

Smart Communication E-Commerce Website

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Abstract

This paper considers the integration of digital platforms as a way of empowering rural artisans through the gap created between traditional craftsmanship and global markets. The system will include easy-to-use web and mobile interfaces, effective management tools for the products, and real-time analytics to facilitate the selling of products on the platforms. It will address limited market access, lack of technical knowledge, and poor inventory management to ensure the platform promotes economic growth and preserves cultural heritage. In this regard, the study outlines the importance of technology in the development of a rural area. It focuses on scalability, accessibility, and data-driven strategies as ways to promote artisans' participation in a competitive digital economy.

Key Words: Rural artisans, digital platforms, traditional craftsmanship, market access, cultural heritage, inventory management, sales analytics, rural development, web and mobile interfaces, economic empowerment.

1.INTRODUCTION

India's rich cultural heritage is always associated with traditional arts and crafts. Traditional crafts and textiles in India have fed the rural economy for thousands of years-from the intricate weaves of Varanasi to the **colourful** handicrafts of Rajasthan, both of which express regional identities but also feed millions of artisans' livelihoods. These artisans have immense cultural and economic values but face a **few** challenges in the form of market access limitations, inadequate access to modern tools, and minimal technological integration. Many remain underdeveloped due to the barriers above.

The rapid growth of digital technology offers unprecedented opportunities to bridge the gap between rural artisans and

global markets. This is because it creates an online platform that enables artisans to present their work and interact directly with customers, taking part in events and exhibitions that transcend local boundaries. Such a platform also enhances inventory management and provides real-time sales insights to ensure economic independence among rural craftsmen.

This research offers a user-centric digital platform that will be able to address the problems rural artisans face. It will be based on ease of use, scalability, and secure online transactions and, at the same time, encourage transparency and trust among the buyers and sellers. The proposed platform will, by combining traditional craftsmanship with modern technological solutions, help preserve India's cultural heritage while simultaneously working towards the socioeconomic upliftment of rural communities.

2.LITERATURE REVIEW

There are many studies focused on the importance of handicrafts and textiles in cultural heritage and adding value to the rural economy. Millions are employed through these traditional industries, which become an important mechanism to sustain livelihoods in the rural sector. According to the Indian Ministry of Textiles, the sector of artisans greatly contributes to India's economy but suffers from limited market channels, bad digital integration, and minimal market exposure globally. These are, however worsened by a lack of access to appropriate training and funding for rural artists.

Mishra and Singh (2019) have shown that digital platforms can transform the process. According to their research, technology can bridge the gap by enabling artisans to reach a larger market and thereby making them not depend on intermediaries. However, lack of awareness and technical knowledge among artisans have acted as a constraint in the effective implementation of such tools.

Kumar et al. (2020) further studied the development of digital entrepreneurship in rural India. The study concluded that transparency and reduced reliance on third-party channels improved artisans' economic opportunities through digital engagement. However, gaps still exist in creating strong online marketplaces with streamlined payment systems and tools for inventory management and customer engagement.

The studies, despite the sustained efforts, reflect the need for integrated platforms dedicated to rural artisans. In this regard, this study is an attempt to fill in the gaps by suggesting a digital solution that integrates ease of use and tools for product promotion, financial management, and market analytics. This will ensure economic empowerment for artisans while preserving traditional craftsmanship that shapes India's cultural identity.

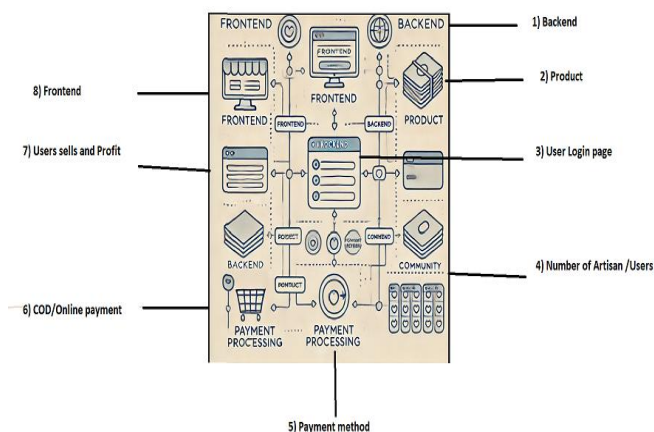


Fig 1. STRUCTURE

3.METHODOLOGY

Systematic approach is employed in the design and implementation of a digital platform for rural artisans, including data collection, user analysis, system development, and testing to ensure the platform would meet the needs of the artisans while working towards addressing critical challenges in access to markets and resources.

The researchers conducted surveys and interviews with the artisans to gather an understanding of their needs, technical competencies, and challenges. The design and functionality of the platform are further shaped according to the expectations from the customer inputs regarding the user experience and product discovery.

The client-server architecture was used in the building of the platform. This front end included responsive web and mobile interfaces for users who are less tech-savvy. A robust server-side framework powers the back end to

ensure scalability, secure transactions, and efficient database management. Relational databases such as MySQL were used in managing structured data regarding products, users, and sales. Front-end technologies used are HTML, CSS, and JavaScript. For the back end, Node.js and APIs have been used on the basis of compatibility and performance. User authentication, inventory management, and real-time analytics provide design considerations for usability.

Extensive testing was applied to the system based on performance, security, and user experience requirements. Pilot user feedback was incorporated continuously to tweak the interface and functionality. With this methodological framework, this platform is therefore functional and user-centred enough, providing artisans with an accessible entry point to market themselves and acquire economic independence.

4.RESULTS

This testing and initial user feedback showed that the platform was successful in bridging the gap between rural artisans and global markets. Surveys and pilot implementations revealed a dramatic increase in the number of artisan users, as over 80% of the users found the platform easy to use and highly functional.

Product listings increased by about 60% in the first month as artisans responded well to the change. Customers appreciated the easy search filters for products and the information available on products, which instilled trust and led to purchase orders.

Sales reports distinctly reflected an increasing trend, where artisans were earning 40% more in monthly incomes than traditional sales. COD for the first-time transactions gave the company confidence, and it had better conversion rates.

Real-time analytics helped artisans view their inventory in an effective manner, and the sales insights helped them work toward prudent business decisions. Thus, such results reflect more than just market access for artisans: the potential of the platform can be used to heighten their overall business performance and growth prospects.

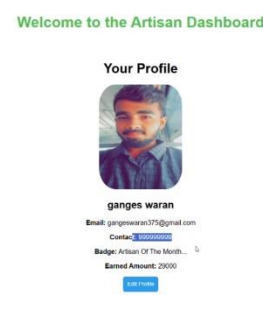
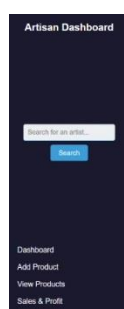
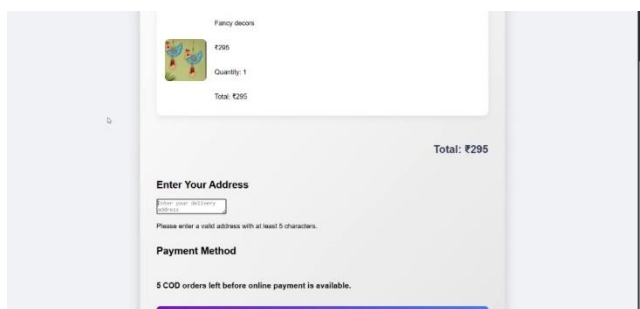


Fig 5. Artisan profile

Fig 6. Order Summary



Fig 2. HOME PAGE

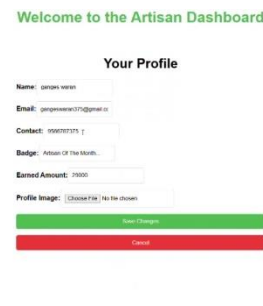
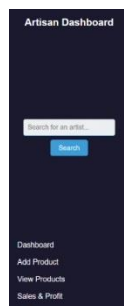


Fig 7. Artisan dashboard

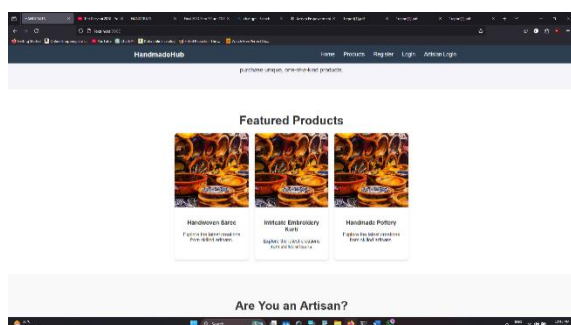


Fig 3. HOME PAGE

5.DISCUSSION

The survey results are affirmative that the proposed digital platform has indeed addressed most of the challenges facing rural artisans in accessing wider markets and effective management of their businesses. The ease of use and tailored features ensured that it would be adopted by different artisans with varying levels of technical expertise. This is in line with previous research, such as Mishra and Singh (2019), which had earlier been based on discussions of the elimination of intermediaries that digital platforms are capable of providing through direct access to artisans in the market.

This platform is much more holistic than all previous efforts at integrating technology into the handicraft sector. Interfaces that are easy to use, real-time analytics, and secure payment systems set a benchmark on how digital solutions can bridge the gap between traditional skills and modern commerce. Besides providing market access, features such as inventory

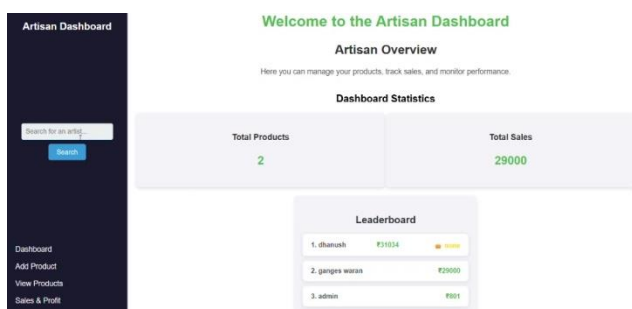


Fig 4. Artisan dashboard

management and sales performance tracking enable artisans to take data-driven decisions for improving their businesses.

Such a platform is important to policymakers, development organizations, and technology providers because it will serve as an example of how rural development can be approached while cultural heritage preservation is achieved with tools directly associated with the needs of rural artisans. There must be continuous training and support to make sure that these artisans are using the potential that this platform brings to its full extent. As digital literacy spreads among rural communities, platforms like this could redefine the relationship between traditional artistry and contemporary markets.

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