

**SUSTAINABLE TRANSFORMATION OF FAST FASHION SUPPLY
CHAINS: CHALLENGES, INNOVATIONS, AND ETHICAL IMPERATIVES**

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Project Overview:

Fast Fashion Industry has gained widespread attention for its negative impacts on the environment and social responsibility. This project is intended to explore the best practices associated with the fast fashion supply chains and propose innovative strategies for making them more sustainable for the environment, ethical in their practices while maintaining highest efficiency.

Introduction:

The fast fashion industry is an ever-growing clothing industry that caters towards quickly changing trends and covers a large consumer base. In result of these rapid changing trends, the supply chain of the fast fashion industry involves rapidly paced product manufacturing, mass amounts of waste generation, and high emission rates. The fast fashion industry has much room for change, and it begins at the heart of its supply chain. I will be researching the fast fashion industry to bring awareness to the effects of fast fashion and better alternatives for clothing consumption and consumers.

Project Components:

1. Literature Review:

- a. Literature review on the fast fashion industry, their typical supply chain practices & common issues associated with

Explanation for clear understanding on that fast fashion is:

Fast Fashion: Clothing inspired by recent fashion trends made affordable for the average consumer. To keep up with fluctuation in demand and low prices, cost cuts are made by using inexpensive fabric which leads to increase in carbon footprint.

Polyester: Fabric that fast fashion clothing articles are typically made of due to low cost and versatility. Polyester is a synthetic petroleum-based fiber made from a carbon intensive non-renewable resource and is not biodegradable, giving it a 200-year breakdown timeline.

Polyester Research by Plymouth University: Clothing made of synthetic material shed plastic microfibers in the wash and to every 13lb on synthetic material washed 700,000 tiny plastic fibers are released into the water supply. When the plastic fibers reach the water supply, they effect the environment due to fish absorbing them after consumption which leads to stunted growth and even death.

Polyamide: Commonly known as Nylon, it is a variety of synthetic fibers primarily manufactured in China, made from carbon-based molecules. Though methods used to

make polyamide may vary, it is typically derived from polyamide monomers, with that source being a fossil fuel known as crude oil, a non-renewable resource. The base ingredient is a pollutant and manufacturing this material uses a lot of energy and like polyester, washing this fabric releases microplastics that pose a health risk to humans and the environment.

Used in combination to other fabrics to increase product elasticity and softness primarily for t-shirts, shorts, stretch pants apparel, underwear, and women's stockings.

- Environmental Impact

"In 2015, the fashion industry used 79 billion cubic water; to give further perspective, only a single T-shirt requires 2700 L of water to produce. Only textile dyeing and finishing are responsible for 20% of global water pollution, and 0.5 million tons of microplastics are released every year to the oceans due to washing clothes made of synthetic fibers. Therefore, many scholars indicated the environmental impacts of this industry as excessive water use, wastewater and water pollution and plastic pollution. The industry is also responsible for 10% of global greenhouse gas emissions, thus the attention on air pollution. Due to the nature of fast fashion and increasing overconsumption, clothes are treated as disposable, and fast fashion is also responsible for tremendous waste and waste-related emissions and toxicity." (Dzhengiz, 2023).

- Waste generation

"What's more, fashion's emissions of harmful greenhouse gases are projected to grow by more than 50 percent by 2030. The fashion sector (including cotton farming) also uses about 93 billion cubic meters of water annually, representing 4 percent of all global freshwater withdrawal. In fact, just to manufacture a single pair of jeans requires a staggering 3,781 liters of water. And every second of the day, the equivalent of a garbage truck full of textiles is burned or added to landfill, while textile dyeing is the second largest polluter of water globally." (Zurich, 2021).

b. Companies like Shien, H&M, and Amazon being key players

"The apparel industry accounts for 10 percent of global carbon emissions and remains the second largest industrial polluter, second only to oil. Fast fashion items are often worn less than 5 times, kept for roughly 35 days, and produce over 400 percent more carbon emissions per item per year than garments worn 50 times and kept for a full year." -Green Matters

Shien contributes to 1.7% of apparel-industry sales in North America- fourth-largest clothing seller behind Nike, Old Navy and Lululemon

Note: Tension between sales growth but not being a large contributor of the problem
Tension between company with suppliers and employers- triple bottom line: economies, social, environmental

2. Challenges Identification:

- a. Major challenges fast fashion supply chain faces
 - Rapid production cycles to waste overproduction:
“At Paris Fashion Week last week there was talk of collections “made to last.” Yet the fashion industry, known for rolling out new clothing trends at a rapid pace, has been slow to embrace a sustainability trend gaining traction in many sectors, including retail: the circular economy.” (Whieldon, 2023).
 - Quick turnaround on what clothing is trending:
 - Inspired by influencers with mass followings, strong marketing, and recent fashion trends
 - Lack of transparency in supply chain: people are unaware. How aware were you?
 - Increase in transportation emissions with mass production and consumption

3. Sustainable Options:

- a. Proposal of innovative strategies to transform fast fashion supply chains
 - Circular economy principals
 - Locally source materials and manufacturing for emission reduction
 - Promote timeless clothing consumption (high quality clothing articles) instead of trend seeking to reduce overconsumption, not influenced by trends
 - Shop second hand, upcycle, rent, repair and reuse (Zurich, 2021).

4. Consumer Awareness:

- a. Roles of consumer behavior that drive change
“But fast fashion is ultimately driven by us – the consumers. For a start, fast fashion is growing as people buy more clothes more frequently.” (Zurich, 2021).
- b. Impact of increased awareness of the industry
- c. Educational campaigns and other methods of raising consumer awareness
 - Influencers
 - Social media

- Internet roles in pushing everchanging trends

5. Industry and Policy Analysis:

- Industry regulations: light
Not strongly limited and given ability to be vague and 'greenwash'
- Global initiatives for improving:
 - Environmental impact and waste reduction
"Global Reporting Initiative (GRI) has increased alongside criticism on lack of information from many companies" (Garcia-Torres, 2017).

6. Future Trends

- Future of fast fashion predictions in terms of:
 - Encouragement to be more sustainable
 - Incline or decline of consumer awareness
 - Incline or decline of fast fashion consumption and waste due to demand

Conclusion:

- Intention of raising awareness of the industry and its conditions
 - Propose alternatives solutions
 - Inspire change in viewers consumption habits
- The power is in the buyer.

Background:

It is important to have a basic understanding of what a supply chain is. Supply chains are the reason behind any consumer getting any product varying from food to furniture, clothing to machinery, and more. The fast fashion industry particularly is important to understand as it has such a widespread consumer base and contributes heavily to negative environmental impact and exploitation of its labor force.

Research Questions:

- What is the fast fashion and how does it negatively impact its environment?
- How can we improve the fast fashion supply chain to create a more positive impact?
- How can we increase consumer awareness to expand the public's knowledge of the impact of fast fashion?
- What are better alternatives to shopping fast fashion and can we offer them?

Methodology:

There is a plethora of media coverage on the fast fashion industry and research of its negative impact on the environment and surrounding areas. With assistance from my mentor, I

will conduct hours of online research and additionally reach out to people involved in the supply chain of fast fashion industries and those that are involved in wanting to make a positive change. As a result, I will present my findings to various crowds to inform people of the result growing demand for fast fashion items.

Closure:

This research will add value to my field of study as I will be further researching the importance supply chain and why it is ideal for it to be as environmentally friendly as possible. This research could be presented to any person as everyone is a consumer of some type of product. It is important to raise awareness to everyone of what occurs in the behind-the-scenes standpoint on what they consume. Understanding the source of a product and what occurs to get the final product in the purchaser's hands is extensive, and many people are not aware of this.

Conclusion:

The supply chain of the fast fashion industry is ever growing. It is up to the consumer the outcome of its growing impact. What we give our money to has power, the power is in the buyer. If consumers are aware, they can embark in making intentional purchasing decisions.

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