

Demola Future Report

Sustainability in Fashion

2022



Table of Contents

- 1 Our Team
- 2 Introduction
- 3 PESTEL Analysis
- 4 Future Scenarios
- 5 Timeline
- 6 Team Presentation and Self Reflection
on Sustainable Fashion
- 7 Conclusion
- 8 References

Our Team



Viktória Macková

From Slovakia,
International Politics, Fudan University



Jasmina Nevalainen

From Finland,
Food and Consumer Economics, Helsinki University



José Abreu

From Portugal,
Fashion Management Business, ISCAP



Haozhe Feng (Yuna)

From China,
Smith School of Business, Queen's University



Zenghui Lin (Mikaela)

From China,
English/Law, Fudan University



Xinyi Shen (Kelly)

From China,
Cultural Heritage and Museology/Law, Fudan University



Luis Araújo Santos (Facilitador)

From Portugal,
Degree: Civil engineering, Polytechnic Institute of Coimbra
(IPC)

Introduction



In today's society, sustainability, especially sustainability in fashion, is still a topic that remains majorly overlooked. **Fast fashion** giants are still profiting from the over-exploitation of natural resources, creating massive overproduction of which the majority ends up in landfills, causing great harm to the wellbeing of our planet. Politicians, **governments**, and **supply chains** are making small changes in matters of reliable, sustainable decisions, but at the same time, they are not ready for the improvement of this behavior completely on a global level. Under the influence of **media** and **marketing strategies**, **customers** are encouraged to support fast fashion trends, often without proper knowledge of the used materials or background of the production.

Is there a change?

In recent years, sustainability-driven companies are experiencing increasing popularity in the world market, using recyclable materials and organic fibers, thinking with an "**environmental mindset**", motivated by creating a sustainable customer culture and ensuring better lives for future generations. However, without the necessary support and innovation, this change is still drastically slow. Therefore, in research on sustainability, there is one utterly important question that needs to be asked:

How might we improve this situation?



PESTLE ANALYSIS

P

POLITICAL aspect concerns with how and to what degree a government intervenes in the economy or a certain industry. Basically all the influences that a government has on market/industry/business could be classified here.

E

ECONOMIC aspect is the determinant of a certain economy's performance. Factors include economic growth, exchange rates, inflation rates, interest rates, business sector investments, disposable income of consumers and unemployment rates.

S

SOCIAL aspect represents the demographic characteristics, norms, customs and values of the population or selected stakeholders. This includes population trends such as age distribution, income distribution, lifestyle attitudes, consumption preferences and cultural barriers.

T

TECHNOLOGICAL aspect , fashion industry employs tons of machines and human capital during the production as well as the selling process. With the development and implementation of new tech, we hope the whole process would be more cost effective & time-saving with less waste.

L

LEGAL aspect, legal regulation and legislation has to be improved to integrate laws to promote the sustainable fashion, in terms of environmental issue, labour& human right dispute, the input materials...

E

ENVIRONMENTAL aspect, fashion industry has to eliminate pollution (chemical waste&carbon emission), limit resource depletion, improve quality and standard facilitating promotion of CSR and environmental sustainability

POLITICAL ANALYSIS



Overview: Political Regulation And Potential Unfairness

While most of the governments worldwide are searching for new regulations in order to curb the pollution of fashion industries, the effectiveness of these rules are still open to dispute.

Exploitation of Regulation Discrepancy

Because of unfair competition in political rules and benefits, companies are still searching developing countries to get cheap fabrics and employees willing to work in inhumane environments, often not reaching the limits of minimum wage.

Unfairness of the political rules is also visible throughout the treatment of sustainable based companies and fast fashion big brands, whereas the former is visibly under-respected and not openly supported by the state based economy, but the latter is widely promoted.

Unsatisfying Results

Exploitation of workers is not seen, the government acting blind on the topics of human rights and workers protection. In many countries, the government is still staying ignorant towards the laws and topics of sustainability in order to promote state fast fashion based economy, filling the demand of the public and the general market.



CURRENT PROGRESS & CHALLENGES

A Trend of Sustainability Worldwide?

On April 13th, 2022, the European Union released a sustainability crackdown on fashion industry. The 27-member bloc outlined an ambitious policy strategy that aims to curb the industry's environmental impact and address labor abuses, particularly a sustainable textile strategy that aims to transform the industry by the end of the decade. Fortunately, this is but the very premier of a trend worldwide...



Governments In Action

Governments of some countries like Portugal or Finland did some positive changes and moved towards the correct direction in order of sustainability of packaging, supply chain or overall innovation of the fashion industry. This positive impact is necessary as a goal setting strategy and indirect promotion of a sustainable way of life, through sustainable companies, ecological materials, etc.

Possible Challenges

Despite the booming luxury sales intact from the stagnant economy during the Covid-19 pandemic, LVMH, Kering and Hermès are among the companies that have yet to set absolute targets to cut greenhouse gas emissions in their supply chains. This poses a strong trial against the fashion industry's climate commitments and other environment-friendly efforts.

	2021	2020	2019
Revenue (EUR millions)	30,896	21,207	22,237
Revenue by geographic region of delivery (%)			
France	5	5	8
Europe (excl. France)	16	18	23
United States	21	19	18
Japan	9	10	11
Asia (excl. Japan)	41	39	31
Other markets	8	9	9
Total	100	100	100
Type of revenue (as % of total revenue)			
Retail	94	93	91
Wholesale	6	6	8
Licenses	-	1	1
Total	100	100	100
Profit from recurring operations (EUR millions)	12,842	7,188	7,344
Operating margin (%)	41.6	33.9	33.0

Annual Revenue of Fashion And Leather Goods
(from 2021 Annual Financial Documentation of LVMH)

ECONOMIC ANALYSIS



Overview: *These factors may have a direct or indirect long term impact on the topic, since it affects the purchasing power of consumers or could possibly change demand/supply models in the economy or certain business area. Consequently it also affects the way companies price their products and services.*

Opportunistic Investment Performance

Polarisation in the fashion industry accelerated during the pandemic as the gap widened between the best-performing companies and the rest. With some players already bankrupt and others kept afloat by government subsidies, we expect M&A activity to increase as companies maneuver to take market share, unlock new opportunities and expand capabilities.

Deeper Partnerships

By exposing the vulnerability of procurement partners, the weakness of contracts and the risks of a concentrated supplier footprint, the crisis accelerated many of the changes that companies were already making to rebalance their supply chain. To mitigate future ruptures, fashion players should move away from transactional relationships in favour of deeper partnerships that bring greater agility and accountability.



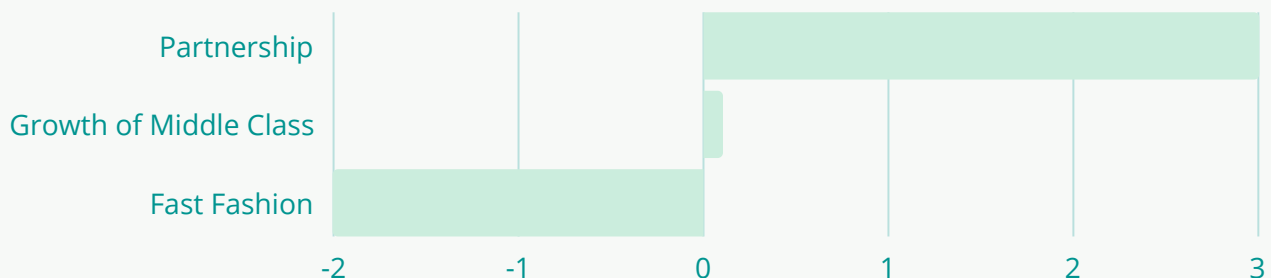
INVESTIGATING THE MAJORITY: MIDDLE CLASS & FAST FASHION

Growing Impacts of the Middle Class

Growing middle class affects consumer behavior and the middle class are consuming more. Middle class growth isn't a bad thing but there are some difficulties because our way of consumption isn't sustainable but also the middle class have more money to use so they can also choose what to buy and make sustainable choices.

Fast Fashion Companies as the Chunk

Fast fashion has a huge impact on the economy. It is responsible for both the recent and future growth of the apparel industry. In fact, as of 2017, the market expected to grow by 5.91 percent. This trend is extremely harmful for other sustainable companies trying to proceed their economic strategy, however, due to market competition this fact can be next to impossible.



Positive/Negative Impact of Economic Factors on Sustainability of Fashion at a Glance

Rationale:

Fast Fashion focus more in profits than other thing.

Sustainable development in the fashion industry is challenging, since not a large portion of the customers are into sustainable ideas that can generate profit to continue growing the business in a sustainable manner. It would lead to less incentives for businesses to change their opinions.

Next, Most of the fast fashion companies are still stuck into the transition process to adjust their position towards more sustainable ways. However, customers may hardly tell the purpose of their advertising campaign as a profit-driven strategy or doing the betterment to the whole group.

SOCIAL ANALYSIS

Overview: While lifestyle attitudes and consumption preferences represent a major part of the social factor analysis, it should be noticed that the aforementioned factors are prone to be altered by the prevalence of social media today. The use of social media has shaped consumers' awareness of sustainability of fashion and such campaign as clothes recycling. It also exerts great influence on social norms.



Clothes Recycling

It's a recent concept, day by day increasing the number of apps for consumers selling your clothes, not using more and other people use and don't need to buy new items in stores and at a good price.

Education

Education (school, university etc.) can impact consumer behavior by understanding how the fashion industry impacts the environment and society.

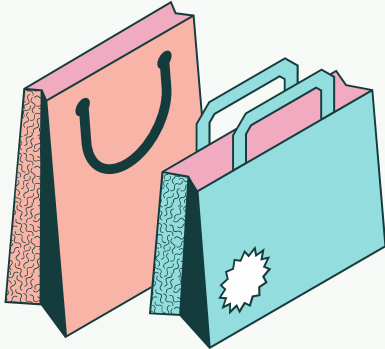


Use of Social Media

Social media modify and create new trends in a good and bad way. Example many social media influencers post photos with new outfits and share promotion codes to shop clothes.

CONSUMPTION PREFERENCES IN DETAIL

Consumers' Image



Customers that are keen to sustainable styles are mostly young generation and holding open minds that they easily adapt to new ideas. Whereas, the counter group do not appreciate sustainable actions or seek innovative products that may cost them more money and they diminish the value of sustainable fashion goods that are made of second-used or recyclable materials.

Typical Consumption Attitudes

The Z generation with an educational background is highly concerned about the environmental impact of overproduction issues from fashion factories. They believe that it is everyone's responsibility to hold a new mindset to embrace and promote zero-waste concepts to make the fashion industry cleaner and greener.

On the other side, customers value fast fashion, and want to get their hands on up-to-the minute trends. They tend to be less conscious about the negative externalities to relative stakeholders like the environment, employees in the supply chain, etc. When it comes to consumption ideas, they care more about the price of products, and are not willing to pay more for the sustainable ideas.

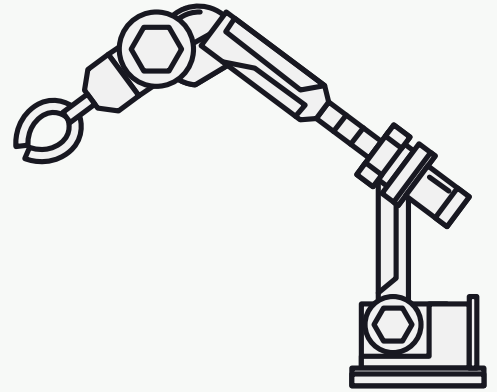
Nowadays, people who buy clothes really focus on the higher-order needs, rather than for their basic survival, it eventually creates fast fashion whose trend shifts so quickly. Last decade, the most characteristic of consumer is to buy in an emotional way for the good feelings acquired from consuming.



TECHNOLOGICAL ANALYSIS

What We Expect in Ideal TECHNOLOGY?

New technology to produce fibre from all forms of cellulose: no harmful chemical, no micro-plastic and less water use than cotton's lifecycle (99% less), fibre is 100% recyclable and has minimal CO2 emissions. Yet, what is present world like?



01 — Low Automation & Labour Intensity

In the production of the fashion sector, it highly relies on intensive human capital in the production process. It can potentially lower the productivity, which is the lower daily output rate compared with machines and lower efficiency in terms of human errors. Because human personnel are more hardly managed and well-treated, since firms have to concern their health, their tiredness, their welfare and safety. By lowering the operation efficiency, they tend to generate more waste and pollution than machines. Without advanced machines or innovation, it hardly produce long-longevity, good-quality and eco-sustainable products or fabrics.



02 — Invention of Digital Technology

Digital adoption has soared during the pandemic, with many brands finally going online and enthusiasts embracing digital innovations like live streaming, customer service video chat and social shopping. As online penetration accelerates and shoppers demand ever-more sophisticated digital interactions, fashion players must optimize the online experience and channel mix while finding persuasive ways to integrate the human touch. Digital 3D samples to reduce waste in the design process.



03 — Resale, Recycled, and Renting Platforms

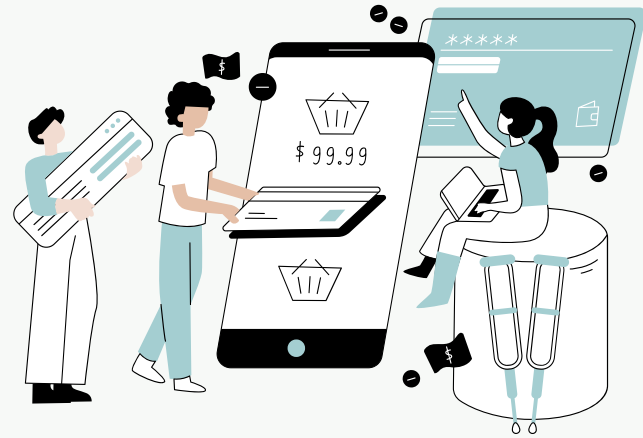
Thanks to today technology, as customers, we have additional sources of fashion products that we can consume, besides purchasing from the fashion companies. To some extent, it is more affordable and sustainable options for consumers who can purchase or sell, and recycle and rent used fashion goods with lower price, at the same time prolong their product life. If consumers dump their undesired products, and consume the new products as much as they want from fashion company it would cost a huge impact on the environmental issues. Because firms would seize the opportunity to produce more to earn the higher profit by shortening product life cycles and lowering quality. In this means, it indirectly enhance their responsibility to produce the best-quality products to the marketplace so that they gain some resale and recycled values.

Rising of E-Commerce-Observation

As the spread of the pandemic, e-commerce is rising in the fashion sector

Current State with E-commerce

People tend to buy clothes online, rather than in the physical store. During the time when spread of covid, people tend to enjoy online shopping for their clothing preference. It makes lots of physical fashion shops struggle with survival.



How Employees in Physical Store Do or Sell in China?

what the employees in store do to maintain its competitive level. it starts an online group chat shopping to promote their new fashion products to the frequent and loyal customers with internal discounts. It is apparently a much cost-effective approach with less delivery time for customers to buy, with one to one better customer shopping experience. Due to the large volume of online customers, most e-commerce cloth stores promote robot service to replace human agents.

Is E-commerce Can Be Future for Fashion Industry ?

E-commerce is a great trend for eliminating the excess production of clothes. Since it is still not a very mature stage, physical stores still can compete with them by better service qualities and faster delivery speeds. As a result, employees in physical stores develop these online communities to retain their loyal customers and become a big success overall. It also indirectly approves that online shopping can eliminate unnecessary cost or transaction waste during the whole production process.

Thus, E-commerce and emerging digital technology can be solution to eliminate production waste and pollution to a certain extent. Yet, we should also draw attention on the new-developing waste during utilizing the new-tech, and ensure the sustainable practices are aligned with their overarching goals, leading to a huge success.



Legal Analysis-- Fashion Industry



No laws benefits
Sustainable
Fashion
Companies
--Punishment
over
Encouragement

Governments hold an economic interest stake by benefiting from taxation. Yet, it also have a strong legal power to set our proper regulations and rules to better facilitate with sustainable development.

In fact, not many countries have special laws for **integrated sustainability in Fashion Sector**, yet some published legislations helps promote supply chain workers benefit and welfare. In reality, sustainable fashion is so complicated that it involves with various stakeholders to **collaborate** to achieve sustainable success.

Firstly, it is **economically costly and time-consuming** for fashion company to implement sustainable practices like using recycled materials, improving the production efficiency with limited waste, paying a fair compensation to employees, and reducing pollution. Thus, they share **less incentives to change their strategic plannings** without external forces from government.

Acknowledgements on Legal Laws



Macro-Level-- Legal Environment

the legal problems behind the development of the fashion industry are complicated, involving Intellectual property, contract law, company law, labor law, house leasing, import and export, advertising and marketing. Meanwhile, law always lags behind, and the fashion industry is always pre-industry, therefore, it is difficult to achieve the perfect guarantee and comprehensive promotion of sustainability in law, which also needs the continuous reference of all countries.

Micro Level -- Individual Fashion Competitors

- a few large-scale enterprises tend to obey the laws due to the economical globalization and sustain their positive corporate and reputation . If they want to operate oversea, they have certain standards to be satisfied (eg. Locating the factories in developing regions) They aim for the long-term benefit.
- the vast majority of small and medium-sized enterprises, including independent designer brands, command only a little basic legal knowledge. They tend to less concern about their brand image, since they tend to pursue cost-effective operation approach. They hardly follow up sustainable practices in their daily operation.



Summary:

Many theories can be easily understood from lawyer-perspective. However, designers, workers and consumers in the fashion industry need to be further educated to acknowledge and obey the laws to promote sustainability and prevent and protect from unethical practices and unequal treatment like unfair compensation, gender discrimination, environmental pollution as well as safety and quality issues...

Employment Laws



Despite the fact that there are still massive ongoing labour dispute in fashion industry, which mainly associates with employment issues like low employee turnover, high overtime production schedule, minimum wages issue, safety concern in working environment and extra.

Yet, the government is working on regulating the industry by implementing **Garment Worker Protection Act(SB 1399 Bill)**. This law is published in LA, US. It is definitely showing developed countries government attitude of supporting the fashion workers to improve employee ware-fares and human rights with legal power. **It is critical part of the sustainability in fashion in terms of the human rights & equality issues & poverty elimination.**

It eradicates the piece rate and introduce a guaranteed minimum wage, as well as expand liability. So the **fashion industry is responsible** for worker's wage, welfare, as well as addressing the gender equality issue. This act will contribute to the workers' health care, improve its current hostile working environment as well as help them access affordable child care and eliminate discrimination in the workplace.

If it has been implemented widely in the future, it would herald a new era for the fashion industry workers by this **systemic revolution**. Since human labor is a vital capital in the fashion industry, if factories can not treat their employees in an ethical manner, enhance it is hard to build up trust and create a good brand image. This law protects the employee' **legal right to make profound influence and strictly regulates the misbehaviour of the fashion industry effectively.**

In short, there is a huge gap between developed counties and developing countries regarding to their policies and regulations. On top of it, the bargaining power for the supply chain workers are relatively limited. Whereas, this legal act is the key signal that the government is taking actions in effective regulation and create a systematic and integrated regulatory control over the fashion sector. As moving to future, we hold strong faith to construct a sustainable industry with collective efforts with integrated supply chain sustainable practices in developed and developing areas.



Environmental Analysis

When the fashion sector is flourishing, the environmental externalities and impact draw us attention, which makes the fashion companies responsible. **Why?** Fashion production makes up **10% of humanity's carbon emissions**, dries up water sources, and pollutes rivers and streams. What's more, **85% of all textiles go to the dump each year** (UNECE, 2018), and washing some types of clothes sends significant amount of micro plastics into the ocean.



How fashion sector employ to reduce eco impact? Challenge & Opportunities

1 — Circular Economy In Fashion Industry

A more circular fashion industry will require a collective effort. As consumers become more engaged with sustainability issues, circularity will be the key that unlocks the door to a more sustainable future.

2 — Organic Materials Used as Marketing Strategies

In general all companies starting produce products with organic materials like organic cotton and other, companies start having conscience about the world and sustainability, but there is an argue that they using these to green wash their corporate images.

Circular Economy In Fashion Industry

As the growth of the garment production scale with annual rate of 2.7% up to 2030. Therefore, it must be imperative to develop circular strategies, address scalability challenges, and take concerted action to scale solutions. Here are some challenges for implementing of industry advances on 'Rs' - **reduce, recycle, refurbish, resell, rent and repair.**

- 1.Capturing value requires durability or recyclability.
- 2.Enabling circularity involves a complex web of logistics.
- 3.Engaging consumers requires overcoming stigmas.

Thus, we have to overcome the obstacles to promote an environmentally friendly and sustainable practice in the fashion industry in the future. The collective effort with fashion companies, customers and all participants in the value chain should be guided and follow the core concepts of 6“Rs”.



**"Circularity
moving from
the fashion
fringes
towards
centre stage in
2021"**

Organic Materials Used as Marketing Strategies

"Fashion brands are **capitalizing** on the fact that consumers are interested in buying fairly and ecologically produced items," said Katrin Wenz. It means that some fast fashion companies like Zara, H&M, and C&A promotes a positive image by using the organic materials like organic cotton.

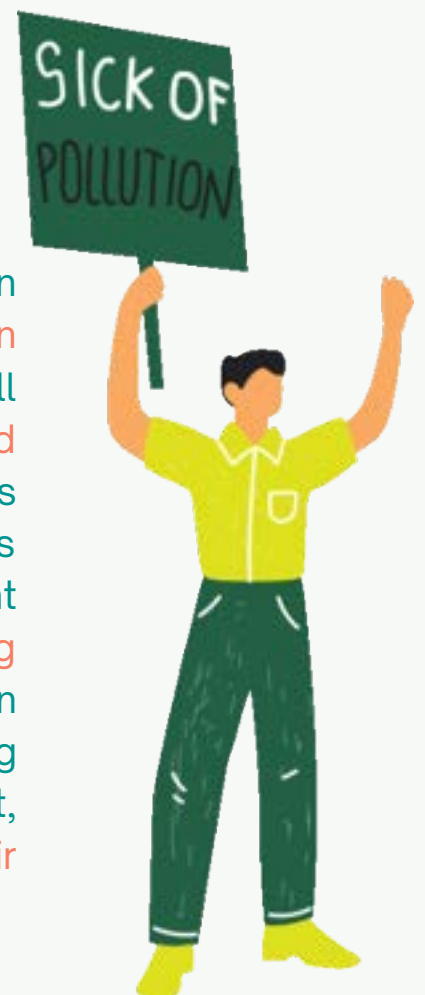


Environmental Impact

By using the organic materials, the environmental externalities are improving to certain extent, yet, it is still not consider to be a sustainable standard. Since cultivating the plants requires a substantial input of water and chemical materials like pesticides. From the figures, we know the organic opinions are really operational strategy-driven rather than sustainable result-driven. Thus, eco collections remain a **market niche**.

Ongoing Direction of Environmental Sustainability

Germany is pursuing a new approach to green certification with its government-backed '**Green Button**' label. A company can only use the label if all its products comply with **high environmental and labor standards**. These standards are not as strict as those demanded by organic certifiers, but experts say the 'Green Button' label is a step in the right direction, as it prevents producers **offloading responsibility** to subcontractors in the production chain. It ensures the the whole supply chain is taking responsibility to do betterment to the environment, rather than profit-driven strategy to **greenwash their brand images**.



How Sustainable Practices Penetrate in Companies- Interview



“To make friends
with nature
through clothes.”-
Sustainable
Fashion Company
Wølmark, Finland,

Action: CRS program

It makes all of their products using biological materials such as Alpaca fibre, leather and reusable polyester. From the shipping and gathering materials in Peru to wool (yarn) processing in Finland and delivery shipping is all sustainable, using cardboard packaging or reusable natural mailer boxes. Their products are of good quality and suitable for multipurpose use. 5 Euros out of every order goes to saving Finnish forests, until today, they have been able to save 3000 square meters.

Intention: Earn the Creditability and Loyalty

It educates and freely encourage customers in understanding topics of sustainability, building healthier treatment and mindset towards fashion. Company recognizes sustainability cannot be achieved by greenwashing, by keeping the brand transparent and cherishing every individual customers. By earning the customers trust, customers naturally promote their brand via social media or word of mouth.

Consequences:

Sustainable company is building trust by clarifying every step of the production, materials and supply chain, therefore, being trustworthy. The sustainable company realizes that the greenwashing is never the solution to enhance the customers loyalty or build up positive brand images. Since it is no long term benefit, when their greenwashing practices are recognized by the public. There will be a serious crisis in brand, and instead, they try to create a transparent supply chain system that contains varied plans to be implemented in the real-time. On top of it, it also initiates a corporate social responsibility program which save the forests in Finland that adds positive externalities to the environment and alleviate the negative impacts.

How international institutions develop Sustainability strategy ~ webinar



INTERVIEW WITH EURATEX 3 MAY, 2022





Future Scenario no.1

*What if the fashion
industry uses only
sustainable materials?*

There are many **innovations** to replace fibres and fabrics with sustainable and better recyclable materials. For example, we can use **apple, pineapple, and orange waste** to replace **silk**, and we can make textile fiber from **cellulose** and wood waste without using harmful chemicals. If all materials were sustainable and easier to recycle, that would reduce our greenhouse gas emissions significantly; we would reforest our fields, and we would use **less water** to produce materials. The fashion industry would be a lot different because the fibers and fabrics produced could be wider. For example, now India, China, and USA are the biggest cotton producers but if we can make fiber and fabric with other resources that will change the material markets.

Question is, how do we get there?

Changing all garment materials to sustainably produced materials is a significant change. That change wouldn't be possible without the government and very **strict laws** in the industry. Government should set laws that only sustainable materials will be legal by 2050 (example) and the government could help/invest in companies that are making the right choices to reach this goal. That would also mean that many fashion companies would go bankrupt or stop their production because they couldn't change their old and cheap production.

If we want to replace all materials with sustainable materials we would need much more **investment** and **support** for technological innovations so we would find much more new solutions and improve our latest innovations. Technological innovations also mean that we need more **educated** and **motivated** people in the industry to solve problems we have in industry and production.

If we live in a world where all garment materials are made in a sustainable way that would also mean that our way of consumption has changed. I believe that there would be no more fast fashion companies or maybe a few semi-fast fashion stores where you can buy seasonal clothing- who knows. Without fast fashion, I would like to believe that we would value our clothing higher and the life cycle of clothing will get longer.

Future Scenario

Sustainable Processes:

- Dyeing minimum water and energy, dyeing at lower temperatures.
- Biomass boiler, use forest waste, walnut bark.
- Solar power panels.
- Certified dyes, and petroleum derivatives, but without being aggressive, a company that certifies it is Algotex.
- Counters on each machine for water and energy consumption to ensure the evolution of sustainability processes
- Machinery has halved costs.

Techniques for reusing new materials for sustainability:

- Dye through orange dye, remains of aloe vera
- Sharpening in Portugal, collecting raw materials, undone reused to make yarn
- Bark, stalk, and grape seeds are used to make articles to replace skin animate, the water used can be reused over and over again, it is the most sustainable process of water
- Potato used to replace plastic buttons
- Orange fiber to create silk-like fabrics

Discovered **grape skins, seeds, and stalks** discarded during wine production could be saved from going to waste and used to make **vegetable-based leather**. Also referred to as "wine leather" or "grape leather," making it wastes no water and uses modified, existing machinery to transform what would otherwise create carbon dioxide when burned. By leveraging the use of renewable resources as an alternative to non-renewable fossils, our production processes are based on the exploitation of **biomass** and **vegetable raw materials**. This process consumes very little water, and that water can be used repeatedly. This contrasts with the animal-based leather industry, which uses immense amounts of water to sustain cows before they are slaughtered for their skins, and the leather manufacturing and tanning processes, which are very water-intensive and often pollute waterways. **Potato Plastic** is a biodegradable material, made of potato starch. This means that it will decompose to nutrients for the soil in only two months when it ends up in nature. Potato Plastic can be used for products such as cutlery, straws, and salt bags. Growing potatoes is the most effective way to produce food per hectare, but around 20% of the harvest is sorted away because the potatoes are ugly, too small, or too big. We are interested in using this large discarded percentage. As long as we keep throwing away so much valuable material, the potential for upscaling is enormous.

Future Scenario No.2

*What if the customer
mindset shifts to
sustainable one that
shapes the fashion
sector's priority to focus
the product quality and
business ethics?*

We always hold the belief that the change of the fast fashion industry is supposed to begin with the end customers because they would act as critical drivers and stakeholders in the whole fast fashion supply chain. The primary focus of the fast-fashion company is to predict the customer's style preference and serve their demand for the fashion taste with good and quality products in an economical and affordable manner. However, nowadays with the fast spread of information sharing via the internet, people change their preference for fashion taste so rapidly. Fast fashion companies are aiming to compete with the scope and scale of the production, which means that their varieties and quantity are as much as possible and deliver them to the marketplace as quickly as possible to earn the largest market shares. Quality is not their priority. Thus, we hold strong faith that if the consumption mindset would shift from unsustainable to sustainable ones, it would make a huge difference in the fashion industry. The mindset change may even begin earlier than when they make their purchasing decisions since it is more about how to view fashion itself and how to evaluate fashion products and companies.

What if school system can educate about the fast fashion impact on the environmental sustainability?

Change may never be easy. For starters, our education should be embedded with promoting ecological sustainability and social welfare when considering manufacturing production of goods. This is a long-oriented approach by adding education on sustainability in the school system; when people are young, they tend to accept these concepts easily. As they grow up to be targeted customers in fast fashion, they will hold a new mindset to consume sustainable products and reduce unsustainable consumption behaviors. For example, people now take serious action of consuming organic food products with quality rather than genetically modified products with cheaper prices. Fast fashion should be deemed as genetically modified products, in this case, it would be cheaper prices for the sake of the low-income population. With the rise of middle-class families, I believe the future fashion products should add true value for the end customers as well as the whole supply chain players and environment. With the new mindset, customers would purchase for the sophistication, comfortability, ecological sustainability, longevity of the products, even maybe appealed by its innovation or art designs. Consumers buy for a deeper meaning behind the products themselves, instead of being interested in the superficial fast fashion trend or style. Consumer gradually would appreciate the vintage or minimalist style or seek used or borrowed products.

Future Scenario

Government Role in Pursuing Sustainable Practices in Fashion Supply Chain

The **internal change** of the customer mindset can indirectly force fast fashion to take serious actions in promoting sustainability. The **government** would take another role in regulating the fashion business with strict **standards** for sustainability. In particular, they can act as external factors that effectively shape the fashion business by holding **legal and economic stakes**. They can **ban** some harmful or non-disposable materials and impose some import quotas when products are not meeting the standards. They should ensure the **transparency** of the fashion companies and their products manufactured. There will be no more concealed information on the materials, limiting the labor dispute, and ensuring a healthy competing environment. For example, every material or its origination has a **traceable ID**, when coming to the recycling of old clothes or products, they can be used to classify or unify goods categories. It can also be used to help consumers to distinguish what to well-organized the big fashion organization, it is better to include an environmental impact on their financial balance sheet or seasonal reports. Because the numbers would be much more convincing than words from their official sites. It can easily track the progress of each company made to do the betterment to **eliminate** the negative externality for workers or the environment.

How the fashion sector adopt to the new policies so that supply chain strategies facilities with their product, quality, and price change

In this way, **fast fashion would no longer be appealing or gradually vanish for the better good**. The fashion industry would focus on using innovative technology to replace human labor for repetitive tasks to reduce labor costs, **pollution** or waste and improve the quality of goods. Workers have more duties in working with advanced tech and get more educated and skillful. Fashion companies' supply would stick to the consumer demand for the fashion products or fashion trends. Their product **quality** would once again become the key to success over the production quantity, and the supply chain would be much cleaner with sustainable initiatives. Thus, fashion products would shift from functional products to more hybrid innovative products. People tend to pay **higher prices** for wearables, since the revised value of the products increase. The margin of the profit will be assured, even more, favorable for the fashion business is that lowering operation costs by executing a lean system would boost the profitability at the same time giving flexibility in the pricing strategy to ensure the customer's affordability of the products.

Future Scenario

Government Policy on Ecological Protection

If we were discussing governmental change and what stricter policies can the government implement, we need to mention the **ecological catastrophes** that can push the governments all around the world into making a change. With the rising temperatures, forest fires, and unbearable drought, there is a clear sign of dealing with **water management** and usage solutions that can be implemented into **many policies**. It's estimated that the fashion industry currently uses around 93 billion cubic meters of water per year, which is four percent of all freshwater extraction globally. On current trends, this amount is set to **double by 2030**. Government, taking into consideration the worsening environmental situation, water usage policy for the fashion industry can be pretty realistic. By implementing these policies, we are able to **reduce the amount of water used while making clothing**, which leads to limited customer consumption and fairer treatment of the materials used while making particular fashion pieces. Government implications would definitely conflict with the billion-dollar fashion economy, however, in the question of prolonging environmental wellbeing this decision would stay respected.

Legal regulation of 6R (reduce, recycle, refurbish, resell, rent and repair) imposes at international level, and how fashion sector reacts

Another step towards sustainability from the government perspective is closely related to the **international law of nature protection**. Government policy, which would discuss the strict ban on fabric dumping and landfilling, could be recognized on an international level. **85% Of U.S Clothes End Up In Landfills Or Burned**, which includes textiles and unsold clothes as well. This massive **overproduction** is one of the core reasons behind this phenomenon. Policy, which could include a ban on material dumping, can prevent the scenarios mentioned earlier. Instead of throwing out, materials that could be **reused** could be separated, recycled, and used in the fabric industry over again, creating sustainable pieces. Materials that cannot be used in fabric making could be used in other spectrums of industries and daily life, such as creating decorations, toys, and similar. Customers would have a **possibility to access** this change for the better as well. By creating **collecting stations**, clothes that cannot be worn or are damaged beyond repair can be collected and then sent to specific manufacturing places or processed right away. It may seem this technique may be costly, but by creating these collective stations, **the government is creating new space for technology, innovations, and working positions, which may improve the national employment situation as well**. The policy will have an impact on customers themselves, sending a strong message of correct treatment of the fabric and materials they purchased, and the life of these purchases after they are thrown away, building a collective mindset of sustainability.

Road to Sustainable Fashion

2022- 2029

- Sustainable education
- many new innovation companies solving sustainable problems
- Governments support to innovation companies and sustainable companies (tax benefits etc.)
- Higher tax costs for negative externalities
- Deposit-based recycling system testing

2030- 2039

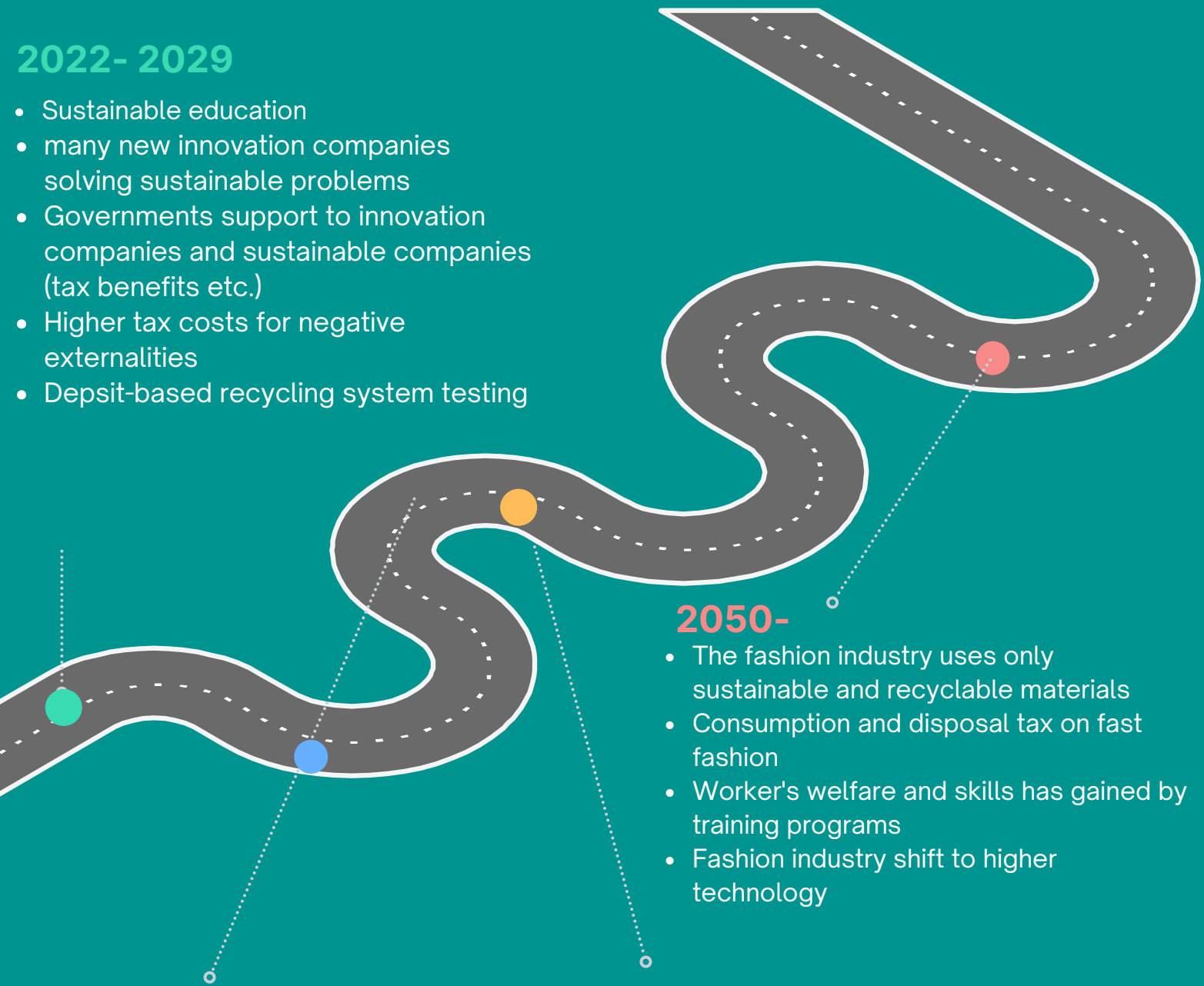
- Collective sustainable mindset setting
- Official certification for "Fruit Waste" products
- Over half of the garment industry companies use sustainable, recyclable materials
- Fruit waste leather is more common than animal leather

2050-

- The fashion industry uses only sustainable and recyclable materials
- Consumption and disposal tax on fast fashion
- Worker's welfare and skills has gained by training programs
- Fashion industry shift to higher technology

2040- 2049

- New material law: only sustainable materials will be allowed in production
- official system to control materials and production
- Local authorities and government offer more subsidy and tax benefits to technological innovations
- Worker's welfare will improve by initiating the training programs.



TIMELINE

EVENTS SCENARIO

2022 TO
2025

- There will be many startups and innovation companies that try to solve fashion industry sustainable problems and few ideas carry far.
- Governments will support more innovations that can solve sustainable problems in the fashion industry and impose a higher pigouvian tax cost to companies that make negative externalities and tax benefits for companies who's investing in new technologies and making sustainable changes in their supply chain. Higher tax costs for negative externalities and tax benefits to more sustainable actions would motivate the companies to change their strategy to be sustainable.
- Government invests in the Agriculture.
- Cooperation with other industries starts to improve because by cooperating both companies can lower their tax cost (by lowering their negative externalities).
- New EU Recycling System is approved.
- Agriculture and forestry will make more cooperation with fashion/ garment companies by selling their overflow to be used for fabric and fiber production. Government put pressure to stop using plastic in fabrics and start making an official control in industry production.

2027 TO
2030

- Deposit-based recycling systems are being tested in EU countries. Starting in big countries and making action through publicity, marketing, and street campaigns to improve this new recycling system and guarantee people know how to do it.
- Passport for all fashion products, containing all materials, and information about the piece.
- Companies get benefits if they are using fruit waste in their products.
- There will be a law that fashion companies can only use recycled plastic or new sustainable materials to replace old materials.
- Almost every agriculture and forestry overflow is reused for industry and some of the fields are reforested. Machines reduce 50% of water and energy consumption and companies receive benefits for using this new technology in the Fashion Industry.
- Official certification for "Fruit Waste" products.
- No more "new" plastic in sportswear. Sportswear is usually made from nylon, polyester, etc., which means that sportswear is made from nonrenewable resources, and sportswear releases microplastics into the environment.

TIMELINE

EVENTS SCENARIO

2032 TO
2045

- Over half of the garment industry companies use sustainable materials.
- Governments, Agriculture, Technology sector, and fashion are consistent to make a total change.
- Grapes to replace real leather, orange to replace cotton, synthetic fibers, potatoes replacing all plastic buttons. Meat consumption has decreased in developed countries by over 50% which also impacts leather markets. Fruit leather is now more common than real leather.
- Collective sustainable mindset setting, people will be encouraged (socially or academically) to educate about sustainability further, using social media platforms, discussion forums, etc.
- The School system raises the generation's understanding of the impact of sustainability on our planet, people themselves will become the biggest changemakers and every aspect of the fashion industry will follow (materials, trends, designs, etc.).
- Local authorities will offer more government subsidies & tax benefits to support technological innovations while increasing taxes on pollution like water pollution and usage and carbon emission to eliminate waste.

2047 TO
2055

- Overall worker's welfare supported by government will be improved by initiating the training programs. Training them to gain a good skill set can better facilitate the industrial shift to high-tech.
- Law that only sustainable materials will be allowed, material passport it's an official system to control materials.
- The fashion industry uses only sustainable materials. Fashion industry pass from the most polluting for the most "healthy" industry.
- People in developed regions will start to buy generally sustainable clothing and stop fabric dumping.
- If the consumption and disposal tax is implemented, people will have to think twice before throwing their clothes away, as well as buying fast fashion unsustainable pieces. We won't tax the sustainable companies, so people will naturally buy products from them.
- State owners will impose the consumption and disposal tax on fast fashion pieces
- Countries and regions with different levels of development are at different points in the fast fashion industry chain and face problems vary from each other will be the main focus of change from unsustainability to sustainability in fashion.

VIKTÓRIA MACKOVÁ

Team Presentation and Self Reflection on Sustainable Fashion



International Politics, Fudan University, China

As an active promoter of a sustainable way of life in every way, I naturally have high hopes for sustainable fashion and feel excited about all the future changes that this development can bring to us. After participating in this challenge and in-depth discovering the issues stated behind the problem of sustainability (and non-sustainability). I gained a lot of knowledge and experience, and thanks to my teammates, facilitators and just the whole Demola project my interest in sustainability in fashion got stronger. During these weeks of researching, mind-mapping, and analyzing individual aspects connected with sustainability in fashion, I was not only able to strengthen my team working skills, but also bring new ideas full of creativity into this project. I'm sure that the skills I've learned during participating in the Demola challenge will be useful in my future studies as well.

JASMINA NEVALAINEN

Team Presentation and Self Reflection on Sustainable Fashion



Food and Consumer Economics in Helsinki University, Finland

I am studying Food and Consumer Economics and my interest are in new innovations that could make our lives more sustainable. I see that global warming, human rights etc. are very wide problems and we can't just focus fixing one problem at the time. I see that everything is connect to one other, like food industry, forestry and garment industry. I believe by better cooperation, policy and innovations we can achieve a much better planet and future!

This is my first Demola project. I wanted to participate this project because I wanted to understand more Fashion industry sustainable problems and create solutions with a team. This journey was amazing and I learn a lot! I want to thank our amazing team. It was really rewarding to work with you. You gave my new perspectives and ideas to look at this, Fashion industry, problem.

JOSÉ ABREU

Team Presentation and Self Reflection on Sustainable Fashion



Fashion Business Management in ISCAP Porto, Portugal

This is my second Demola project. This one especially revealed my interest as I believe this will be the present/future theme of the fashion industry. I am studying this very area and want to develop sustainability projects. We know that this industry is one of the most polluting in the world and we have to unite to save the world and think effectively in each of our attitudes to improve the world. We need resources like energy and water that are being overused and misused. With this project I was able to learn many new techniques, analyze problems and present solutions. All this thanks to one of the best teams I have ever worked with. The whole dynamic team showing lots of solutions and ideas. My heart is full with this project and I am ready to explore this theme more and more. I want to thank the whole team and our amazing facilitator who was a unique support and without a doubt made me have even more "love" for the project. Also thank Demola for creating projects like these that bring people from all over the world together to create ideas for a better future.

HAOZHE FENG (YUNA)

Team Presentation and Self Reflection on Sustainable Fashion



Smith School of Business, Queen's University, Ca

This is Yuna, I am so glad that I apply and attend for this Sustainable Fashion with Demola. It has been a great opportunity that we meet and collaborate together as a team. There is no doubt that I have learnt a lot from each other and enlighten each other during the team discussion researching, interviewing, and observing. It is whole new experience that we develop our own project based on our understanding and built up on our collaboration beyond the scope of school-learning. It also learn a great analytical framework when handling with some difficult or broad topic. It is challenging, creative, amazing work in short. What I really value is that when I will move on to the next stage of my life, I will always carry this experience with me, and it makes my life difference. I will definitely encourage all friends and classmates to try things new with Demola in the future, since it is really about your ideas, your understanding, and your design. That is the merit of this fun project!

Moreover, I want to thank all class members, instructors, facilitators, last but not the least my great teammates. It has been a great project experience. For me, I really care more about sustainability in fashion, in food, in every aspect in my life. This is refreshing change of my lifestyle.

ZENGHUI LIN (MIKAELA)

Team Presentation and Self Reflection on Sustainable Fashion



English/Law, Fudan University, China

This is the first time that I have participated in a Demola project. I have to say that cooperating with my amazing teammates from other parts of the world is really a wonderful experience! Thus I would like to first express my most sincere gratitude to instructors and facilitators in the Demola team for providing me with this opportunity and imparting knowledge of industry analysis and investigation. I firmly believe that this should benefit me in my future study and serve as a valuable toolkit for my starting professional career as a senior student.

I chose Sustainability in Fashion as my project originally out of my interests in this industry as a young lady. Then as our research into it had progressed and my knowledge about it been accumulated, I came to realize that it was not so much a topic concerned solely with beauty and arts as one with social responsibility and a shared future for all mankind. Thus I do hope that our future report can make tangible amelioration to current situations of the industry.

XINYI SHEN (KELLY)

Team Presentation and Self Reflection on Sustainable Fashion



Cultural Heritage & Museology/Law, Fudan University, China

It is lucky for me to sign up for this Demola project and join such an amazing team. During the project, I was exposed to a whole new procedure of thinking about future problems and solutions that completely overturned our traditional ways, such as backcasting, which taught me a better method of analyzing the future. Meanwhile, I continued to benefit from more small but subtle points of inspiration from the project facilitators and fellow team members, such as the logical thinking done by the team members, and when our facilitator reminded us of thinking about whether today's agricultural collateral will still be food in the future. I had envisaged that we could combine our traditions, especially the intangible heritage, with fashion works to enhance the cultural impact and sustainability of the fashion industry. However, during this project, and especially through a series of interviews and assignments, I realized that the real sustainability is a forward-looking goal, and that we need to understand, design and be bold enough to achieve it from a higher perspective, not just what we need, but what the future needs.

Through this Demola project, I have gained a lot of experience, knowledge and abilities that will be very useful for future studies and research, and I have gained valuable teamwork experience and friendship, thanks to my team, project guides, interviewees and all the friends in class. This gonna lead to my step for an entirely new sustainable way of life.

Conclusion

In conclusion, the fashion sector would adapt to the sustainable practices in terms of the political force, customer mindset, and new materials. The current state of the fashion sector has to be improved to be sustainable as long as it follows by our detailed-oriented implementation plan for the future roadmap. The future for the fashion is quite promising in terms of economical return, but also should aligned with our sustainable practices as followed:



Political Change

Government has a major role to make the change possible. How government can help:

- Better labor laws
- Support sustainable companies
- Support and invest to new innovations
- Higher tax for companies that cause negative externalities

Mindset Change

We need to change our way to consume and think. If we change our way to consume the fashion industry have to follow the trend and stop making unsustainable products.

- Sustainability education
- Sustainable mindset
- New mindset shape political mindset and markets



New, Sustainable Fashion industry

- Fruit Waste leather
- Wood and cellulose fiber and fabric
- Energy and water use reduction

The sustainable fashion will never become a reality, if we, as individual consumers, policy makers, company management teams, employees in the supply chain work all towards the same direction, at least contribute to the little change in our daily life. The integrated sustainability in fashion should be achieved accordingly.

References

- 2015, <https://www.vam.ac.uk/articles/pollution-the-dark-side-of-fashion>
- 2017, <https://neuzamariano.com/moda-circular-e-a-sustentabilidade/>
- 2019, <https://medium.com/dyson-on/meet-the-inventors-produce-plastics-d23ea382aabb>
- 2019, <https://www.bbc.com/news/business-50644898>
- 2020, <https://www.textiletoday.com.bd/recycling-textile-wastes/?msclkid=42068fefcfa211eca4bb29abecbad4b8>
- 2020, <https://www.weforum.org/agenda/2020/01/fashion-industry-carbon-unsustainable-environment-pollution/>
- 2020, <https://www.voguebusiness.com/sustainability/fashions-circular-economy-could-be-worth-5-trillion#:~:text=Sustainability%20Fashion%E2%80%99s%20circular%20economy%20could%20be%20worth%20%245,buid%20scale%20in%20a%20growing%20area%20of%20sustainability.>
- 2021, <https://sanvt.com/journal/the-future-of-fashion-new-sustainable-fashion-technology/>
- 2021, <https://thevou.com/fashion/sustainable-fashion/#examples-of-sustainable-fashion>
- 2021, <https://www.gbrionline.org/green-building-certification/>
- 2021, <https://www.textileinfomedia.com/blog/textile-waste-recycling-know-textile-recycling-process/?msclkid=4205ff50cfa211ecad52832d796604af>
- 2022, <https://earth.org/fast-fashion-pollution-and-climate-change/>
- <https://www.sustainyourstyle.org/en/reducing-our-impact>
- <https://theecohub.com/sustainable-and-ethical-fashion/>