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Promoting sustainable handloom apparel in Varanasi: An analysis of consumer awareness and adoption of customized clothing

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Abstract

The handloom industry in Varanasi, which is known for its traditional weaving history and high-quality textiles, is having trouble right now because it has limited access to markets, relies on middlemen, has low profit margins for weavers, and is losing customers. Even though more and more people around the world are interested in eco-friendly and personalized clothing, not many people in the area are buying these kinds of clothes. This study seeks to examine consumer awareness and the adoption of sustainable customized handloom clothing in Varanasi, while also exploring the viewpoints of handloom weavers and tailoring design houses. A primary survey-based experimental methodology was utilized, gathering data from consumers, weavers, and tailoring units to evaluate awareness levels, purchasing behavior, and the inclination to engage in a direct market system. The results show that a lot of people know about sustainable clothing, but not many people actually buy it because they think it's too expensive, it's hard to find, and they don't have enough direct contact with the people who make it. The results also show that both weavers and tailor design houses are very interested in switching to a direct-to-consumer model that allows for custom production based on what customers want. The study concludes that the integration of a digital platform connecting consumers, weavers, and tailors can be instrumental in overcoming current challenges by removing intermediaries, increasing transparency, and fostering sustainable customized fashion. This kind of approach could help weavers and tailors make more money, make customers happier, and help the long-term sustainability of the Varanasi handloom sector.

Keywords: Handloom sector, sustainable fashion, customized clothing, consumer awareness, e-commerce integration, Varanasi, direct-to-consumer model

Introduction

The handloom sector is one of the oldest and most significant components of the Indian textile industry, known for its traditional craftsmanship, cultural heritage, and eco-friendly production processes. It plays a vital role in providing employment and supporting sustainable development due to its low carbon footprint and minimal use of mechanized resources ^[1]. Among various handloom clusters, Varanasi is globally recognized for its Banarasi silk textiles, which represent a blend of artistic excellence and centuries-old weaving traditions ^[2].

Despite its importance, the Varanasi handloom sector faces several challenges, including fragmented supply chains, dependence on intermediaries, limited market access, and reduced profit margins for weavers. The presence of middlemen often restricts direct interaction between producers and consumers, resulting in lower earnings for artisans ^[3]. Additionally, the rise of fast fashion and machine-made alternatives has intensified competition,

leading to a decline in demand for traditional handloom products ^[4].

In recent years, increasing environmental awareness has driven consumer interest toward sustainable fashion. Handloom products, due to their eco-friendly nature and traditional production techniques, are considered an essential part of sustainable and ethical fashion systems ^[5]. However, despite growing awareness, the adoption of sustainable customized clothing remains limited. Factors such as high cost, lack of customization options, and limited accessibility continue to influence consumer purchasing behavior.

At the same time, advancements in digital technology and electronic commerce platforms provide new opportunities to address these challenges. A direct-to-consumer digital model integrating handloom weavers and tailor design houses can enhance transparency, enable customization, and eliminate intermediaries. Such integration can strengthen the connection between consumers and producers while

promoting sustainable fashion practices and improving the economic conditions of artisans.

Therefore, this study aims to analyze consumer awareness and adoption of sustainable customized handloom clothing in Varanasi, while also examining the perspectives of weavers and tailor design houses. Furthermore, the study explores the potential of a digitally integrated platform to connect these stakeholders and support the sustainable development of the handloom sector.

Literature Review Gap

Despite the rapid growth of e-commerce platforms such as Amazon and Flipkart, their contribution to the development of the handloom sector remains limited. These platforms primarily operate on mass production and standardized product models, which are not well-suited for the unique, labor-intensive, and customized nature of handloom products. As a result, artisans, handloom weavers, and local tailor design houses often face difficulties in effectively showcasing their products and reaching the right target audience through such marketplaces.

Existing e-commerce systems do not provide adequate support for direct interaction between consumers and producers. The absence of a direct communication channel restricts customization, limits consumer involvement in the design process, and reduces transparency regarding product authenticity and production methods. Consequently, consumers are unable to fully understand the craftsmanship and cultural value associated with handloom products, leading to reduced trust and satisfaction.

Furthermore, these platforms are largely dominated by intermediaries and large sellers, which marginalizes small-scale weavers and independent tailoring units. This results in lower profit margins for artisans and restricts their ability to respond to changing market trends. Tailor design houses also face challenges due to the lack of integration with fabric producers and consumers, leading to fragmented workflows and limited opportunities for customized production.

Although previous studies have explored consumer behavior and sustainability in the handloom sector, there is a lack of research focusing on an integrated digital model that connects consumers directly with weavers and tailor design houses. In particular, limited attention has been given to developing a platform that supports customization, ensures authenticity, and enables real-time interaction among all stakeholders.

Therefore, this study addresses the identified gap by proposing a digitally integrated, direct-to-consumer platform that bridges the disconnect between consumers, handloom weavers, and tailor design houses, thereby promoting sustainable customized clothing and improving the overall efficiency of the handloom ecosystem.

Objectives

1. To analyze the level of consumer awareness regarding

sustainable customized handloom clothing in Varanasi.

2. To examine the factors influencing the adoption of customized handloom apparel among consumers.
3. To evaluate the potential of a digital platform in connecting consumers, weavers, and tailor design houses for promoting sustainable fashion.

Specific Objective

1. To establish a direct connection between handloom weavers and the market, enabling weavers to showcase their products, understand changing consumer preferences, and improve their income by reducing dependency on intermediaries.
2. To facilitate direct interaction between tailor design houses and customers, allowing tailors to receive customized orders, understand design requirements clearly, and provide better fitting and personalized garment solutions.
3. To develop an integrated platform that connects consumers with weavers and tailors, addressing consumer issues related to product authenticity, fitting, and design understanding, and providing a single marketplace where all requirements can be fulfilled efficiently.

Methodology

The current study utilizes a primary data collection methodology to examine consumer awareness and the adoption of sustainable customized handloom clothing in Varanasi. A structured survey method was used to get important information from three important groups: consumers, handloom weavers, and tailor design houses. The survey was done using an online questionnaire made with Google Forms, which made it easy to collect data and reach more people.

The questionnaire included both closed-ended and multiple-choice questions to find out how much people knew about fashion, how they bought clothes, how much they liked personalized clothing, and how willing they were to buy sustainable fashion. There were also specific questions for weavers and tailor design houses to find out if they were ready to join a direct-to-consumer model and if they were interested in integrating with digital platforms.

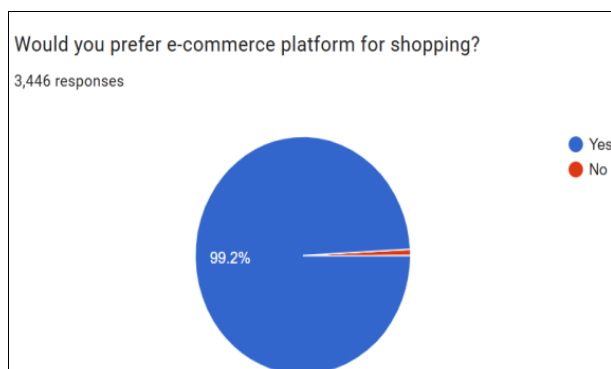
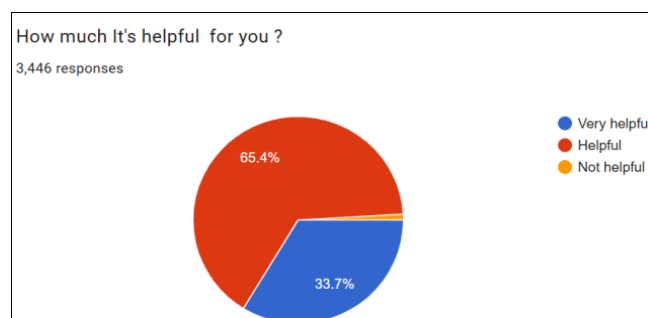
Participants from Varanasi and nearby areas were asked to answer questions using a convenience sampling method. We then put the data together and looked at it using simple statistical tools like percentage analysis and comparative evaluation to see how different groups of respondents were responding. The survey results were used to find the main problems, chances, and whether it was possible to set up a digital platform that connected consumers, weavers, and tailors.

Table 1: Socio Economic Status of respondents

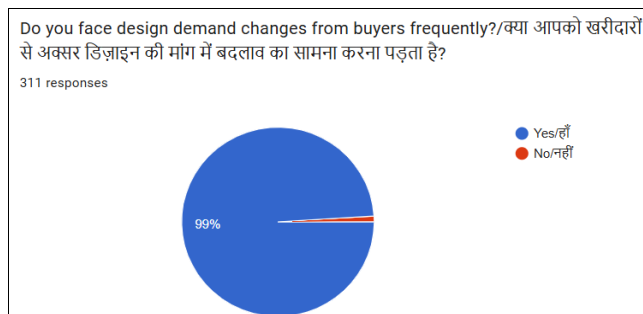
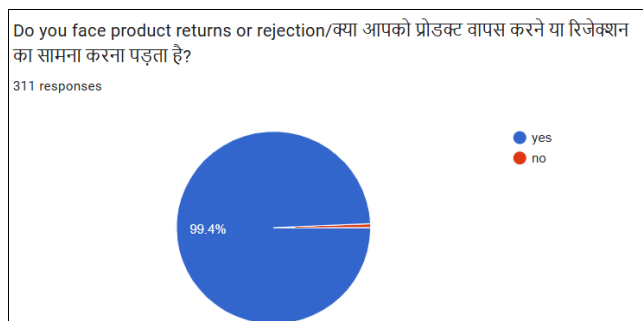
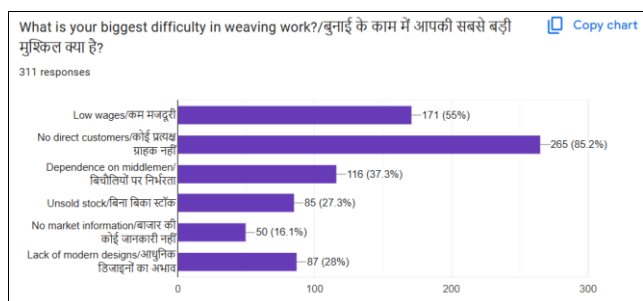
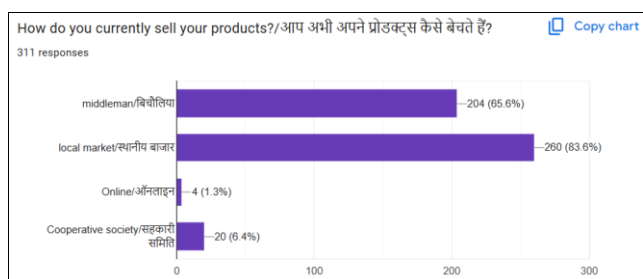
For Consumers				
1	Number of consumers	3446		
		Male 2108		Female 1338
2	Age	21-45 79.8%	45-55 18.3%	55-70 1.9%
3	Location	Varanasi		
4	Prefer to use E-Commerce platform	3417 people		
For Weavers				
1	Number of Weavers	311		
		Male 255		Female 56
2	Age	Below 25 52	25–35 101	36–45 77
3	Location	Varanasi (Badgaon, Cholapur, Jansa, Gangapur, Madhiya)		
4	Scheme used	• Sant Kabir hathkargha yojna • UP Weaver Welfare Fund (UP Bunkar Bahboodi Fund) • Hathkarga vidudth subsidy scheme • Mudra yojna • Wcc yojna • PM jivan jyoti yojna		
For Tailors & Design House				
1	Number of Tailors	53		
2	Age	35-50 years		
3	Location	Varanasi (Lanka, Laurabeer, Godolia, Dalmandi)		
4	Years of experience	6-10 years over 37.7%		
5	Type of Work	Gents tailor, Design houses		
6	Number of Customers per day	6-10 for 49.9% weavers		

Results

The survey conducted among 3,446 consumers from Varanasi provides significant insights into consumer behavior, awareness, and adoption patterns related to sustainable customized handloom clothing. The demographic analysis shows that nearly 80% of respondents fall within the 21–45 age group, indicating that the study primarily captures the views of a young and economically active population segment. This group is generally more inclined toward digital platforms and fashion trends, making their responses highly relevant for analyzing modern consumption patterns.

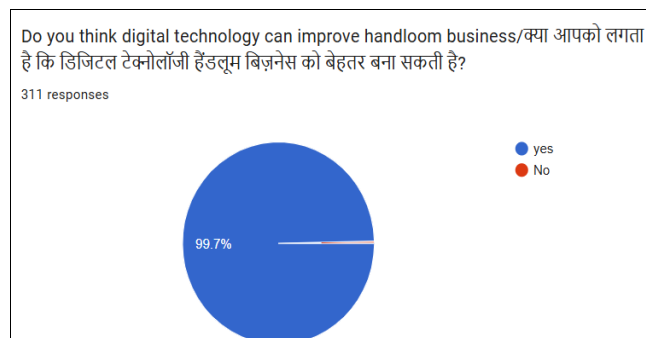
**Fig 1:** Consumer preference for e-Commerce**Fig 2:** E-Commerce platform importance

A strong inclination toward digital purchasing behavior is evident, as 3,417 respondents reported a preference for online shopping. This reflects the growing penetration and acceptance of e-commerce platforms among consumers in Varanasi. Furthermore, 60.4% of respondents indicated that they regularly prefer e-commerce platforms for their purchases, suggesting that digital channels play a crucial role in influencing buying decisions. Despite this high adoption of online shopping, a substantial 99.3% of consumers expressed dissatisfaction with the authenticity of products, particularly sarees, available on existing platforms. This dissatisfaction is largely associated with concerns related to product originality, quality mismatch, and lack of trust in sellers.

**Fig 3: Weavers Problem faced****Fig 4: Weavers problem of rejection****Fig 5: Challenges for Weavers****Fig 6: Mode of selling Products**

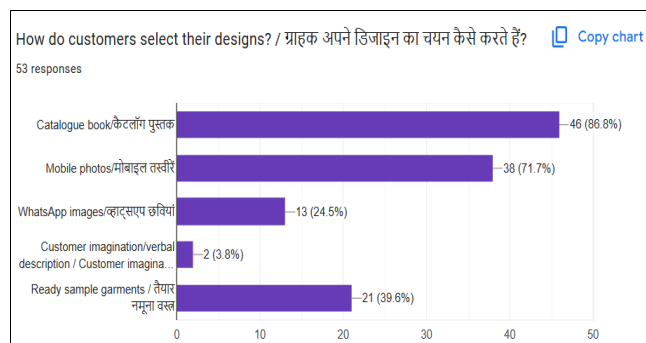
Another critical finding from the consumer survey is that 99.2% of respondents face fitting issues with ready-made garments. This highlights a major limitation of standardized sizing systems and indicates a strong potential demand for customized clothing solutions. Consumers also reported challenges in understanding design details and visualizing the final product before purchase, which further affects their satisfaction levels. These results clearly suggest that while consumers are digitally active, existing platforms fail to meet their expectations in terms of customization, fitting accuracy, and product authenticity.

The weaver survey, conducted among 311 respondents from regions including Badgaon, Cholapur, Jansa, Gangapur, and Madhya, reflects the production-side challenges within the handloom sector. The gender distribution shows a predominance of male weavers (255), with female participation (56) being comparatively lower. The age distribution indicates that a large proportion of weavers are within the productive age groups, with 32.5% between 25–35 years and 24.8% between 35–45 years. Experience levels are also notable, with 47.9% having 5–10 years of experience, demonstrating a skilled workforce engaged in traditional weaving practices.

**Fig 7: Opinion for handloom business**

In terms of working structure, 59.4% of weavers operate under master weavers, while 39.6% work independently. Most weavers manage between 2 to 5 looms, indicating small-scale production units. The time required to produce a single saree ranges between 4 to 7 weeks, reflecting the labor-intensive and time-consuming nature of handloom production. Despite these efforts, economic challenges persist, as 55% of weavers reported issues related to low wages.

The dependency on intermediaries is another significant finding, with 65.6% of weavers relying on middlemen to sell their products. Only a small percentage engage in local market sales (2.5%) or online platforms (1.3%). Due to this lack of direct market access and limited interaction with consumers, 99.4% of weavers face product rejection. Additionally, 96.5% of respondents indicated that customers often do not receive products as per their expectations, mainly due to inadequate product showcasing and inability to visualize the final design.

**Fig 8: Type of ways for selection design**

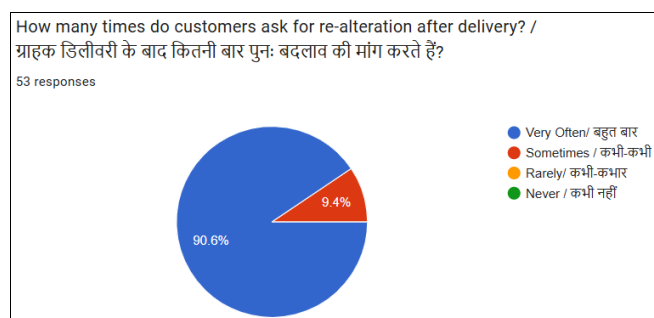


Fig 9: Alteration Problem faced

The results also highlight a strong awareness among weavers regarding market trends, as 99% acknowledged that changing designs significantly influence demand. Importantly, 96.8% of weavers agreed that selling products online would enable them to better understand consumer preferences and market needs. Furthermore, 99.7% believe that adopting digital platforms would significantly boost the handloom business by improving visibility and reducing dependency on intermediaries.

Similar challenges are observed among tailor design houses, which face limitations such as inconsistent workflow, lack of direct customer interaction, and inadequate market exposure. These constraints restrict their ability to fully utilize their skills and respond to consumer demands effectively. Notably, 100% of weavers and tailor design house respondents expressed willingness to adopt a digital platform for showcasing their work and receiving customized orders.

Overall, the results demonstrate a clear mismatch between consumer expectations and the current structure of the handloom supply chain. While consumers demand authenticity, customization, and better fitting solutions, producers struggle with limited market access and low profitability. At the same time, the high level of acceptance of digital solutions among all stakeholders indicates a strong potential for implementing an integrated platform that connects consumers, weavers, and tailor design houses.

Summary

The study's results show that there is a big gap between what consumers want and how the handloom sector in Varanasi currently works. On the demand side, consumers are very interested in digital platforms, as shown by their strong preference for shopping online. Even though people are ready to shop online, many are unhappy with the authenticity, quality, and customization of the products available on current e-commerce sites. The fact that almost all of the people who answered had fitting problems shows how limited standardized clothing production is and how much more personalized clothing solutions are needed.

The results also show that even though people know about sustainable fashion, they don't always use it. High perceived cost, lack of trust in product authenticity, and few chances to talk directly with producers are some of the main reasons for this gap. People can't picture the final product correctly, and they often find that what they get doesn't match what they expected. This means that the current system doesn't give people the ability to see what's going on, make changes, or feel safe buying handloom products.

The study shows that weavers and tailor design houses face

a number of structural problems on the supply side. Most weavers work for master weavers or use middlemen to sell their goods. This means that their profit margins are lower and they have less say over prices and designs. Because they don't have much direct market exposure, they can't keep up with changing consumer tastes, which leads to high product rejection rates. Also, customers can't fully appreciate the craftsmanship and design details of handloom products because there aren't any good ways to show them off.

The study also shows that both weavers and tailors have the skills and willingness to change with the market, but they don't have the right tools and platforms to do so. The fact that almost all of the people who answered agreed on the need for a digital platform shows that they are very ready for change. Such a platform can connect consumers and producers, making it easier for them to talk to each other, work together on designs, and be happier with the products they buy.

In general, the results show that the problems in the handloom sector are not because there isn't enough demand or skill, but because the current system isn't working well. A digital, direct-to-consumer platform could help solve these problems by making things more open, allowing for more customization, cutting down on the need for middlemen, and improving the economic situation for weavers and tailor design houses. This method can be very helpful in promoting sustainable fashion and making sure that the Varanasi handloom industry stays competitive and grows over time.

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