INVESTIGATING CULTURAL SUSTAINABILITY VIA THE FUSION AND INNOVATION OF TRADITIONAL CRAFTS AND MODERN DESIGN

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Abstract
The amalgamation of modern design and old craftsmanship can produce significant benefits regarding cultural sustainability and creativity. Traditional craftsmanship has diminished due to industrialisation and mass production, which have eroded cultural heritage, despite a growing desire for unique, high-quality items and ethical sourcing. This study aims to assess the feasibility of adapting traditional artisanal methods to meet contemporary aesthetic, functional, and environmental requirements. A total of 1,337 participants were surveyed, and 1,550 questionnaires were distributed to them after the conclusion of the pilot project, which involved twenty individuals. A varied group of individuals, including politicians, entrepreneurs, artisans, and designers, collaborated to merge ancient techniques with modern aesthetics. Statistical analysis and insightful observations were obtained from the responses generated using RAO software. The study focusses on the sustainability and significance of traditional art forms through the analysis of eco-friendly production methods, digital fabrication, and service design. The incorporation of these qualities allows artists and designers to broaden their audience while maintaining their own uniqueness. Persistent worries encompass the degradation of handicrafts resulting from mass manufacturing, artisans' resistance to modernising, and inadequate regulatory frameworks. This study enhances the current body of literature on traditional sustainability by providing pragmatic recommendations for the preservation of artisanal traditions alongside technological progress. This study proposes a system that facilitates the preservation of traditional arts and crafts while allowing their adaptation to contemporary societal needs.

Keywords: *Contemporary Design; Innovative Craftsmanship; Cultural Sustainability; Heritage Preservation; Service Design; Traditional Artistry*

Introduction

Traditional craftsmanship has persisted by employing low-tech processes, generating minimal waste, and prioritising locally found materials, in contrast to contemporary industrial procedures. Intricate stitching, wood carving, and weaving exemplify old crafts that transcend civilisations, illustrating the harmonious coexistence of nature and human creativity. Intangible cultural heritage encompasses traditional handicrafts as one of its five categories. The UNESCO Convention on Intangible Cultural Heritage from 2003 provides a definitive elucidation of these concepts (Hou et al., 2022). ICH articles typically encompass a broad spectrum of subjects. The importance of the element can only be understood with a strong foundation in ICH. The event's major objective is to examine the possible contribution of intangible cultural assets to sustainability advancement.

The convention delineates strong and unequivocal justifications to ensure its preservation and reinforce its enduring impact. A significant amount of room need enhancement. As an extensive repository of cultural diversity, it predominantly depends on material culture and natural heritage, facilitating the dismantling of barriers to intercultural exchange. Intolerance drives human inventiveness and cultural variety (Mariyono et al., 2025). The agreement emphasises the significance of intangible cultural assets and their advantages to society and the economy, underscoring the necessity for youth to comprehend this.

The distinction between traditional arts and crafts and the burgeoning sector of cultural and creative tourism, which has the potential to stimulate economic development, is ambiguous at best. Local communities are recognising the increasing significance of craft tourism to satisfy visitor demands. Officials are apprehensive that intangible cultural assets are becoming commodified to the extent that they transform into attractions in their own right. Traditional arts and crafts can enhance environmentally sustainable guest houses, as previously said. The emergence of the handmade market is linked to traditional crafts under modern cultural sustainability management (Połeć & Murawska, 2021).

Background of the study

The design and art industries have experienced a significant increase in consumer interest over the past few decades. Additionally, the COVID-19 pandemic has altered the business practices of corporations in this sector, in addition to fostering an increase in online purchasing. They are likely the most compelling illustrations of the potential global impact of traditional crafts on trade between China and India. One method by which the cultural influence of these countries is accentuated is through diplomatic decisions regarding the integration of new design and technology with traditions, the definition of creativity, and the development of employment in various sectors (He et al., 2024).

Traditional crafts are essential for the restoration and preservation of cultural heritage. Traditional methods and an understanding of a variety of cultural objects, particularly those that are built, are essential for the restoration of their original form. Museums are essential for the preservation of a nation's history and the preservation of traditional crafts. Therefore, this examination of tangible cultural artefacts may also provide advantages from comparable methodologies. Developed a more sophisticated comprehension of the ways in which innovative design and cutting-edge electronics can promote modern sustainable development while honouring heritage (Montuori, 2024).

By integrating modern technology and design, it is possible to improve ancient crafts and guarantee their continued transmission through generations. For instance, 3D printing enables artisans to produce ceramic moulds, which merges the visual appeal of handcrafted products with the precision of contemporary manufacturing. Modern material science has the potential to improve the quality and longevity of conventional materials. Digital platforms facilitate the connection between artists and global marketplaces, thereby opening up new opportunities for businesses to expand sustainably. Consequently, traditional crafts are greatly benefited. Another method to reduce the ecological impact of traditional woodworking and reduce the consumption of fossil fuels is to employ instruments that are powered by solar energy. When tradition is honoured in conjunction with innovation, a realm of sustainable and innovative manufacturing opportunities becomes accessible (Sulochna et al., 2023). This article has the potential to establish a future that is less environmentally damaging by fostering collaboration and the exchange of knowledge.

Purpose of the study

Cultural sustainability is a dynamic domain in the context of the creative industries. This section argues that "sustainable design" was introduced to the design industry in order to optimise industrial efficiency and mitigate the impacts of "disposable" marketing. Currently, the definition of an environmentally responsible vessel is uncertain. The necessity to distinguish sustainable crafts has emerged in response to the growing discussion and apprehensions about the role of crafts in environmentally conscious communities. Secondly, there is a dearth of comprehensive research that examines the relationship between sustainable craftsmanship and service architecture. This article will evaluate the current state of knowledge and trends in sustainable crafts and examine the evolution of environmentally conscious crafts.

Literature review

Assessment of innovation of contemporary art as a method of preserving cultural traditions and fostering new ideas and approaches by utilising a diverse array of theoretical and practical knowledge. It underscores the significance of design as a potent force for good and the ways in which it can assist traditional crafts in achieving economic, social, and cultural revitalisation beyond merely enhancing their aesthetics. This critical evaluation enhances the literature on cultural sustainability by offering a framework for understanding the coexistence of traditional and modern elements. It underscores the significance of adapting to the evolving needs of contemporary societies while preserving cultural identity (Adefila et al., 2024).

The dynamic between contemporary design and age-old crafts has been defined by a variety of societal, technical, and economic changes. The dialogue between the past and the present is further emphasised by the ongoing examination of the evolution of their objectives, innovations, and aspirations. The fusion of traditional craftsmanship with modern design has fostered innovation and creativity from the Arts and Crafts Movement of the late 19th and early 20th centuries to the present day of technology and globalisation. Cultural sustainability is the continuous endeavour to safeguard cultural practices, beliefs, and histories for the benefit of future generations within the context of sustainable development (Stephenson, 2023).

The primary responsibility of the creative and cultural sectors and cultural heritage is to contribute to and support sustainable development in all its facets—economically, socially, and environmentally. An individual's cultural legacy is comprised of the worldview, customs, values, and beliefs that have been handed down through generations. Many have argued that cultural sustainability should be recognised as a distinct pillar of sustainability, distinct from the social pillar, due to its increasing significance in the economic, social, and political spheres (Järvelä, 2023). The preservation of cultural traditions is essential, as the beliefs of a society significantly influence its decision-making.

Some argue that sustainable development cannot be achieved without first assuring cultural sustainability. The theoretical and conceptual aspects of cultural sustainability within the broader context of sustainable development are still insufficiently developed. This is the reason why political, social, economic, and ecological policies are unable to completely account for cultural influences. Researchers have employed a diverse array of methodologies to evaluate the concept of culture in the context of sustainable development in order to quantify the impact of cultural sustainability. In order to achieve this, it is necessary to establish metrics and methods to evaluate the influence of culture on sustainable development and to determine the most effective way to integrate culture into social, political, and practical policy domains. Postmodernism presented a challenge to modernism by adopting a critical perspective on the professions of society. Despite the fact that contemporary terms such as neo-avant-garde and critical practice imply postmodernism, the principle of craft remains unchanged. Nevertheless, historical avant-garde movements were significantly more revolutionary. The diverse and interconnected art field's focus shifted from skill to production and from representation to the object as contemporary craft practices emerged in response to the increasing accessibility of these mediums. The modern era's concurrent transition to mass production and consumption has had a detrimental impact on traditional production methods and handcrafted products. The gap between consumers and artists is being exacerbated by technological advancements and globalisation (Yufriadi et al., 2024). This line of reasoning has consistently served as the foundation of my work; it is predicated on the notion that exploitation is an unavoidable consequence of mass production and consumption.

1. **Research question**

1) What is the impact of innovation of contemporary designs on cultural sustainability?

2. **Methodology**

Research design:

In this study, researchers employed a cross-sectional methodology and monitored participants for a duration of four months. To guarantee the effectiveness of the cross-sectional methodology, data needed to be gathered at a singular, cost-effective instance. Due to budgetary and temporal constraints, the researcher employed a quantitative methodology. The researcher employed a random sampling method to reach out to each survey participant. Subsequently, Rao Soft was employed to ascertain the sample size based on the offered samples. The survey questions will be orally presented to those who cannot read or write, or who are wheelchair-bound, and their responses will be documented verbatim. Participants awaited the researcher's elucidation of the experiment and responses to their enquiries while completing the surveys. It is not unusual for individuals to be requested to complete and submit surveys simultaneously.

6.2 Sampling:

The questionnaire was pilot tested with 20 individuals to ascertain the minimal study sample size. Rao Soft asserts that 1200 replies are adequate. A total of 1,550 participants were randomly administered the surveys. The researcher exclusively utilised fully completed questionnaires, discarding those that included missing information. Utilising the Rao-soft approach, researchers identified a research sample of 1200 individuals and subsequently delivered 1550 questionnaires. Following the exclusion of 127 respondents with inadequate responses, the researchers achieved a final sample size of 1337 from a total of 1464 completed questionnaires.

Data and Measurement:

A questionnaire served as the principal instrument for data collection in this study. The initial section of the survey solicited fundamental demographic data, whilst the subsequent section employed a 5-point Likert scale to evaluate several dimensions of the participants' engagement with both online and offline channels. All pertinent material was extracted from secondary sources, including numerous web databases.

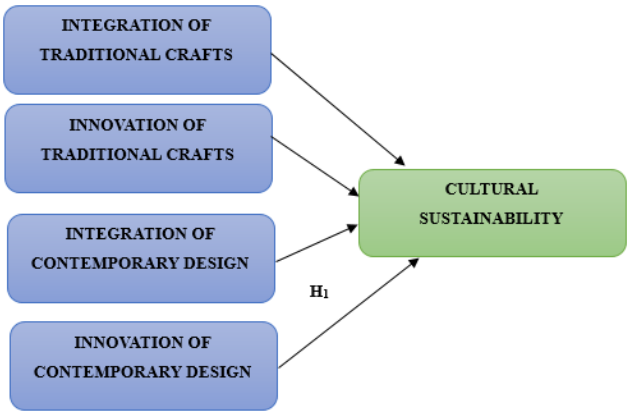
Statistical Software:

Statistical analysis has been conducted using Excel and SPSS 25 in this research.

Statistical Tools:

Descriptive analysis facilitated the comprehension of the fundamental characteristics of the data. Factor analysis was employed alongside ANOVA to perform validity checks.

Conceptual framework



Results

Factor Analysis

Verifying the fundamental component configuration of a collection of measurement items is a prevalent application of Factor Analysis (FA). The outcomes of quantifiable measures are influenced by factors that are not readily observable. FA utilises models as a methodological approach. The primary objective of this research is to identify the links among observable phenomena, their causes, and measurement errors.

The Kaiser-Meyer-Olkin (KMO) Method is employed to assess the appropriateness of data for factor analysis. The researcher has confirmed that there are adequate participants to represent all model variables. Researchers employ quantitative assessments to ascertain the degree of variance shared among various variables. Factor analysis is frequently more efficacious when examining data with lower percentages.

Executing KMO will yield a value between 0 and 1. A KMO score ranging from 0.8 to 1 indicates adequate sampling.

A KMO value below 0.6 indicates insufficient sampling, necessitating corrective action.

Although 0.5 is frequently suggested by numerous sources, you are at liberty to select any particular amount. The range is from 0.5 to 0.6.

Partial correlations are more significant than overall correlations when the KMO approaches zero. Significant correlations greatly hinder component analysis.

The entry requirements established by Kaiser are as follows:

Within the limited range of 0.050 to 0.059.

Subpar, with a margin of 0.60 to 0.69 points.

The typical range is from 0.70 to 0.79.

The quality points range from 0.80 to 0.89.

The large range from 0.90 to 1.00 was remarkable.

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.927
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

The researcher employed Bartlett's Test of Sphericity to evaluate the generalisability of the correlation matrices. The Kaiser-Meyer-Olkin test indicated a sampling adequacy of 0.927. The researchers employed Bartlett's sphericity test, yielding a p-value of 0.00. In light of the substantial findings from Bartlett's sphericity test, the researcher contends that the correlation matrix is erroneous.

❖ **INDEPENDENT VARIABLE**

- **Innovation of Contemporary Designs**

To meet the often-shifting needs of modern civilisation, the designers of contemporary civilisation constantly create creative ideas combining components of technology, culture, society, and the surroundings. This is carried out to satisfy continuously changing standards. Examining a wide range of layouts, features, materials, and manufacturing techniques will help one to produce modern and culturally relevant designs for spaces, objects, or pictures. This kind of innovation reinterpret cultural themes using digital technology and combines digital procedures with handcrafted expertise. In conventional crafts, such innovation gives ethical and environmentally friendly design ideas top priority. By using their creative abilities, designers could create globally relevant, significant, user-oriented products. One can accomplish this by appreciating cultural narratives while challenging accepted aesthetics. This promotes understanding, acceptance, and adaptability across cultural boundaries therefore generating fresh opportunities for the presentation of history in many modern settings. Modern era perception and expression of culture is much influenced by the development of modern design. This creates chances for ongoing creative inspiration that will draw next generations.

❖ **DEPENDENT VARIABLE**

- **Cultural Sustainability**

"Cultural sustainability" denotes the enduring process of conserving and augmenting cultural practices, beliefs, and identities via transmission and preservation. The objective is to save intangible cultural assets such as oral traditions, skills, languages, and rituals, despite the rapid transformations in society, the economy, and the environment. This holds true irrespective of the major evolution of these diseases. To ensure the continuity of our traditions, we must adapt them to contemporary circumstances while maintaining their fundamental character. The conservation of an asset is merely the initial step. This approach promotes social cohesiveness and cultural diversity while enhancing a sense of community belonging. To facilitate the preservation of cultural expressions, it is necessary to establish viable professions that are historically grounded and engage the younger generation. Lawmakers, educators, and creative

industries collectively bear the responsibility of enhancing cultural sustainability by fostering knowledge and investment in cultural resources. This dedication is also shared by an individual. Cultural sustainability, integral to sustainable development, fosters adaptability, creativity, and inclusive progress. Cultural heritage should not be only remembered or observed; it ought to be experienced and incorporated into daily life. This encapsulates the essence of cultural legacy for preservation of traditional art with use of modern or contemporary designs in modern times.

- **Relationship of between Integration of Contemporary Designs and Cultural Sustainability**

Production of current designs greatly affects the experience, appreciation, and expression of cultural legacy in modern society, thereby supporting its preservation. Using modern technology, materials, and shapes to recreate classic symbols, stories, and aesthetics, designers engage a worldwide audience. Reviewing cultural narratives helps us to better appreciate them and our relationship to them. Improving the relevance and visibility of cultural elements in contemporary design markets will help to preserve traditional knowledge by means of transmission. As thus, this helps to preserve cultural objects. This also encourages creative problem-solving. Thanks to the chances it offers for artistic and financial expression, communities can preserve their traditional identity while also fitting modern society. Their unique cultural integration in design helps them to become dynamic participants in daily life instead of only inert objects. Thus, modern design improvements become a powerful tool for preserving and reinterpretation of cultural practices for the benefit of next generations.
In light of the prior debate, the researcher developed the following hypothesis to examine the correlation between the innovation of contemporary designs and cultural sustainability.

"H_{01}: There is no significant influence between Innovation of Contemporary Designs and Cultural Sustainability"

"H_1: There is a significant influence between Innovation of Contemporary Designs and Cultural Sustainability"

Table 2: H_1 ANOVA Test

ANOVA					
Sum					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	43746.479	904	5927.986	1140.655	.000
Within Groups	693.987	432	5.197		
Total	44430.177	1336			

A significant discovery arose from this inquiry. The p-value of .000 (below the .05 alpha level) indicates that the F value of 1140.655 is statistically significant. Given the rejection of the null hypothesis, the researcher can conclude that ***"H_1: There is a significant influence between Innovation of Contemporary Designs and Cultural Sustainability"*** is accepted.

Discussion

Research indicates that a balance between tradition and innovation is essential for the preservation of traditional crafts. Critics of excessive modernisation in handicraft contend that it undermines its authenticity, whereas advocates assert that adaptation to evolving economic and consumer demands is crucial. Artists can expand their audience while remaining true to their cultural heritage by integrating modern materials, digital fabrication methods, and aesthetic sensibilities.

Artistic pursuits and cultural ideas are the primary origins of most cultural and artistic products, which have subsequently been repurposed. The significance of creative and cultural production, encompassing the emergence of new jobs, has markedly increased during the past few decades. The majority of things available in retailers are predominantly banal and utilitarian, encompassing items such as magnets, key rings, folders, and refrigerator stickers. The essence of the matter is the examination and enhancement of the attributes of creative endeavours.

Through the integration of practicality and value preservation methods via meticulous craftsmanship, culturally and artistically significant artefacts are evolving from mass-produced trinkets into heritage items. Creative and cultural items can function as inheritance due to the amalgamation of arts and crafts. Prioritising the requirements of the general public in the development of cultural and creative products is justifiable on multiple grounds. For instance, specific products offered by online retailers were lately more economical due to their construction with fundamental components. A product that is overly straightforward and devoid of symbolic significance will arise from only printing, pasting, and reproducing basic pictures. Cultural and artistic goods should be categorised as either ephemeral or enduring based on their visual appeal and the materials utilised.

Conclusion

The utility of cultural and creative products is the primary determinant of its relevance duration. Their visual appeal enhances their attractiveness, while their practicality in everyday use ensures their persistence. The fusion of traditional aesthetics with innovative technology renders these goods pertinent, functional, and enduring in contemporary society. Moreover, interdisciplinary cognition is essential to harmonise contemporary science and technology with traditional art and craftsmanship. Utilising scientific and technological methods facilitates the attainment of design impacts. Product design can advance sustainably only if it is more closely aligned with scientific and technical advancements. Cultural and artistic artefacts can function as utilitarian items and vessels of artistic heritage by integrating these historical methods into contemporary product design. This process enhances the cultural value of things and extends their longevity, so augmenting their worth and desirability as antiques. Sustainable and historically rooted artistic endeavours cultivate a profound appreciation for old crafts, ensuring their continuity in contemporary culture.

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