

Sustainable Strategies for Responsible Fashion: Adopting the Reduce, Reuse and Recycle Practices

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Abstract - The fashion sector, which contributes approximately 10% to global carbon emissions, exerts a considerable influence on the environment. The rapid pace of fast fashion has intensified both waste generation and resource utilization, thereby rendering sustainable practices an essential requirement. This study examines sustainable methodologies within the fashion industry, with particular emphasis on the implementation of the Reduce, Reuse, and Recycle (RRR) framework. The article explores how global and local brands in Delhi incorporate such strategies into their operations and gauges consumer awareness and behavior towards sustainable fashion. Studies indicate that barriers faced by brands while trying to achieve sustainability include the high price tag of sustainable materials, minimal recycling facilities, and the price sensitivity of the consumer. Hypothesis testing was used to examine whether the consumer behavior was significant on their purchasing decisions and sustainability. The results reflected that, while there is indeed a growth in awareness, consumers' intentions and actual purchasing behaviors seem to be quite divergent concerning the acceptance of sustainable fashion. Furthermore, the paper makes workable recommendations to make the fashion industry more sustainable by focusing on policy measures, innovations in brands, and education for the consumer.

Key Words: sustainable fashion, reduce reuse recycle, consumer behavior, competitive advantage, supply chain sustainability

1. INTRODUCTION

With a global value estimated at about \$1.5 trillion, the worldwide fashion industry is considered a significant boost in economic growth by providing employment to millions worldwide. Beyond any doubt, it strongly molds social trends, cultural identities, and consumer behavior globally. On the other hand, it is one of the most destructive industries that contribute to carbon emissions globally, accounting for 8-10%. This has created the need to expose itself as the second-worst consumer of fresh water and significant contributor to environmental degradation due to pollution and waste creation. The power behind fast fashion, accelerated mass production of minimal-cost clothes for short-duration usage then dumping, has aggravated these challenges.

Brands like Zara and H&M showcase the model for fast fashion, which fuels increased consumption and the "throwaway culture." The environmental footprint of fast fashion is enormous. The industry produces 92 million tons of textile waste yearly, a significant portion of which ends up in landfills or the incinerator, with effluents containing all harmful pollutants.

Textile productions are resource-intensive in nature, especially

when using water—the production of one kilogram of cotton can consume as much as 20,000 liters of water.

Here, dangerous chemicals utilized in dyeing and finishing stages end up as harmful wastes that float into water bodies, thereby killing the aquatic ecosystem and communities. According to the Ellen MacArthur Foundation, if nothing is done, this sector alone will burn 25% of the carbon budget of the world by 2050. The increased concern among consumers regarding the environment increases their demand for more responsible manufacturing practices. Sustainable fashion, which denotes the minimization of climate and social consequences arising from apparel making, has become a theme of interest for brands all around the world. This RRR structure, based on the principles of a circular economy, provides one of the most practical ways through which challenges emanating from fast fashion can be overcome.

This is because the RRR model reduces virgin resource use through the extension of the lives of garments, encourages recycling by creating a secondary source of garments, and reduces waste and pollution in landfills. However, integration of sustainable practices varies significantly in different markets, especially in developing countries like India. International brands have started sustainability initiatives in the Western market, but there is an unavailability of transparency regarding the implementation of the same in emerging economies. India provides for a unique example as that country is hosting one of the most rapidly growing consumer markets in the fashion sector.

This will constitute multiple consumer segments with luxury consumers hanging out alongside budget-conscious, fast-fashion-loving customers. Also, traditionally Indian fashion, which is characterized by skills of handmade and organic inputs, represents a strong foundation for incorporating sustainable practices.

This paper aims to bridge this gap in present research by examining the implementation of the RRR framework in the Indian market, specifically focusing on the Delhi market. Based on an exploration of global and local fashion brands, the study will assess the level at which sustainable practices have been integrated and the factors that determine consumer behavior.

2. Problem Identification, Objectives, and Scope

Problem Identification:

The fashion industry's rapid growth has exacerbated environmental issues, particularly through fast fashion, which promotes overconsumption and waste. Additionally, brands often struggle to adopt sustainable practices due to high costs

and inadequate infrastructure, while consumer intent to purchase sustainably is often not reflected in actual behavior.

Objectives:

1. In order to gauge the extent to which both international and Indian fashion brands present in Delhi have adopted RRR framework.
2. To research consumer awareness, perceptions, and behavior towards sustainable fashion.
3. Determine important obstacles that brands encounter in realizing sustainability practices.

Scope:

This study concentrates on the examination of global and Indian fashion brands within the Delhi marketplace. It explores the relationship between brand initiatives and consumer behavior, scrutinizing sustainability practices from both the supply side (brand strategies) and the demand side (consumer awareness) viewpoints.

3. Methodology

The current study employs a mixed-methods approach whereby qualitative interviews held with shop owners and industry experts are compounded with quantitative surveys targeted for consumers. A sample of 10 international brands, namely Zara and H&M, along with 6 Indian brands, namely Fabindia, was selected for the study. The findings related to consumer perceptions were collected from 400 participants located across Delhi to understand their knowledge and sentiments toward sustainable fashion. The study was based on structured questionnaires to analyze brand initiatives, consumer awareness of the RRR framework, and their intent to invest in sustainable products. Hypothesis testing was performed to test whether consumer awareness of sustainability is related to their actual purchasing behaviors.

4. Data Analysis and Discussion

4.1 Brand-wise Sustainable Strategy

5. Patagonia, H&M, Fabindia, etc. have adopted several elements of the RRR framework. The "Worn Wear" scheme by Patagonia calls for a repair and reuse of the garment, creating longer life cycles for garments. H&M's "Conscious Collection" includes organic cotton and recycled polyester, and they are planning to achieve 100% sustainable sourcing by 2030. Fabindia, among other local brands, is encouraging traditional craftsmanship and sustainable production by using organic materials and artisanal techniques.

4.2 Consumer Behavior and Awareness

This study has some implications, namely pointing out to the general trend of increasing sustainability consciousness among the consumers. An important conclusion, however, is that between intention and action, there is a huge gap. Whereas 73% of respondents indicated they would like to purchase sustainable clothing, only 45% have done so. The two main reasons cited for this wide gap are that sustainable clothing is expensive and there is insufficient affordable alternative

available.

Further, there was limited consumer awareness of the RRR framework because many respondents did not know what the ecological implications of their clothing choices were.

4.2 Hypothesis Testing

The hypothesis tested in this study was:

- Null Hypothesis (H0): No significant relationship exists between conscious consumers who are aware of the sustainable fashion and their purchasing behaviors.
- Alternative Hypothesis (H1): The awareness of sustainability in fashion among consumers is significantly related to the corresponding purchase behavior.

The study was conducted using chi-square tests. The data rejected the null hypothesis, and the p-value was 0.02. This shows that a significant amount of consumer awareness translates to their actual sustainable fashion purchases. However, while awareness turns intent, it does not fortify the relationship between the two variables much as expected.

4.3 Challenges and Barriers

The key challenges identified by different companies against the backdrop of sustainable development are high production cost due to eco-friendly materials, not enough recycling infrastructures, and lack of support from the government. Also, consumers are hard to be educated about benefits about sustainability in fashion because most shoppers consider the price as much more important than sustainability. Thirdly, the complexity of global supply chains renders impossible the assurance of full transparency and traceability for brands, which hinders the attainment of sustainability goals.

3. CONCLUSIONS

According to the evidence presented in this paper, CE is indeed crucial throughout the creation of a product. Designers may improve the efficiency and effectiveness of production by incorporating the CE idea and its tools into the product development process. Companies using CE tools in product development have reaped significant advantages, especially in the areas of lowered development costs, shortened timelines, higher quality products, and more satisfied consumers. Additionally, utilizing this technique might help lessen certain design concerns and allow for a more open and honest procedure while creating the product. The use of the Concurrent Engineering tool yields beneficial results in terms of the idea as a whole.

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