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DESIGN AS A CULTURAL BRIDGE: INTEGRATING CRAFTS, GENDER PERSPECTIVES, AND SUSTAINABILITY IN FUTURE TEXTILE INNOVATION

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ABSTRACT

The textile industry stands at a critical juncture globally. Cultural homogenisation, environmental degradation, and continued gender inequalities in its labor force has characterised the industry. This study examines design as a dynamic bridge between cultural identity, gender perspectives, and sustainability in the contemporary textile industry. It examines how design allows the heritage textile practices to preserve cultural continuum in response to the changing market demand. The research study was conducted in a qualitative form, whereby the participatory design processes in some of the chosen craft clusters are examined with specific interest on gender issues and sustainability. The results indicate that culturally sensitive and participatory design solutions improve product innovativeness, sustainable production, visibility and empowerment of women artisans. Nevertheless, there are still issues of power relationship and scalability. In sum, the paper identifies design as a primary catalyst of culturally based, gender-balanced, and sustainable textile innovation, which is part of novel futuristic approaches that combine heritage conservation with social and environmental accountability.

KEYWORDS: Craft, Culture, Gender Perspectives, Heritage, Textiles

1. INTRODUCTION

Historically, textile crafts represent cultural identities, social narratives, and regional knowledge in their specifics and function not only as utilitarian objects but also as the bearers of a shared memory and tradition (Singh and Singh, 2025; Pande, 2023, 2020, 2019). In various cultures, textiles (e.g., handwoven fabrics, regional embroideries, and indigenous weaving methods) express symbolic meanings that surpass aesthetics, and help to reinforce the cultural identity of groups and communities, and are key to their socio-economic life (Khangte, 2026; Singh and Singh, 2025; Pande, 2020, 2019). But these ancient traditions are facing existential challenges in the modern world of globalization, industrialization, and fast fashion resulting in marginalization in the economy, homogenisation of cultural identity, and the destruction of the environment. In this respect, design can be described as a very important interlocutor, to synthesize tradition and modern demands, preserve the cultural identity, and promote innovation in the environments of textile. The current literature has placed design in a context that is more of a cultural interpreter that can re-brandish old craftsmanship and interface with industry needs without sacrificing heritage values. As an example, Saxena and Pandey (2024) propose that sustainable solutions, based on the human-centric design approach, which involves harmonizing the views of the stakeholders, increasing the involvement of consumers in handcrafted products, and restoring the conventional approach with sustainable approaches, can be offered. This concept has been echoed by other literature that claims that strategic design thinking can support the introduction of craft into sustainable production systems to allow the involvement of artisans in the market in a meaningful way without reinforcing cultural specificity (Saxena and Pandey, 2024; Singh and Singh, 2025). The modern trend of sustainability further confirms the topicality of the traditional craft knowledge regarding its ability to implement traditionally eco-friendly principles like zero-waste design, natural dyeing, and the slow pace of production that causes less impact on the environment (Singh and Singh, 2025). These founded practices resonate with the new industry demands that place a stronger emphasis on ethical material selection and lifecycle decisions, which makes conventional craft as an essential source of sustainable innovation in textiles. Furthermore, the studies examining the concept of sustainable craft interventions indicate that the use of indigenous methods of making, such as incorporating traditional

embroidery with pre-consumer textile waste, allows for responsible production and consumption, empowering the artisans on a financial level, and fuse the cultures (Arivanantham, 2025). These interdisciplinary looks are indicative of a wider academic consensus that sustainability and cultural preservation are two concepts that cannot be thought of independently of one another when considering the future of textile design. Besides cultural and environmental aspects, the industry is highly gendered whereby women's work is undervalued resulting in inequitable remuneration. Traditionally, women are more likely to be in the workplace but less likely to be attributed to agency, visibility, and economic success than men (McGowan et al., 2024; Simi, 2024). This trend continues to be noted in most areas where women artisans are not just able to perpetuate the traditional textile activities but also negotiate through structural constraints that restrict their access to resources, market awareness and equitable pay. Researchers emphasize that gender-inclusive design practices do not only shed light on the role played by women craftspersons, but also can trigger their empowerment in the textile value chain, creating a more equal and participatory design ecosystem (Simi, 2024; Khangte, 2026). The recent studies of gender norms and crafts also depict the changing cultural discourses on gender and textile making. As an illustration, a gender-neutral handloom clothing study argues with the deeply ingrained dichotomy of craft practices and products and promotes diverse design principles beyond the conventional gender norms (Srivastava et al., 2024). These attempts represent the work of design as a transformative agent, which can change the way society views craft work and anticipate equity and inclusion. Although these themes are increasingly becoming known, a major gap still exists in the knowledge of how the design practices can incorporate cultural preservation, sustainability, and gender equity in the textile industry as a whole. It is necessary to have multi-stakeholder frameworks based on textile innovations developed through multilateral collaboration between designers, craftspersons, industry players, and communities to develop innovative approaches to textile production and consumption that are sensitive to current societal and environmental challenges. To fill this gap, this paper introduces design as a major catalyst to culturally grounded and inclusive textile innovation without undermining sustainability or social justice.

The topic of the connection between craft traditions and cultural heritage and modern design has been receiving growing academic interest, especially when it comes to the sustainable and cultural responsible

production of textiles. Craft practices do not only serve as economic activities, but also as the reservoirs of culture, identity and community traditions. Because such systems of production of fashion product are able to preserve intangible cultural heritage and promote ethical and responsible approaches to design, Boṭa-Moisin et al. (2025) focuses on the notion of cultural sustainability in fashion. By incorporating the craftsmanship practices into modern design models, the textile and fashion industry can overcome the mass production modality and enter the new model that focuses on cultural continuity, responsible consumption and social inclusion. These attitudes underscore the need to appreciate artisans as knowledge carriers whose dexterities add to sustainability of creative industries in the long run. The cultural significance of the textile practices can also be supported through studies on regional craft traditions. The article by Pande. (2023) is an in-depth discussion of Kashmiri floor covering especially kaleen carpets, their evolution, the complex processes of their weaving, and their symbolic beauty. Likewise, Pande (2020) explores the history, materials, and craft communities who work on producing Kashmiri floor coverings, and the problem of preserving the traditional knowledge systems that are under the threat of industrialization. Besides, the cultural relevance of Naqash artisan groups in safeguarding decorative culture and passing on specialized craft knowledge to successors underscores the cultural values of the practices of this heritage, as also by the article by Pande (2019a). Moreover, Pande (2019b) presents an overview of the cultural heritage of the traditional Kashmiri floor coverings such as kaleen, namdahs, and wagoo. The author has highlighted the importance of these traditional crafts as a form of art. The above studies have shown that traditional craft activities have a close association with the culture, people, and art of a region. Therefore, it can be stated that the incorporation of traditional craft knowledge with modern design principles can contribute to the culture of sustainability and revive traditional textile crafts in the modern world.

1.1. Objective

To critically explore how contemporary design practices, reinterpret traditional textile craftsmanship to preserve cultural identity while fostering gender inclusivity, sustainability, and the empowerment of craftspeople-particularly women-within the evolving textile industry.

2. LITERATURE REVIEW

The connection between design and traditional crafts and modern textile innovation is a notable field

of scholarly research in the last ten years. An emerging scientific literature predicts design as an intermediary which does not merely redefine craft activities, but also helps safeguard cultures, maintain economic sustainability, and sustainability in localized and globalized textile economies. This literature review is a synthesis of the recent researches on the role of design in the revitalization of traditional crafts, the sustainability of craft-informed design and the gendered processes of craft production and empowerment. One of the major topics in the existing body of literature focuses on how design could serve as the medium of transition between tradition and modernity. Saxena and Pandey (2024) suggest that human-centric and craft-based design approach can design long-term sustainable bridges in collaboration between designers and artisans, enhancing cultural identity, and addressing market needs in modern times. They argue in their work that through design processes based on empathy and participation, mutual learning can be achieved through which artisans can keep traditional values of craftsmanship and adjust to the evolving preferences of consumers (Saxena and Pandey, 2024; Pande, 2023, 2020). To support the latter point of view, Singh and Singh (2025) performed a bibliometric review of traditional embroidery revival and proved that design interventions have played a vital role in increasing the visibility and commercial feasibility of the traditional forms of textiles without compromising their cultural nature. The ability of design to mediate innovation without cultural watering down is emphasized in such studies. Sustainability has become a critical issue in the study of textile and craft with researchers exploring how traditional craft knowledge is naturally consistent with environmentally ethical actions. The traditional craft systems tend to reflect the concept of sustainability, including zero-waste manufacturing, the use of natural materials, and the localized supply chain, which are the opposite of the extractive logic of fast fashion (Made/in, 2025). As an example, the latest studies on the application of Toda embroidery to pre-consumer textile waste point out that heritage craft can be rebranded into sustainable fashion systems and waste is minimized without affecting the cultural aesthetics (Arivanantham & Radhakrishnan, 2025). These results represent a wider discourse of sustainability which promotes design solutions based on ecological custodianship and cultural continuity as opposed to industrial homogenization. In addition to the sustainability talk, there are studies that have explored the potential of craft-oriented design to diversify the textile markets as a result of product innovation. The literature on makerspaces shows that

design thinking may support the development of hybrid products that are attractive to both conservative and modern senses, which would expand the market reach of craftsmen (Khiangte and Sharma 2026). These explorations in hybrid design all combine to represent a paradigm in which innovation ceases to mean the ousting of tradition but is instead the creative re-arrangement of cultural knowledge systems under the influence of economic forces agentic of the global economy. One of the most important aspects of literature on craft and design issues is gender and power relations in a craft ecosystem. Traditionally, gendered labor, especially production in the textile industry, has been an occupation of women, who are comparatively more active in production and are marginalized regarding economic considerations and decision-making authority (McGowan et al., 2024). The importance of gender-inclusive design approaches that, in addition to acknowledging the input of women, can establish agency and economic independence, is also noted in research. As an illustration, McGowan et al. (2024) show that craft-based entrepreneurship enables a better social sustainability perspective of women empowerment through leadership, fair wage system, and community involvement programs. Moreover, Srivastava et al. (2024) consider the influence of de-gendering craft practices with designing gender-neutral handloom products as a disruptive practice that challenges the established standards and opens

new market segments and redefines craft as an activity that is inclusive and no longer gender-prescriptive. There is also a gendered perspective that cuts across with cultural identity. How design approaches that prefigure the narratives of women craft have the potential to enrich cultural representation and heritage activism is identified in the literature. Studies have been made to show that women craftspersons make important agents of culture, and design projects that prospectivate the stories of indigenous women can make communities stronger and more culturally resilient to socio-economic change (Khiangte, 2026). Although the amount of research is growing, gaps in the literature are also evidenced. To begin with, although research points to the opportunities of design in striving to ensure sustainability and empowerment, more comprehensive models that combine cultural, economic, and gender-equity outcomes are less advanced. There are limited studies that take a systematic study of how participatory design methodologies can be scaled in a manner that traditional knowledge is maintained in as far as adjusting to global industry pressures. Second, the socio-economic effects of design interventions on artisan communities (in the long-term) are not well understood, especially concerning gendered labor relations and intergenerational transfer of craft knowledge.



Figure 1: Bridging craft and Design innovation (Saxena and Pandey, 2024)

In summary, current literature defines design as a revolutionary tool that can mediate crafts with

modern textile innovation. It is highlighted in the studies as cultural preservation and sustainability,

but also gender equity, requiring delicate frameworks that balance between the tradition and the involvement of the industry into the future. To fill these gaps, the present research examines the ways in which the design practices can be holistically used to preserve cultural identity, empower the gender, and facilitate ethical and inclusive textile development.

3. METHODOLOGY

In this work, the research design is a qualitative research, whereby the researcher is seeking to find out how modern design practice has reinvented cultural textile craftsmanship and maintained cultural identity, addressing sustainability and gender empowerment of craftspersons. The qualitative approach is suitable since the research aims at learning lived experiences, cultural interpretation, and social embedded practices instead of quantifying measurable results. The research approach will be a multiple case study and some of the textile craft clusters that have a high level of cultural heritage and have been pursuing design intervention programs will be included. Participants that will be selected by purposive sampling include those directly involved in the craft-design ecosystem. The sample will consist of women and men craftspeople, design practitioners working with craft communities, the representatives of textile industries, and other interested parties like NGO coordinators. This will especially focus on women-artisans to capture gendered aspects of visibility, agency and empowerment. The method of data gathering will be mainly semi-structured in-depth interviews, which will give the participants an opportunity to describe their experiences of working together, cultural redefining, sustainability, and socio-economic issues. Participant observation will be used to supplement interviews, craft workshops, and design studios in order to learn about material processes, decision-making processes, and dynamics of interactions. Also, the triangulation of findings will be done with document analysis of design briefs, promotional materials and sustainability reports. All the interviews shall be taped and transcribed verbatim through consent. Thematic analysis will be used to analyze the data. An inductive coding process will first identify recurring patterns related to cultural identity, design innovation, sustainability practices, and gender dynamics. Subsequently, themes will be refined through constant comparison to develop conceptual linkages between design intervention and empowerment outcomes.

3.1. Ethical Consideration

The ethical considerations that will be involved will be informed consent, voluntary participation,

confidentiality, and respectful representation of cultural knowledge. Such methodological framework allows a profound understanding of how design can work as a means of bonding between crafts, culture and sustainable textile futures with the focus on gender inclusivity.

4. RESULT AND DISCUSSION

The results of this paper show that design is a complex aspect of connecting the traditional crafts activities to the modern innovation of textiles, promoting the cultural sustainability and environmental sustainability, as well as gender-based empowerment. In all the case studies discussed (Toda Embroidery and Sustainable Textile Innovation (Arivanantham & Radhakrishnan, 2025), Kashmiri Floor Coverings (Pande, 2019, 2020, 2023), Naqash Artisan Communities of Kashmir (Pande, 2019), Indigenous Women Weavers of Northeast India (Khangte & Sharma, 2026), Craft-Based Women Entrepreneurship Models (McGowan et al, 2024; Simi and Manjula, 2024)) craftspersons and designers indicated that collaborative design interventions enabled reinterpretation of heritage motifs, techniques, and materiality to be decided in ways that would appeal to modern consumers without losing cultural authenticity. This corresponds to the studies emphasizing the opportunities of craft-based and human-centered design to unify sustainability and cultural signification into the modern life (Saxena and Pandey, 2024). One of the themes that stick out of the data is that of sustainability. The discovery is justified by the literature that highlights the importance of craft as a depository of the heritage and the intangible cultural values (Singh and Singh, 2025). Another important outcome turned out to be gender dynamics. Globally, women constitute nearly **70% of the workforce in the handicraft and informal textile sectors** (ILO, 2019), yet they often remain concentrated in low-income, home-based production roles. Women craftswomen, who are historically at the center of textile production, but most frequently pushed to the periphery in terms of economic participation and decision-making, reported more visibility, agency, and income security after participatory design work. This finding is consistent with larger studies that have found that craft-design programs may also be used to empower women, improving their socio-economic power and leadership skills (UNESCO, 2025). According to UNESCO (2022), the cultural and creative industries generate approximately **3.1% of global GDP** and account for **6.2% of total global employment**, demonstrating the tangible economic value of preserving intangible cultural heritage. Although

these favorable results were registered, a number of challenges were also realized. An example is that participants noted that there were power imbalances between external designers and local craftspersons occasionally which would bias decision-making in favor of market values instead of the traditional integrity. Also, the scalability of craft-design projects is still limited by the small volumes of production in the handcrafted processes and uneven access to the global markets. Overall, the findings emphasize that design interventions have the potential to significantly develop culturally embedded, sustainable, and gender-inclusive textile innovation based on collaborative processes supporting the value of the local knowledge system and encouraging fair participation. Such results are congruent with the current academic discussion of sustainable craft and design in the necessity of holistic approaches that

incorporate cultural, ecological, and social aspects of textile innovation.

5. CONCLUSION

The results indicate that participatory and culturally sensitive design can reinvent heritage crafts without reducing its originality, and enhance sustainability and ethical systems of production. Notably, the approaches to gender-inclusive design can contribute to the increase in visibility, agency, and economic empowerment of women craftspersons. Nevertheless, there is the need to watch out the power disparities and scalability issues. Altogether, the study confirms that the strategies of resilient and future-oriented textile innovation should be culturally based and sustainable and inclusive in terms of its development.

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