fibers, recycled materials, biobased materials, waste/deadstock materials, cruelty-free materials, and vegan materials.

2. To enhance sustainability in the fashion industry, designers, artisans, and brands have various options at their disposal, including:
 - Embracing slow, sartorial, on-demand, and/or local production models.
 - Implementing upcycling and recycling practices.
 - Utilizing zero-waste design principles.
 - Adopting less impactful chemical treatments.
 - Reducing resource consumption.
 - Promoting ethical work practices.
 - Incorporating eco-design principles into their product development process.
3. A significant portion of fashion-related pollution is attributed to garment maintenance and disposal, which is influenced by end-users. Brands and designers should strategically develop innovative solutions that address product usage, care, disposal, and the dissemination of information and culture to promote awareness and encourage responsible behaviors.

Activity for Self-Reflection:

Read the following statements about fashion and decide whether they are true or false.

- A. Cotton production requires low water consumption.
- B. A garment made of different types of fibers is more easily recyclable.
- C. Pre-order and on-demand models limit waste.
- D. Garments made of synthetic fibers don't need to be washed.

MODULE TITLE

1. Holistic thinking and quality production in fashion

1. SHORT MODULE DESCRIPTION

This module focuses on two big trends in modern business: holistic thinking and quality management. Its goal is to simplify and make them tangible and doable in your everyday business operations. The significance of the topics of quality management and holistic thinking comes from the fact that they both are relevant to every single step of fashion production, from the concept to retail and waste management. The module will guide you with the use of practical examples, case studies and good advice. Last but not least, it offers ideas and practical tips for SMEs and solo-entrepreneurs on how to introduce quality management and holistic thinking in a fashion or textile-related company.

2. TOPICS FOR COLLABORATIVE FORUM

1. Can the fashion industry ever be fully based on the idea of holistic thinking? Share your thoughts here.
2. How to educate and encourage people to change their attitudes towards "fast fashion"? (taking into account a holistic approach to the problem)
3. How do you control and maintain quality in a small fashion company? Good practices welcome!
4. Quality and organic textiles - how to combine it? Share your solutions and experiences.

1. SUBMODULE: HOLISTIC THINKING IN FASHION

- 1.1 Holistic versus analytical thinking
- 1.2 Holistic approach to the sustainable fashion industry
- 1.3 Examples of holistic fashion design
- 1.4 How to apply holistic thinking in small business?
- 1.5 Where the future of fashion is headed?

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

This submodule invites you to reflect on the idea of holistic thinking in fashion production. It begins with an introduction outlining the definition of holistic thinking from a cognitive perspective and how it differs from the analytical thinking that has accompanied us so far in the fashion industry. Then, it explains how important a holistic approach is, if we want to turn a complex textile production system into a more sustainable one. Next, it gives more tangible examples of applying holistic fashion design. Last but not least, this submodule offers ideas and practical tips for SMEs and solo-entrepreneurs in fashion on how to introduce holistic thinking in a fashion or textile-related company.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

Upon completing this sub-module, you should be able to do the following:

1. define what is holistic thinking approach,
2. explain the importance of a holistic approach throughout the textile creation process,
3. understand what you can do as a customer or owner of a small fashion business to support holistic approach in fashion,
4. plan your business transformation towards a more sustainable one,
5. discuss the future of the fashion industry on a holistic basis.

4. LEARNING CONTENT

Holistic versus analytical thinking

Individuals' thinking styles emerge as a result of their socio-cultural environment, which favours certain thought abilities over others.

Analytical thinking

Analytical thinking involves separating the object from its context, focusing on attributes of the object to categorise it, and preferring to use rules about the categories to explain and predict the object's behaviour. This logical way of thinking has provided the world with all of the benefits of modern science and technology, boosting us forward in leaps and bounds. Analytic thinking relates to the individualistic values of Western cultures. It's principles were developed in ancient Greece between 200 and 500 BCE, with philosophers such as Socrates, Plato, and Aristotle trying to comprehend the world through logic, deductive reasoning, and the discovery of rules.

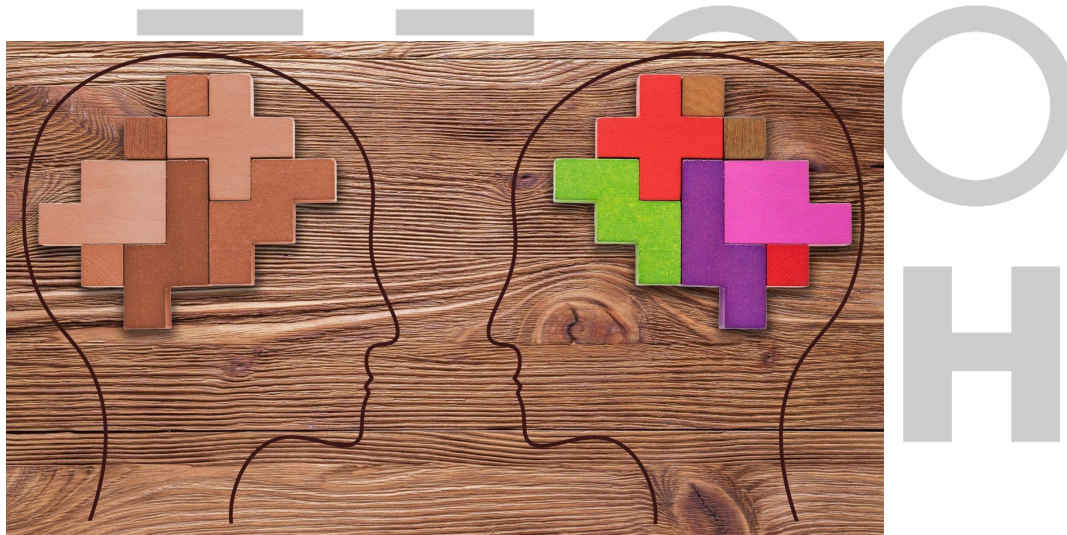
Holistic thinking

In contrast, holistic thinking is defined as the capacity to understand the whole picture by observing its large-scale patterns. It is an ability to recognize and foresee many various kinds of connections among all the components in a complicated system. The fundamentals of holistic thinking were formed in ancient China. Famous Chinese philosophers such as Confucius, Mencius, and Laozi advanced a worldview based on harmony, balance, and acceptance of cyclical change. These thinking style is characteristic to the broader philosophy of East Asian cultures. It is also compatible with the collectivist values of these cultures.

Difference in practice

What words would you use to describe your kitchen? Is it a place where you can spend time with your family or friends cooking and having fun together? Would you explain it as a warm and inviting area where you can serve food and drinks to your guests? Or would you enumerate its components? Would you explain that it has a table, 6 chairs, table top and electrical oven?

For example, an analytic thinker might define a dining table as being made of dark wood and seating six people. A holistic thinker might explain it as a place for people to gather and share a meal.



Source: Canva Pro repository, author: Radachynskyi Serhii via canva.com

Whereas analytic thinkers seek to grasp this concept by examining the traits and motivations of individual people, holistic thinkers analyse the larger circumstances and interactions between people. Analytic thinkers classified statements as true or false. Holistic thinkers frequently transcend contradictions and find truth in even diametrically opposed ideas. Both approaches are valuable, especially if we admit our cognitive biases and value other people's perspectives as complementary to our own.

Nobody is born with the ability to think analytically or holistically. We pick up on these patterns from our surroundings. Access to both analytic and holistic cognitive approaches is available for all of us, but our interactions with others reveal a dominant and socially reinforced preference. Consider these thinking styles to be sets of cognitive tools for interpreting and dealing with daily challenges.

One thing we must emphasise when discussing the fashion industry system is that by applying analytical thinking to human achievement: we have made important breakthroughs and leaps in growth, now is the time to see things from a higher perspective, holistically.

Holistic approach to the sustainable fashion industry.

Fashion, like all ecosystems, is dynamic and complex. This is why holistic thinking is so important. The fashion system has both intangible and tangible components. All of which have connections with each other. The watchword of the fashion industry in the 20th century was 'take, make, and waste'. This analytical model is the foundation of the linear economy, in which raw materials are gathered, turned into products that are briefly used, and then discarded. It has resulted in the global fashion and textiles industry being one of the most polluters on the planet. Each month, billions of garments are produced, and inevitably they are ending up in mountains of waste in countries such as Ghana, Burkina Faso, and Ivory Coast.



Source: Image by mario_luengo on Freepik

Fashion industry has a major negative impact on natural ecosystem and people. Approximately 17-20% of the world's water is polluted as a result of the use of nearly 8000 synthetic chemicals in its processing. Non-organic cotton uses 25% of the world's pesticides. The majority of these pollutants are caused not only by clothing manufacturing countries, but by cotton producing regions, chemical and synthetic material producers, and, most importantly, by western clothing consumers. To encourage people to stop buying "fast fashion" and actively seek out more information about the clothing they are buying, it is crucial to increase public understanding of the problems at hand.

Fun fact: It is believed that the protagonists of "slow fashion" were Hippies, who favoured locally sourced, handcrafted, and pesticide-free goods, popularized ethical fashion in the 1970s.

In general, holistic thinking in fashion refers to higher socioeconomic, ethical, and environmental standards for clothing production. Basically covers all the aspects of the industry: customers' education, environmentally friendly production, product life cycle, supply chain and sourcing, waste and recycling, ecodesign, etc. Each of the mentioned areas only partially relates to the "bigger picture". To create truly sustainable clothing, you must consider a variety of factors and relation between them. You have to remember not only about bigger scale tasks but even about such "details" as building corridors for wild animals in cotton fields. This is where holistic thinking allows you to look into the problem in its full extent.

The issues to be dealt with are on several levels. Let's look at some of them while thinking about more holistic solutions.

Consumers

There are numerous reasons why the industry falls short of achieving sustainability. People desire to see trendy clothing arrive on retail shelves on a regular basis. As a result, brands tend to focus on low-cost garments with short manufacturing times in factories. Fast fashion let consumers to purchase latest fashion on demand at extremely low prices. But they never consider who pays the cost for cheap clothes. Low price suggests also that the clothes are disposable. Shopping is frequently used as an emotional release, a sense of control, or as an escape. Understanding of such wants and needs, which might also affect how people shop. Customers' behaviour must be changed in order to enforce the sustainable fashion movement.

Designers

Designers visualise our fashion. It depends on them how and what our clothes are made of. By choosing eco-fabrics and styles that will ensure the durability and longevity of the garment, they could change the existing trends. If their product were multifunctional, it would become a classic style, showing customers new values in fashion. But for that to happen, they need to be educated from the beginning. Fashion school, could be also a sustainability school - showing to the students their responsibility, the eco-materials and resource-saving aspect of the manufacturing process.

Celebrities & media

Today's media plays a significant role in shaping consumers' fashion aspirations and desires. Fashion magazines and mainstream newspapers tell us what's hot and what's not, what colours to wear and which styles to avoid. Also celebrities are the most influential people in our culture and society. Fans all over the world copy their style and fashion. Celebrity and media could contribute to the environmental and social impacts of sustainability by putting th pressure to textile and clothing

manufacturers, but the most challenge consumers to change their habits of fast fashion and unnecessary cheap clothing consumption and dumping.

Retailers & brands

Nobody in business wants to reduce consumption in a world dominated by profit. As a result, businesses will never promote changes in consumer behaviour. For brands and retailers sustainable approach requires a holistic look and takes an effort by engaging all counter parts in the complex supply chain. Few well-known companies and retailers discover that sustainable fashion sells and can be profitable as well as financially rewarding. But they are under a great deal of pressure to secure a profit that they previously made with fast fashion and paradigm of growth.

Manufacturers

Factories are still typically powered by coal, oil, and natural gas. A massive amount of fibre, the sector's most valuable raw material, is thrown away or burned. Factories need to learn and practice ethical production and CSR. They have to rearrange their corporate behaviour, employee training and invest money in nature-based knowledge and technology. It all starts with suppliers of raw materials and working out the code of ethics with them, ensuring no child labor or forced labor, and fair price for fair payment are in place. Next steps are innovation, collaboration, process optimization, sustainability reporting, and greening the supply chain.

Educator

Textile and fashion schools offer degrees in textile engineering, apparel manufacturing, fashion design, and fashion management. If sustainability were a core component of graduates' curriculum, they would have a strong understanding and opportunity to create sustainable fashion. Universities could initiate and fund research projects on sustainable fashion and collaborate with industry and institutions. The industry itself could fund research projects and encourage competition for sustainable fashion industry solutions. From an entrepreneurial standpoint, we must all unite under the banner of sustainability. Our challenge will be pollution prevention, recycling water and waste, using alternative energy to power factories, sustainable technology, corporate social responsibility, human and labour rights, transparency, design and materials used and chain supply management.

Examples of holistic fashion design.

Fashion designers have created a wall and distance between themselves and their customers. They are positioned as 'experts' in taste and style, designing on behalf of people who wear their clothes. This system has conditioned fashion consumers to be passive. People rely on designers and believe in their authority. They are buying proposed styles and clothes, but nearly half of what is bought is discarded each year.

There seems to be an overwhelming amount of clothing in the world that is only intended to be worn briefly. Consumers are spending less time wearing the same items and they have no chance to connect emotionally with these products. A UK study of nearly 2,000 women over the age of 16

found that the average garment is only worn seven times. This brings information to designers - the clothes made under this system are ineffective because they hold little significance or value for the wearers.



Source: Canva Pro repository, author: neenawat via canva.com

This has been the case until now. New models emerged based on inclusive and collaborative fashion design practices. They put into question the traditional interactions between the roles of designer, producer, and consumer. Innovative ideas can also shift business concerns from purely financial concepts to other forms of capital, such as human, cultural, and environmental.

It's incredibly difficult to create products that have emotional value for another person. The biggest challenge for designers is to give users as much creative freedom as possible and involve them from the start. Paying close attention to what customers actually want and need leads to good design. By acting as an advisor or facilitator and working together to create the final product, the task of designing is changed from designing for the consumer to designing with the consumer. A holistic approach is demonstrated here by designing simple clothing with timeless style and with the use of organic materials. It involves planning, creating, and producing clothing with thinking about future use of fabric or garment. In practice, making clothes with the next use in mind involves designing, developing, sharing, personalization, customization, co-designing with customers and product personalization during use. The goal is to extract the most value from garments while they are in use, then restoring and regenerating materials at the end of their useful life. Details like which seams are best suited to a particular type of garment are also an example of holistic thinking in fashion. Seam durability differs based on the kind of textile and fibre used, and selecting the right

one can be crucial to increased longevity. All of these approaches work in extending the bond between the product and the user. Design can significantly influence how fashion is developed.

Zero-waste movement

Holistic thinking in design requires a bigger picture of the connections in fabric industry. A good example is a Systems Mapping in the zero-waste fashion movement. Designers examined and mapped a substantial part of the production procedure in order to develop a fusion of methods for reducing fabric waste. This is a starting point for considering how designers at all levels of the industry can reconsider their responsibilities and actions in the context of environmentally and ethically responsible design approaches.

Clothing circularity

Clothing circularity is another idea that includes holistic thinking. The goal is to return clothing, no matter the condition, and put them back to use. The garments collected are grouped for wear, stains, as well as holes until being washed and, if needed, fixed, re-dyed, or re-worked before being offered for a percent of their original cost. This idea not only decreases the environmental impact of old clothing, but it also earns money, proving that reusing clothes can be profitable.

Capsule wardrobe

Susie Faux created the term "capsule wardrobe" in the 1970s. According to her, it consists of a small number of interchangeable clothing pieces that complement one another. These are frequently timeless classics in neutral colours that never go out of style. A capsule wardrobe allows you to put together a variety of outfits from a small selection of clothes.

1.4 How to apply holistic thinking in small business?

Education

All of us can make a small but significant personal contribution to the sustainable fashion industry. The first thing you can do is find out more about how fashion affects the climate. Learn more about the human rights records of major brands. Study carefully all the aspects mentioned in this module and find additional information in other sources. This will let you realise the functionality of the entire complex fashion and fabric production system and the mutual relations between its segments.

Marketing

Marketing has also a big influence on how we use and perceive clothing. Track your communication with customers, how it can influence their behaviour, and how can it be changed to create a more conscious consumer attitude. Even when consumers begin to understand the ethical and environmental consequences of their decisions when they buy fast fashion, persuading them to purchase more expensive slow fashion items can be difficult. However, you can broaden their

understanding of the impact of the fast fashion industry, and give them the information they need to make an informed choice.

Storytelling

One way to change your clients behaviour is to inform them more about your products. Tell them a story about your garments or crafts, how it all started, why your company made it, and about some of the unique struggles you faced. Let them know who created the item, how it was produced, what components have been used. When they begin to understand a product in this manner, they will be more eager to rethink what they are buy and spend more money. Remember, when you sell clothes this way, you sell not only things but also values.

In a small business, how do you achieve a balance between financial success and ethical, sustainable production? Let's see what world-famous designers say about it:

“We need different narratives and behaviours—ones that orient fashion towards longevity and the preservation of nature and human experience”.

Aniela Fidler Wieruszewska – London designer and maker.

“Consumers need to decide whether they're more interested in saving pennies or saving the environment. Products that are quality are going to cost more”.

Debera Johnson: The Brooklyn Fashion and Design Accelerator founder.

“Slow fashion stands in opposition to everything that fast fashion represents – it moves at a slower pace, disregards trends, is concerned with a classic or ‘signature’ look, and stresses the importance of artisanal production and emotions attached to the clothes we own”.

Anna Ruohonen: Finnish Paris-based fashion designer and founder of her own clothing label



Source: Canva Pro repository, author: annebaek via canva.com

Good practices

By following the examples of European fashion companies, you can adapt their practices to your business. Good practices are worth promoting and disseminating. Think about your business. What does it offer? How do you communicate with your clients? Does your website or shop inform customers about any values related to sustainable fashion? Do you inform customers about the creation process, the sources from which you have materials? Below you will find a list of practical ideas that you can incorporate to carrying out your company's mission.

- Consider how easily clothes can be worn together.
- Ensure a good fit and solid construction detailing.
- Include more sustainable natural fibres available in Europe into your collections, such as wool, linen, silk, cashmere, and mohair.
- Make sure your customers understand the significance of garment longevity.
- Consider the knowledge you can share with your customers. What can be free of charge and which elements have to be chargeable?
- Think what services you can offer. In order to keep your collection of clothes in active use.
- Propose a free or low pay repair service for the simplest repairs, such as missing buttons through to darning moth-eaten sweaters.
- Find a way to reuse your waste materials
- Create a web space for suppliers, tools, patterns, products (to share with people).
- Try also to focus on small-scale and local production.
- Remember about quality (materials, garment construction and fit, and customer service). It is also a matter related to emotional bonds with garments.

- Clothing treatment and repair are crucial to extending garments' life. Try to include instructions regarding how to care for products properly and how to do eco-friendly laundry at home (greenwashing).

Where the future of fashion is headed?

Is the fashion business ever going to be sustainable? This troubling topic, which is frequently discussed by experts, researchers, customers, and academics, remains unanswered. It is a hazy and broad concept that requires a holistic approach to environmental ethics and moral value. All we know is that, when it comes to fashion sustainability, human rights must be respected and protected, and ecological boundaries must be upheld. Industry should meet the needs of the current generation without endangering the next one.

Sandy Black, Professor of Fashion & Textile Design and Technology based in London, sees an ideal solutions to the main problems of the textile industry.

- Clothes are no longer discarded in landfills. Because of the broad effectiveness of textile-to-textile recycling operations, infrastructure exists everywhere to make it simple to return, swap, and reuse unwanted clothing.
- The approach to cheap clothes needs to be changed. Prices have been deliberately cut for the mass market in the "race to the bottom." Selling price must rise in order to represent the true costs and value.
- Decrease in wasteful production and consumption. Small-batch and made-to-order manufacturing, promote longer wear, becoming the new standard.
- Support and tax breaks for small and micro-scale fashion companies seeking sustainable innovation.

Is it, however, some kind of the myth of sustainable fashion in future? Let's look at the hard data.

Sustainability, eco-fashion, and ethical fashion are frequently seen on leading fashion brands' labels. Many garments are promoted as carbon neutral, organic, or vegan. These generalisations, have all but lost their significance as brands enthusiastically employ them to draw attention to the favourable features of their goods while frequently omitting the drawbacks. Only 20% of fashion companies share details on their sustainability status on their websites, according to Rankabrand, a Dutch sustainability organisation. Over 63% of fashion brands only mention sustainability on their websites. It suggests that they are not engaging in sustainable practises but are instead adopting current branding trends. Deciphering what businesses are actually doing is quite difficult in the absence of standardised language or regulated frameworks. Most of them rely on synthetic materials made from fossil fuels because they are more affordable, adaptive, and accessible than natural materials while still maintaining low price for rapidly changing fashion trends. As a result, polyester has developed into the most popular synthetic fibre and currently accounts for more than half of all fibre production worldwide. It is made from nonrenewable resources, extracts and processes with a lot of energy, and produces a lot of byproducts.

Recycling, resale, rental, reuse, and repair are promoted as environmentally friendly business methods. The sad reality is that all of the fashion industry's experimenting and "innovation" over the last 25 years has failed to reduce its environmental impact. Shirt and shoe manufacturing has more than doubled in the last quarter century. Globalisation has widened the industry's boundaries, and its multi-tiered supply chain is getting more complicated.

"There are still very, very few brands who know where their stuff comes from in the supply chain, and even fewer of them have entered into active relationships with those suppliers to reduce their carbon footprint"- environmental scientist Linda Greer.

Recycling has little impact on reducing environmental damage. Fewer than 1% of all clothing is recycled into new outfits due to weak recycling facilities and lower-quality fibres. Innovators are increasingly developing bio-based alternatives to conventional synthetics made from fossil fuels (e.g., polyester) and materials produced from livestock (e.g., leather). Unfortunately, these breakthroughs are challenged by high initial costs, substantial capital requirements, reluctance to change, and a lack of appropriate pricing.

For a quarter of a century, customers get used to the free market. It is difficult for them to give up the multitude of goods to which they have access at a low price. Asking customers to buy more expensive, ecological clothing and to follow certain eco-values is still ineffective.



Source: Canva Pro repository, author: Maica via canva.com

Fashion, like all industries, is part of a larger system. It is a system based on expansion. From a commercial point of view, customer education and a carrot-and-stick approach will be required to persuade corporations to change their operating processes to be more ecologically responsible. The industry's damaging status quo will continue until it believes that its clients want sustainable fashion and that it can be cost-effective for them. Currently, consumer awareness does not always mirror purchasing behaviour. Once customers start genuinely rewarding companies for fair pay, the use of organic materials, circular manufacturing lines, and so forth, we could expect benefits in sustainability developing.

Governments must also step in to make companies pay for their harmful influence on the environment. Carbon and water taxes should discourage their usage, enhance innovation, and speed up the deployment of renewable energy. The same thing may happen with fees on the usage of virgin plastic, which would include polyester (A governmental committee in the UK recommendation). There are also plans to implement rules that force producers to pay for the costs of disposal of their products up in advance (in California for several categories) or legislation that forces fashion brands to share and abide by their supply chain commitments, carbon emissions, wage reporting in comparison to payment of a living wage etc (in the state of New York).

Holistic thinking must be a collaborative and open approach that brings together brands, retail chains, and cross-sector initiatives. Bringing together opinions from academics, fashion designers, business owners, customers, and policymakers, these issues were examined, along with potential solutions. The potential of the fashion system as a powerful tool for social and environmental transformation can be remarkable.

5. CASE STUDY

Context: Holistic thinking in the fashion industry covers many aspects. In fact, it should show up right from the start, when the designer thinks the product up in his head. The design process must be reflected in issues such as ecological fibres, shortening the supply chain, renewable energy use, and finding ways to reduce waste. At the same time, a designer has to think about the style of clothes, their intended use, durability, ways of repairing and adapting the product to customers and their needs, good quality and price. Coping with all this is not easy but possible, as can be seen from the example of the FERNN company.

Description: FREN (fresh and Nordic) is a Helsinki-based company founded in 2013. FREN was founded with the intention of producing clothes that people would value for many years, if not decades. Brand combine comfortable yet formal appearance for men working in office environments. The superior materials, craftsmanship, and iconic style of “relaxed sophistication” are the flagship values of two creative professionals Jarkko Kallio and Antti Laitinen. The brand consists of simple, elegant, and adaptable clothing: knitwear, button-down shirts, trousers, blazers and outerwear.

Highlights of the company:



- FRENN clothing is very simple to adapt and repair.
- The clothes feel comfortable and they never lose their shape, they are long-lasting and durable.
- Clothing from FREN is produced in closely regulated conditions in nearby Estonia.
- The business owners are acquainted with the subcontractors and have been to each factory.
- The line's materials are made in EU nations including Italy, Portugal, and Lithuania, and 80% of them have received the international certificate, a guarantee that the fabric is secure for both the consumer and the environment.

Lesson Learnt:

Aesthetic and long lasting is one of the most important design tasks. Owners of FREN Antti Laitinen and Jarkko Kallio are living proof that men's workwear can combine durability, comfort, and uniqueness. They also implemented far-reaching ecological and ethical thinking in the fashion business as well as valuing the customer and providing a deeper level of product satisfaction through excellent manufacture, fit, and design.

FREN [official website](#) and [Instagram](#)

6. PRACTICAL ACTIVITIES

Activity 1.

Drag the words.

Large-scale (1), crucial (2), collaborative (3), environmentally friendly (4)

1. The ability to understand the big picture through recognising patterns is known as holistic thinking.
2. Clothing treatment and repair are to extending garments' life.
3. Holistic thinking must be a and open approach that brings together brands, retail chains, and cross-sector initiatives.
4. Recycling, resale, rental, reuse, and repair are promoted as business methods.

Activity 2.

Choose the correct answer.

- 1) What was the watchword of the fashion industry In the 20th century?
 - a) 'use, change, and reuse'
 - b) 'take, make, and waste'
 - c) 'derive, produce, and dispose'
- 2) How to apply holistic thinking in small business?
 - a) education, responsible marketing, storytelling.
 - b) aggressive marketing, building relationships, quality management
 - c) eco design, waste management, using non renewable energy

- 3) How can the design influence on more sustainable fashion development?
- By designing simple clothing with timeless style and with the use of local materials.
 - By choosing eco-fabrics and styles that will ensure the durability and longevity of the garment.
 - By providing a deeper level of product satisfaction through excellent manufacture, fit, and design

Answers:

1b, 2a, 3all answers.

Activity 3.

True or false

- Fashion is a system based on expansion and growth. **TRUE**
- Nowadays, clothes are no longer discarded in landfills. **FALSE**
- The traditional fashion industry meets an expectation of sustainability development. **FALSE**
- Systems Mapping in the zero-waste fashion movement is a good example of holistic thinking. **TRUE**

7. SOURCES

Whitty, J. (2021). Fashion Design for Holistic Systems. In: Muthu, S.S., Angel Gardetti, M. (eds) *Sustainable Design in Textiles and Fashion. Sustainable Textiles: Production, Processing, Manufacturing & Chemistry*. Springer, Singapore.

Hirscher, A-L., Fuad-Luke, A. (2013). Open Participatory Designing for an Alternative Fashion Economy. In: Niinimäki, K. (ed.) *Sustainable fashion: New approaches*. Aalto ARTS Books

Niinimäki, K. (2013). Ethical Design. In: Niinimäki, K. (ed.) *Sustainable fashion: New approaches*. Aalto ARTS Books.

[The Myth of Sustainable Fashion](#) Retrieved October 27, 2022.

[Case Study - Eileen Fisher: A holistic approach to garment longevity — Redress Design Award](#) Retrieved October 10, 2022.

[Holistic approach towards sustainable fashion industry \(part 1\)](#) Retrieved October 10, 2022.

[C&A promoting circular fashion to add more good to the world](#) Retrieved October 11, 2022.

[Eileen Fisher wants those clothes back when you're done - The Washington Post](#) Retrieved October 12, 2022.



[Holistic Approach to Sustainable Clothing | Global Opportunity Explorer](#) Retrieved October 12, 2022.

[Neutral – Textile Exchange](#) Retrieved October 17, 2022.

[“SLOW FASHION” THE HOLISTIC APPROACH TO SUSTAINABLE FASHION | THE UNTITLED MAGAZINE](#) Retrieved October 7, 2022.

[Revisiting Fashion and Sustainability: A Holistic Perspective - Bhajan Global Impact Foundation](#) Retrieved October 17, 2022.

[The future outlook for sustainable fashion | Courier - Mailchimp](#) Retrieved October 18, 2022.

[How Could the Future of Fashion Be More Sustainable? - Good On You](#) Retrieved October 19, 2022.

[Moving the needle: toward a more holistic and ethical fashion industry | Greenbiz](#) Retrieved October 19, 2022.

[Are you a more holistic or analytic thinker? Take this quiz to find out.](#) Retrieved October 7, 2022.

7. EXTERNAL RESOURCES

[Changing the world through fashion: Eva Kruse at TEDxCopenhagen](#) The fashion sector has the potential to be one of these innovators, actively solving significant ethical, social, and environmental issues on a global level. Danish Fashion Institute's and Copenhagen Fashion Week's CEO and President, Eva Kruse.

[DIY Couture by Rosie Martin on Vimeo](#) - Rosie Martin (2012) *Diy-couture*, presents her antithesis of fast fashion, talks about her easy-to-make collection that does not require patterns and where eco-fashion meets street style.

[Openwear collaborative clothing](#) (Openwear 2010) The project run as an open exchange platform for designers and makers.

[Emotional bonding with personalised products](#) (2009 Journal of Engineering Design 20(5):467-476). A study that investigates the effect of emotional product bonding through product personalisation.

[Fashion-able. Hacktivism and engaged fashion design | Otto von Busch - Academia.edu](#) (2008) Thesis that shows fashion as a form of social activism.

1. QUALITY PRODUCTION IN FASHION

1.1 What is quality in fashion?

1.2 Why is quality so essential?

1.3 Total Quality Management

1.4 Quality control in fashion - everyday life



1.5 Textiles and clothing legislation in the EU

1.6 Quality in a small fashion brand

2. INTRODUCTION (SUB-MODULE DESCRIPTION)

This submodule invites you to reflect on quality in the fashion and textile industry. It starts with an overview of different views on quality - from fabric quality to quality as a business approach. Then, it explains why orientation towards quality is beneficial for both large and small business and presents the most common framework for quality management (Total Quality Management). Next, it gives insight into real life quality control in fashion production linking it to the EU textile and fashion regulations (definition of textile, labelling etc.). Last but not least, this submodule offers ideas and practical tips for SMEs and solo-entrepreneurs in fashion on how to introduce quality management in a company.

3. LEARNING OBJECTIVES (FOR EACH SUB-MODULE)

Upon completing this sub-module, you should be able to do the following:

- define quality in production of apparel,
- explain the significant of quality (and lack of) in fashion,
- understand the EU requirements for textile production and retail,
- draft a quality management plan and checklist which could be applied in a small fashion company,
- discuss quality in connection with sustainability and other contemporary trends in the fashion industry.

4. LEARNING CONTENT

What is quality in fashion?

Quality is an accepted standard for everything, whether it is a product, a material, or a relation between people. In the case of the textile and fashion industry, quality refers most often to material and product, production, and the overall business philosophy.

Product quality

In today's competitive global economy, product quality has emerged as a crucial factor. But because it has varied connotations for consumers and producers, the phrase is hard to define. Quality is typically described as the whole of a product's attributes, including its appearance, intended use, performance, internal material interactions, consistency between identical products, and lack of design or material defects. Remember that fabric quality is simply one aspect of product quality. Cloth quality refers to the fabric used to make the product. Product quality is also influenced by other aspects such as design and construction. What is more, a quality product is defined by its end users. Expensive brands (Gucci, Chanel) - a quality product looks the way it conveys your status.

Less expensive brands (Nike, Tommy Hilfiger) - a quality product is functional, it does well what it is supposed to do, for example running shoes. More recently, sustainability of clothing items has become an important indicator of quality.





Source: Image by Freepik

Production quality

Quality control happens on all levels of apparel production - from research and design, through manufacturing, and retail. Who takes part in it?

People who work for the brand, people in factory (development / production) - especially in large fashion brands who order large quantities of items in factories (usually in Asia) - They check if the design is possible to be manufactured, if the material is comfortable and good for the skin, they check the technical things such as stitching, labels, inspect the material, people in retail stores inspect the end-customer product, get customer feedback

Quality should not be referred to only as inspection and control. It is an attitude of perfecting each step of the production so that minimal inspection is needed.

Quality as a business approach

From a broad point of view, quality in fashion may be seen as an approach focused on enhancing quality within the entire design, production and retail process. It can mean perfecting the design, the fabric sourcing, manufacture, shipping, retail and customer service. In this sense quality comes close to sustainability as it refers not only to the product but also to people and the environment. In today's market, fashion companies which strive for quality must consider natural resource efficiency, minimize waste, improve working conditions, gender equality and human rights.

Why is quality so essential?

Quality management assists organizations in improving product quality and developing product processes. The major advantage of quality control during production is that it aids in preventing manufacturing errors, allowing to spot faults early on. Thanks to this production can be altered on

an early stage and significant costs of shipping faulty items can be avoided. Systematic and thorough quality monitoring may lower expenses across an organization (be it a brand or manufacturer) when used consistently over time. This happens because quality becomes integrated in all of the company's activities and becomes a factor in decision making, communication within the company, with the clients and suppliers. Finally, quality means customer satisfaction and economic growth. As a result of the company's superior goods and services, there should be fewer customer complaints. Customers who recognize your brand as trustworthy and of high quality, will become your informal ambassadors and will bring in more customers.

On the global scale, it is the responsibility of those who work in the textile complex to work to ensure the consumer trust is not damaged by low quality textile products. The global textile industry has set standards and established quality-control programs (such as the Total Quality Management) for many textile products. Laws and regulations inform consumers of fiber content and care requirements and protect them from unsafe textiles, improperly labeled merchandise, and other unfair and harmful trade practices. Other laws and regulations protect the environment and regulate trade.

Total Quality Management

Textile manufacturer and large fashion companies often use what is called Total Quality Management (TQM) - a comprehensive management framework that aims to enhance all organizations' capacities for creating and delivering goods and services that satisfy customers' needs. It was first utilized primarily in the manufacturing industry, but it has since become recognized as one of the most important criteria for establishing a competitive edge in the service and other industries.

To put it simply, TQM assumes that every person and every process contributes to the overall quality of the company and the supply chain, hence the word 'total' in the name. Maintaining quality is not just the responsibility of inspectors and quality professionals; everyone must work together to achieve this aim.

The 7 Principles of Total Quality Management

The ISO (International Organization for Standardization) has identified seven essential principles for honing the details of TQM. These principles define the core approaches that TQM represents and give clear guidance.



The 7 Principles of Total Quality Management. Author: WICI Association

CUSTOMER FOCUS: To provide high-quality outcomes, the product must meet or surpass client expectations. Quality should always be viewed through the eyes of the consumer.

LEADERSHIP: Leaders at all levels must work together. When a company's leadership has a clear vision, it is simpler for the workers to follow suit.

EVIDENCE-BASED DECISION-MAKING: Decisions should be based on reliable and well-sourced information. Companies need quality data to make educated decisions.

PROCESS APPROACH: Every process in a firm is linked. Quality planning take into consideration all activities. This allows businesses to see the wider picture and acfashion fabric qualityhieve consistent and predictable results.

RELATIONSHIP MANAGEMENT: Effectively managing business connections contributes to the whole supply chain's strength, resulting in improved process and product quality.

PEOPLE ENAGAGEMENT: Every person is critical to improving the workforce's skills and continuously delivering excellence.

CONTINUOUS IMPROVEMENT: Customer expectations are always shifting and evolving. As a result, product and process quality improvements need to be a continuous effort.

Total Quality Management (TQM) is a strong concept that enables businesses to involve every person, every activity, and every system in advancing the finest quality standards for the customer and the whole organization. It has been successfully applied in large companies but can also prove useful and inspirational for smaller organizations.

Quality control in fashion - everyday life

Everyday quality management differs between fashion brands and garment manufacturers and between small and large companies. All of these are interesting to analyze when it comes to quality challenges they face most. Fashion companies and brands will need quality standards in market research, design, production, retail, customer service and feedback. Garment manufacturers (like large companies located in Asia) have whole departments specialized in quality control.

What does everyday quality control in production look like?

It depends on the scale of the manufacturer but two main types can be defined.

- **Inline/online quality control:** happens during the manufacture, there is personnel who inspects samples of clothing on the production lines. Doing inline quality checks helps identify defects early on and repair them. This is helpful because it minimizes the chance of releasing and shipping whole batches of apparel with defects.
- **On-table/final quality control:** conducted after items are manufactured. In large productions, a sample is chosen and inspected according to a checklist provided by the product owner (the brand). Large factories have quality control departments and quality management systems. AQL (Acceptable Quality Limit) - maximum number of defects accepted before a batch of items is disqualified.

In some cases, laboratory tests are conducted. Depending on legal regulations, in some countries a brand needs to test an item for certain qualities before it can be advertised, for example if a brand wants to advertise a jacket which can retain color fastness even after 100 washes, it needs to order laboratory tests to independently verify this.



Source: Image by teksomolika on Freepik

What is evaluated during quality control?

In large companies the brand prepares a quality guidelines document and a sample item against which the manufacturer can check the items inline and before shipment. Evaluation includes but is not limited to:

- measurements,
- color fastness (material's color's resistance to fading or running),
- dyes (if the fabric has any visible spots or dye excess),
- fabric mechanical properties,
- seams and stitches,
- appearance of the finished garment,
- fitting,
- smells (any odor from dyes or chemicals used during manufacture),
- safety (check if any needles, pins and staples are left in the garment),
- packaging and labeling,
- patterns and prints.

Textiles and clothing legislation in the EU

All EU members now adhere to Textile Regulation (EU) No. 1007/2011, which governs the use of fiber names and the labeling and marking of textile goods' fiber composition. This was done to safeguard consumer interests and remove any potential barriers to the internal market's smooth operation.

The main elements of the Regulation, as mentioned on the EU single market economy website, are:

- general obligation to state the full fiber composition of textile products

- minimum technical requirements for applications for a new fiber name
- the requirement to indicate the presence of non-textile parts of animal origin
- exemption applicable to customized products made by self-employed tailors
- Empowerment of the European Commission to adopt delegated acts amending the technical Annexes of the Regulation, in line with Article 290 of the Treaty on the Functioning of the European Union
- Reporting on the implementation, review clause, and study on hazardous substances to be undertaken by the Commission.

Scope of Regulation 1007/2011

According to the Regulation, textile products have to be labeled or marked accordingly whenever they are put on the market. The Regulation does not cover size, country of origin, or wash/care labeling.

At every stage of an item's industrial processing and commercial distribution, the identification of the product's fiber composition is required.

The Regulation applies to all items, including raw, semi-worked, worked, semi-manufactured, semi-made, and made-up items, that include at least 80% by weight of textile fibers.

Regulation (EU) No 1007/2011 was adopted on 27 September 2011 and became applicable on 8 May 2012. Read the full text [here](#).



Source: Canva Pro repository, author: Elionas2 via canva.com

Textile labels — EU requirements

In the EU, labels on textiles intended for final consumer sale are required. Textile labels may be replaced or supplemented by supporting commercial documentation in business-to-business transactions.

At any point in the marketing chain, national authorities can inspect textile items to ensure that the information on the label is accurate.

If you want to introduce a clothing product to the EU market, make sure that a label is attached and fulfill the following provisions:

- include the composition of the fabric – written in decreasing percentage order
- use clear and legible text, including uniform lettering (same font, size, and style)
- contain a clear separation between the information on textile composition and other information, such as product care.

You must translate the text into all of the official national languages spoken in the countries where your textile goods will be sold if you intend to sell them in one or more European states.

A textile item can only be referred to as "100%," "pure," or "all" if it is made entirely of one type of fiber. You can opt to utilize such phrases or just call a garment made entirely of cotton "cotton," for example. If you produce goods that you think have exceptional environmental qualities, they can be eligible to use the [EU Ecolabel](#).

Quality in a small fashion brand

Quality management system like TQM is more widely applied in large companies than in small ones. However, it does not mean that small and micro companies do not need or do not benefit from introducing quality policies. To the contrary, quality management should be a part of your business plan from the very beginning and should be subsequently altered depending on the company's current situation - employees, products, suppliers, production partners, marketplaces etc. It might be useful to appoint an employee to monitor implementation of the quality standards.

If you work on your own, you might be reluctant to spend extra time on studying and preparing quality policies for your company. It can be overwhelming to hear about Six Sigma, business excellence, lean manufacturing and many other names under which systematized quality management methods are described. This can be discouraging at the beginning. Yet, as shown in the previous chapters of this module, quality has no single or universal definition which you must apply to your business. To the contrary, it is helpful to think of quality management as a way of improving your company's operations. As a business owner this is what you strive for daily, is it not?



Source: Image by gpointstudio on Freepik

Stages of implementing quality management

Swedish researchers, Marcus Assarlind and Ida Gremyr (2014) point to six critical steps/factors in adoption of quality management (QM) in a small company.

1. contextualisation,
2. gradual implementation with realistic goals,
3. involvement and training of employees,
4. involvement of external support,
5. management involvement, and
6. fact-based follow-up.

Factor	Description
Contextualization	<p>The QM initiative should not be something separate or apart from remaining company processes, it should linke to them. QM is helpful when it is tailored to the particular business and its characteristics, for example, by using the company's present advantages and strengths. To be able to do that, you need to be aware of your company's situation, needs and challenges.</p> <p><i>Advice:</i></p> <ul style="list-style-type: none"> ● <i>Set goals for QM initiative based on company goals,</i> ● <i>Prioritize customer focus.</i>
Gradual implementation using	QM should be employed step by step with constant attention

<p>realistic goals</p>	<p>to if and how, it benefits the company. If you decide to change everything at once, implementation might be very burdensome. There is no need to rush the process. Results of quality management may need time to show themselves.</p> <p><i>Advice:</i></p> <ul style="list-style-type: none"> • <i>Start with a small pilot project with potential for success. Choose one aspect of the company, e.g. customer service.</i> • <i>Think of QM as an iterative process.</i>
<p>Involvement and training of employees</p>	<p>Small companies usually have the advantage of a flat structure with few layers of management. Work relations are more personal. Use this to your advantage and engage your employees in the process of QM implementation from the start. Organise a discussion or brainstorming. Ask for meaningful feedback and input on what should QM in your company entail. You can also introduce recognition and rewards for accomplished QM work.</p> <p><i>Advice:</i></p> <ul style="list-style-type: none"> • <i>Establish forums to offer plentiful information and communication,</i> • <i>Reward employees for their involvement in the QM initiative with non-monetary rewards.</i>
<p>Involvement of external support</p>	<p>You may look for extra funding and mentoring for QM from national and European programmes. Learn from other companies. Other ideas include working across similar companies in your sector. Perhaps you know company owners who are also thinking of introducing QM? Sharing the work may be a solution when you cannot spend a lot of time doing QM. Interestingly, some researchers advise against hiring consultants as their expertise moves away from the company when they move on to the next assignment.</p> <p><i>Advice:</i></p> <ul style="list-style-type: none"> • <i>Research good (and faulty) practices of small and large companies.</i>
<p>Management Involvement</p>	<p>Managers and owners play critical role in QM. It is important that they display a positive attitude to change and become visibly involved by, e.g. sharing their expertise about the company's needs and convincing others of the benefits of introducing QM. Reluctant attitude will effectively block progress.</p> <p><i>Advice:</i></p>

	<ul style="list-style-type: none"> ● <i>Establish a team to coordinate QM implementation,</i> ● <i>Make sure management is showing public support for the QM initiative.</i>
<p>Fact-based follow-up</p>	<p>To ensure that QM actions are in alignment with the goals, and that improvements are made, you need to monitor what is happening in the company and its surrounding - number of production errors, sales, net costs, employees' feedback, customer complaints, suppliers' relations. Some of these markers are easily quantified while some you will need to establish and monitor in a more descriptive manner.</p> <p><i>Advice:</i></p> <ul style="list-style-type: none"> ● <i>Collect data from internal processes to be able to follow up on QM efforts (do it regularly: pre, during and post QM implementation).</i>

Quality management - practical ideas for small business owners

If you run a fashion company, think of preparing a document in which you would state the quality standards you want to achieve and maintain. Define the standards of design, sourcing, production, delivery, retail and customer service. Each domain requires thought and analysis so do not rush, do each step by step, starting from the one which needs most attention, to your and your team's best knowledge. Compile a document in which you can establish quality checkpoints to which you (and your team) can refer daily in your job before you think of a task or stage as complete.

If you outsource manufacturing, prepare clear and detailed instructions and acceptance criteria which you can share with third parties - your employees, subcontractors such as a group of local tailors or a large sewing factory.

Tips:

- make a quality checklist for each domain of your business (e.g. Garment quality),
- arrange it into sections (e.g. 1. Garment requirements, 2. Packaging requirements) and subsections (e.g. 1.1. Garment weight and dimensions, 1.2. Garment materials, 1.3. Garment color etc.)
- the more detailed the sections, the better,
- you can add sketches, pictures, graphics,
- consult the checklist with the contractor so that you are on the same page and have the same understanding of what passes and what fails in each section.

A quality checklist is crucial if you want to assure the quality of your items and avoid negative product reviews and returns. Even if it may appear difficult in the beginning, it will save you stress, time and money in the long run. Quality control system is a must for any size fashion enterprise.

5. CASE STUDY

Context: Quality and sustainability have become buzzwords in the fashion industry. As the customers become more aware of quality and ethical concerns related to the clothing industry, companies are forced to become transparent. More and more companies reveal how their products are made (material, cost, production place) and explain their business models in relation to waste management, sourcing raw materials, or recycling. As customers we hear about how large fashion brands finally monitor the conditions in which their fashion is produced. Though the change is slow, it seems inevitable. For new clothing brands, the need to be transparent, socially involved and sustainable is evident. Many small fashion brands represent outstanding examples of quality-oriented businesses.

Description: Bombshe - a Polish fashion brand

Bombshe is a small, Polish clothing brand dedicated to women, established in 2016. Their headquarters and the heart of the brand, i.e. their own, intimate sewing room, are located in Wrocław, with all the people working in the company are all closely related. The very creation of Bombshe is the fulfillment of childhood dreams and fashion passion of two people: Marcin and Kasia.

Highlights of the company:

- Instead of outsourcing manufacturing, they have set up their own sewing studio.
For us, ethics means not only the right materials or quality control, but most of all the right attitude towards people. We care a lot about our seamstresses. We have built a sewing room next to the house and our family helps us a lot at work. Marcin's mother packs parcels, and his sister takes care of customer service. We treat employees as part of the family. The dressmakers we hired soon found out that they would be fine at Bombshe. In other sewing studios, you work on a piecework basis, we don't do that. We decided that if our seamstresses are to focus on quality, not quantity, they must have the right working conditions. The effect was such that over time our seamstresses brought their friends to work with us.

(Interview with Marcin and Kasia, sukces.rp.pl, 05.10.2021).

- They create clothes from scratch - they construct, design, and cut items straight from material beams and finish them on the spot in the studio.
- They work with local suppliers - "we play to one goal". They most willingly buy materials and accessories from partners from the nearest regions. All threads, zippers and buttons come from Polish producers. They want to support smaller entrepreneurs and strengthen the Polish market.
- They use and promote eco-friendly yarns and fabrics (only OEKO-TEX® Standard 100 certified). You can read about it on their blog.
- Their collections are small. Each item is designed and made to last for years and match items from previous collections.

Lesson Learnt:



Bombshe is a good example of a company focused on quality not because they have received quality awards or international recognition but because they have developed their own understanding of quality in harmony with the natural and social environment. The foundation of their business is ethical approach to people they work with (seamstresses), environment (high quality, eco fabrics, low transportation costs) and local businesses (using services and products of local companies). Their example shows that quality does not need to be expensive, does not require large investments, and can be the driving force of a small, non-Western, company made from scratch.

Bombshe official [website](#) and [Instagram](#)

6. PRACTICAL ACTIVITIES

Activity 1.

True or false

- A. A fashion brand is not responsible for quality management. QM is conducted only by a clothing manufacturer.
- B. TQM stands for Textile Quality for Manufacturing.
- C. Quality management benefits both small (SMEs) and large companies.
- D. There are universal quality standards that can be applied to any company, irrespective of its size, location and profile.
- E. Quality management in fashion is defined as inspection of production lines and finished items.

Answers:

- A. False
- B. False
- C. True
- D. False
- E. False

Activity 2.

Drag the words

realistic

fact-based

contextualisation

engagement



quality management

Critical factors for the adoption of in SMEs can be divided into certain categories: (alignment with a company's goals), gradual implementation using goals, and training of employees, involvement of external support, management involvement, and follow-up.

Answers:

Critical factors for the adoption of **quality management** in SMEs can be divided into certain categories: **contextualisation** (alignment with a company's goals), gradual implementation using **realistic** goals, **engagement** and training of employees, involvement of external support, management involvement, and **fact-based** follow-up.

Activity 3.

Choose the correct answer.

1. What does quality in fashion refer to?
 - a. Production of fabric and textiles.
 - b. Sustainability and use of organic raw materials.
 - c. All the aspects of a fashion company activity.
2. As a small company owner, do you need to hire an external, independent expert to introduce quality policies?
 - a. No, there is no such obligation. It is up to the company owner.
 - b. Yes, this is an EU legal obligation.
 - c. It depends on the size of the company.
3. If you want to sell clothes in Spain, Italy, or Poland, what information are you obliged to put on the label?
 - a. Full fiber composition of textile products.
 - b. Full fiber composition of textile products written in decreasing percentage order.
 - c. Sustainability certificate.
4. Imagine you have a fashion company which has produced a bag made in 60% of linen and 40% of leather. Its weight is 80% leather. Does the EU textile and clothing regulation apply to your bag?
 - a. Yes. Every item which contains even 1% of textile qualifies as such.
 - b. Yes. The EU regulation applies to items which include at least 51% of textile fibers.
 - c. No. The EU regulation applies to items which include at least 80% by weight of textile fibers.
5. The 7 principles of Total Quality Management (TQM) are:
 - a. Customer focus, leadership, evidence-based decision-making, process approach, relationship management, people engagement, continuous improvement.
 - b. Customer focus, leadership, evidence-based decision-making, process approach, sustainability management, people engagement, continuous improvement.
 - c. Customer focus, leadership, evidence-based decision-making, process approach, relationship management, people engagement, continuous profit growth.

Answers:

1C, 2A, 3B, 4C, 5A

7. REFERENCES

Assarlind, M., Gremyr, I. (2016). Initiating quality management in a small company. *The TQM Journal*.

Assarlind, M., Gremyr, I. (2014). Critical factors for quality management initiatives in small-and medium-sized enterprises. *Total Quality Management & Business Excellence*, 25(3-4), 397-411.

Kadolph, S. (2014). *Textiles* (11th ed.). Pearson Education Limited.

[The Textile Labelling Regulation \(EU\) 1007/2011](#). Retrieved October 10, 2022

[Total Quality Management](#). Retrieved October 10, 2022.

8. EXTERNAL RESOURCES

TED [‘The Future of Fashion – Made from Mushrooms’](#) by Dan Widmaier. Your closet is likely full of all kinds of materials -- leather, cotton, nylon and polyester, to name a few -- that contribute to fashion's sustainability crisis. Biomaterials investigator Dan Widmaier explains how we could look to nature for sustainable replacements for these much-used materials and introduces a leather alternative made from mushrooms that looks great and doesn't harm the environment. "We can make fashion sustainable, and we're going to do it with science," Widmaier says.

[EU strategy for sustainable textiles](#). This strategy will help the EU shift to a climate-neutral, circular economy where products are designed to be more durable, reusable, repairable, recyclable and energy-efficient.

[‘Recycled post-consumer textiles - an industry perspective’](#) (results of EU Project Fibersort). The report builds on publicly available data of recyclers, manufacturers and brands, as well as primary insights gathered through a survey, interviews with recyclers, manufacturers and brands, as well as industry and academic experts.

[Eco Innovation](#) - EU eco policy and funding opportunities for businesses who want to become innovative and sustainable. Support mechanisms for 2021-2027.

[Video lessons](#) ‘What is Total Quality Management?’ and ‘Implementing Total Quality Management (TQM) in an Organization’.



9. WORKSHEET

Giveaways:

1. Fashion is like an ecosystems that is dynamic and complex. That is why a wider, holistic approach is so important. Such broad perspective, brings together brands, retail chains, and cross-sector initiatives towards more sustainable fashion development.
2. Holistic thinking in fashion refers to higher socioeconomic, ethical, and environmental standards for clothing production. Consumers, designers, celebrities, brands, manufacturers and educators are equally responsible for implementing this attitude in the world of fashion.
3. Total Quality Management is an approach based on an idea of long-term success by having all company members (from low-level workers to its highest-ranking executives) focus on improving quality and delivering customer satisfaction. Quality control is an attitude of perfecting each step of the production.
4. Quality production does not require vast financial investments - it is about making decisions and planning. Small steps count.

Activity for self-reflection:

Holistic thinking and focusing on high-quality, sustainable production is no longer merely a suggestion but a social and environmental necessity for business owners. Take a moment to reflect on that statement in relation to the operations of your company. Make a list of main company activities (e.g. production, chain of supply, sales, marketing, communication, waste management, administration) and note down how holistic thinking and quality orientation are present (or missing) in each of them. Are you satisfied with the state of affairs? Which company domain is good enough and what needs improvement? It is difficult to change everything at once so focus on most doable changes. Think about the small steps necessary to improve your company's holistic and quality profile. Approach this task in the SMART way (formulate your ideas for changes, having in mind that they should be specific, measurable, assignable, realistic and time-bound). Make notes, and discuss them with your team.

Case study, essay, topic, activity

List 2-3 companies in your sector and business size whose operations you consider notable examples of holistic thinking and/or quality production. What makes them stand out? Analyze their communication - website, social media, blog etc. Identify communication ideas which you can draw inspiration from and apply in your business.



1. Title of the certificate ¹

Training Package 1: Sustainable and digital production processes - TECOFASH

2. Translated title of the certificate ²

(IT) Pacchetto formativo 1: Processi di produzione sostenibili e digitali - TECOFASH

(LT) 1 mokymo paketas: Tvarūs ir skaitmeniniai gamybos procesai - TECOFASH

(PL) Pakiet szkoleniowy 1: Cyfrowe i zrównoważone procesy produkcyjne - TECOFASH

(ES) Paquete de formación 1: Procesos productivos sostenibles y digitales - TECOFASH

(GR) Πακέτο κατάρτισης 1: Βιώσιμες και ψηφιακές διαδικασίες παραγωγής - TECOFASH

3. Profile of skills and competences

The holder of the certificate is able to:

Module 1 - Introduction to environmentally friendly production in fashion

- Recognize the main criticalities of common fibers in the fashion industry.
- Choose more sustainable fibers for fashion projects/brands.
- Understand the suitability of materials for specific fashion projects.
- Recognize environmental impacts of processes and practices in the fashion industry.
- Interpret examples of designers and brands addressing sustainability issues.
- Identify the main principles of the circular economy in the context of fashion.
- Manage waste creatively and implement practical advice for sustainable practices.

Module 2 - Customers behaviors and digital and technological changes

- Explain the impact of social, cultural, and environmental factors on customer attitudes towards fashion.
- List factors influencing customer behavior in the fashion industry.
- Explain how these factors affect customer behavior in fashion.
- Recall key elements of the slow fashion movement and principles of conscious consumption.
- Explain how online shopping has impacted traditional fashion retailing.
- Describe the influence of social media on making the fashion industry more accessible.
- Recall how AI influences fashion consumer behavior.
- Explain the impact of influencer marketing on consumer behavior in the fashion industry.

Module 3: Understanding the supply chain and sourcing

- Identify different stages of the fashion supply chain.
- Acquire tools to enhance traceability in the supply chain.
- Distinguish transparent communication from greenwashing.
- Gain an overview of major European fashion trade shows.
- Learn how to have a productive fair visit.
- Develop the ability to source materials and producers independently.
- Gain a visual overview of major certifications in the fashion industry.
- Know the main claims and criteria of various certifications.
- Understand how to select certifications for sourced materials, suppliers, and one's company.

¹ In the original language. | ² If applicable. This translation has no legal status. | ³ If applicable.

The Certificate supplement provides additional information about the certificate and does not have any legal status in itself. Its format is based on the Decision (EU) 2018/646 of the European Parliament and of the Council of 18 April 2018 on a common framework for the provision of better services for skills and qualifications (Europass) and repealing Decision No 2241/2004/EC.

