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INFORMATION AND COMMUNICATION TECHNOLOGY AS A CATALYST FOR HANDICRAFT BUSINESS SUCCESS IN DELHI/NCR

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ABSTRACT

This research investigates how the adoption of Information and Communication Technology (ICT) has influenced the marketing and sales of handicrafts in the Delhi/National Capital Region in the post-virus environment. Previous studies have highlighted the significant challenges faced by the handicraft sector due to reduced physical marketplaces and changing consumer behaviors during health crises, emphasizing the critical role of digital platforms such as e-commerce sites and social media in sustaining business operations. Building on these insights, this study employs a cross-sectional design with data collected from 234 artisans and enterprises using a standardized questionnaire. The focus is on understanding how the use of ICT tools—including digital marketing strategies, social media engagement, and online sales platforms—impacts sales performance. Analytical methods including reliability testing, descriptive statistics, and multiple regression analysis were applied to the data. The results demonstrate a strong positive relationship between ICT utilization and sales success, confirming that digital channels are vital for recovery and growth in the handicrafts industry post-virus. These findings provide valuable guidance for artisans, marketers, and policymakers on leveraging ICT effectively to enhance market reach and improve income, thereby supporting the resilience and advancement of traditional craft enterprises.

Keywords: E-commerce Platforms, Sales Performance, Delhi/National Capital Region (NCR), Artisans, Social Media Marketing, Post-virus Recovery, Technology Adoption, Small-scale Entrepreneurship, Digital Transformation, Market Access, Craft Sector Growth

1. INTRODUCTION

The global spread of the virus has had a profound effect on the handmade goods industry. Because of the drastic reduction in foot traffic and sales opportunities caused by lockdowns and travel restrictions, the handicraft industry has been hit particularly hard. Adopting ICT (Information and Communication Technology) became an essential tactic for progress and survival in this setting.

The impact of flu viruses on the use of Information and Communication Technology (ICT) in marketing handicrafts primarily manifested through changes in consumer behavior and business operations during flu seasons or outbreaks. Health concerns associated with the flu often led to reduced foot traffic in physical marketplaces and craft fairs, prompting artisans to increasingly leverage digital platforms to maintain their business continuity. E-commerce sites, social media, and online marketplaces became vital channels for artisans to showcase their products, reach broader audiences, and continue sales activities without direct physical interaction (Hanson R, 2010). The virus also influenced consumer preferences, with many opting for the convenience and safety of online shopping to avoid crowded public spaces. This shift provided an impetus for artisans to enhance their online presence and invest in digital marketing strategies, such as social media advertising and email marketing, to attract and retain customers. Digital platforms

offered artisans the opportunity to engage with customers through virtual exhibitions, live streaming of craft-making processes, and interactive sessions, thus compensating for the lack of in-person experiences. Additionally, the flu virus heightened awareness around hygiene and safety, which artisans addressed by emphasizing safe production and packaging practices in their marketing communications. Online businesses highlighted features such as contactless delivery and secure payment options to reassure customers and encourage online purchases.

However, the increased reliance on ICT also brought challenges, particularly for artisans with limited digital literacy or those located in areas with inadequate internet infrastructure. These barriers could limit their ability to fully capitalize on the digital shift. Despite these challenges, the adoption of ICT in marketing handicrafts proved crucial for sustaining business operations and reaching customers during times of health crises like flu outbreaks (Clark J, 2013).

Specifically, this study aims to analyse the dynamics of ICT usage in the post-virus marketing of handicrafts in the Delhi/National Capital Region. By looking at the connection between the use of ICT tools and sales success, this research hopes to offer insight on how the handicrafts sector may utilise digital channels to help with its growth and sustainability in the contemporary world. The findings of this research might be valuable for craftspeople, businesses, lawmakers, and scholars who are concerned about the impact of digital transformation on traditional industries.

2. LITERATURE REVIEW

The shift to online platforms has become a lifeline for the handicrafts industry in Delhi/NCR, especially in the wake of the disruptions caused by the COVID-19 pandemic. This literature review shines a light on how Information and Communication Technology (ICT) has played a key role in making this transition possible, exploring both the benefits and the hurdles artisans face as they embrace digital marketing. E-commerce platforms have opened up new doors for artisans, giving them the chance to reach audiences far beyond their local markets ("E-commerce for Artisans," 2023; Ithurbide & Singh, 2022). Success stories like Ngasti Shop illustrate how a strong online presence can dramatically boost sales and visibility for small-scale entrepreneurs (Prihandoko et al., 2020). Moreover, the pandemic has pushed many artisans to develop their digital skills, sparking innovation and a spirit of entrepreneurship within the community (Yadav et al., 2023). While digital platforms bring exciting opportunities, they also come with drawbacks — such as creating a reliance that can sometimes limit artisans' independence and reduce their profit margins (Ithurbide & Singh, 2022). Access is another major challenge, with many artisans still facing issues like poor internet connectivity and a lack of digital know-how (Yadav et al., 2023).

Despite these obstacles, embracing ICT is vital for the survival and growth of the handicrafts sector. The key lies in finding a balance: combining traditional craftsmanship with modern marketing techniques so that artisans can adapt to today's market demands without losing the cultural heritage that makes their work unique.

2.1. ICT

The virus's effect on the handicrafts industry has caused artisans significant financial hardship. Globalisation, hyper-competition, and the information and knowledge revolution have all had a profound impact on today's economic climate, which in turn has altered traditional business practices. The use of information and communication technologies (ICT) in business today is extensive, and it has a profound impact on the corporate world as a whole. Innovations in information and communication technology are hastening the transformation of worldwide corporate practices, consumer habits, and trade patterns. According to Denni (1996), it is imperative that all company owners incorporate ICT into their operations and make the most of the advantages they provide. Numerous business operations and transactions, both inside and between firms, may reap the advantages of information and communication technology (ICT) and e-business applications. In addition to enhancing knowledge and information management inside the company, ICT applications have the potential to speed up and enhance the dependability of business-to-consumer (B2C) and business-to-business (B2B) transactions while decreasing transaction costs.

On top of that, they are powerful instruments for enhancing both internal communications and the quality of services provided to both current and potential clients. Some of the best chances for small companies will come from being able to participate in regional and international markets, since the global economy is becoming more integrated due to improvements in ICT and the gradual removal of trade barriers (Mutula and Brakel, 2006). Companies may get

an advantage in the global market by embracing ICT, which can help them become more efficient and foster stronger ties with their suppliers and customers (Chong et al., 2001).

2.2. ICT AND HANDICRAFTS

Technological advancements are a useful tool. Craftspeople with years of experience in the sector will tell you that 'tools of technology are not tools of creativity' and that their creative vision, rather than technical limitations, dictates the final products. Tech helps them 'envision and execute' their ideas, but they still value 'artistic integrity' and a 'hands-onfeel' approach. Technology, they tell the audience, is only a byproduct of the trade and can be severed at will. They demonstrate that hybrid practices that integrate technological know-how with craft abilities enhance rather than entangle the embodied linkages. By combining technological advancements with time-honored methods, crafters may broaden their scope of practice, open themselves to new ideas, and ultimately create more innovative products (Marshall J, 2002). Technology and Its Role in Driving Change. Craftspeople and artists may look to technology as a solution to the problems that hinder their creative productivity. Adapting to the use of technology in creative pursuits requires much study and experience with both the tools and the processes involved. In cases like digital fabrication, where it requires qualified humans to rewrite data and operate machines, issues with authorship may arise. The role of technology in assisting craft practitioners in responding to change and forging forward in innovative ways is, however, crucial.

The use of digital technology in manufacturing allows for the creation of forms that people are incapable of physically creating (Fraser M, 2010). There are two recognised forms of manufacturing: subtractive manufacturing, which involves removing an object from its raw material using CNC machinery, and additive manufacturing, which involves building an object with a high physical complexity layer by layer using CAD/CAM software. In order to cast or reproduce the item, the next step is to print it using a 3D printer.

Industries that depend on collaboration, such as social work, services, and marketing, have made web-based technological interventions in crafts the standard. Businesses may facilitate combinational breakthroughs via platforms such as Heartland Robotics, Threadless, E-Pay, and the Apple App Store. Micro-multinationalization, in which a small number of firms employ a big number of people at fixed costs, is made possible via the use of technology by these marketplace platforms. Knowledge may be more freely shared and exchanged when more individuals use or contribute to these technologies; this, in turn, increases the likelihood of breakthroughs (McAfee A, 2011).

2.3. BACKGROUND OF DIGITAL ENTREPRENEURSHIP

The European Commission (2015) defines 'digital entrepreneurship' as the practice of starting new enterprises or transforming existing ones via the use of innovative digital resources and technologies. This encompasses everything having to do with the digitalisation of existing business processes in both public and commercial enterprises, as well as the introduction of new products and services over the internet. It is the entrepreneurial spirit, together with a healthy dose of risk-taking that generates novel ideas, creates innovative products, and brings them to market. For entrepreneurs in the handmade goods industry that are open to strategic innovation via digital platforms, several opportunities may present themselves. According to Armstrong (2006), platforms serve as 'two-sided markets' where buyers and sellers come together to do business. According to Ojala et al. (2018), digital platforms provide a consistent framework for hosting different types of services. Some examples are listening to music on Spotify or iTunes or renting out a house in another country via Airbnb. These digital platforms are crucial for the creation and distribution of value. Startups are able to provide supplemental products and services because to the expansion of digital platforms, which encourages innovation (Gawer, 2009).

3. RESEARCH METHODOLOGY

3.1. VARIABLES OF THE STUDY

The dependent variable is sales performance, which refers to the revenue generated from selling handicrafts through digital channels such as e-commerce websites and social media platforms. The independent variable centers on the use of ICT tools. In recent years, craftsmen and businesses in the Delhi/NCR area have found exciting new opportunities to market and sell their handicrafts internationally by leveraging Information and Communication Technology. More artisans are embracing e-commerce platforms like Amazon, Flipkart, Craftsvilla, Etsy India, Ajio, and

Meesho to expand their reach, simplify the sales process, and manage tasks like inventory, payments, and customer support. Social media channels, including Facebook, Instagram, WhatsApp Business, Pinterest, and YouTube, further help artisans attract more visitors, create engaging content, and interact smoothly with customers. With strategies like search engine optimization (SEO), pay-per-click (PPC) advertising, email marketing, and influencer partnerships, artisans are now able to build a stronger online presence, compete on a global level, and still preserve the rich cultural heritage embedded in their crafts.

3.2. RESEARCH DESIGN

In this study, the researchers adopted a cross-sectional research design. This approach involves collecting information from a selected group of participants at a single moment rather than over a prolonged period. By focusing on data gathered at one point in time, the researchers were able to efficiently analyze the connection between how artisans use digital tools and their sales performance. This method allows for a snapshot view of the situation, making it possible to understand current trends and relationships without the complexity and time commitment required for long-term studies. It is especially useful when the goal is to quickly assess patterns or correlations within a specific population.

3.3. DEVELOPMENT OF QUESTIONNAIRE

The demographic information, views on the use of ICT tools, and their effect on sales performance are the primary data points that will be collected by the questionnaire. In order to measure replies, it incorporates structured questions that use a Likert scale. The questionnaire in this study collects important information about the participants, including their demographic background, their opinions on the use of ICT tools, and the impact these tools have on their sales performance. To capture clear and measurable responses, the questions are structured using a Likert scale, allowing participants to express varying degrees of agreement or disagreement with the statements provided. The target population for this research includes artisans and businesses within the Delhi/NCR handicraft industry who actively use ICT technologies for marketing and sales. Due to practical constraints and the ease of reaching participants, convenience sampling was employed. This method involves selecting individuals who are readily accessible and willing to take part in the study. Although this approach is practical, it may introduce limitations in terms of the accuracy and representativeness of the results because of potential sampling biases. A total of 234 participants were selected for the study. This sample size was determined based on factors such as statistical validity, accuracy considerations, and practical challenges. The aim was to gather enough data to draw meaningful conclusions about the use of ICT and its influence on sales performance within the handicraft sector.

3.4. DATA ANALYSIS

This study will use SPSS 27 software to analyze the data collected on the use of ICT tools and sales performance within the handicraft businesses of the Delhi/NCR region. Descriptive statistics will be employed to summarize the respondents' demographic information, as well as their perspectives on the use of ICT tools and how these relate to sales outcomes. To ensure the reliability of the questionnaire, particularly the questions measuring ICT usage and its impact on sales, a reliability analysis will be conducted using Cronbach's alpha, which helps assess the consistency of the responses (Cronbach, 1951). To better understand how different ICT tools—such as e-commerce platforms and social media marketing—affect sales performance, multiple regression analysis will be applied. This technique will help determine the significance of these predictors and how well the overall model fits the data, which will be evaluated using the R-squared value (Hair et al., 2010). The results of these analyses aim to provide clear insights into the role of ICT adoption in the growth and resilience of the handicraft sector in Delhi/NCR, especially under the changing conditions brought on by viral outbreaks like COVID-19 (Hanson, 2010; Clark, 2013).

4. RESULTS AND DISCUSSION

4.1. DEMOGRAPHIC PROFILE OF RESPONDENTS

Table 1 presents the demographic profile of respondents in this study focused on ICT tool usage and sales performance in the Delhi/NCR handicraft sector. The table categorizes respondents by age, gender, educational level,

and type of handicraft business. Regarding age distribution, the largest group falls within the 18-24 years category (22.6%), followed closely by those aged 45-54 years (22.2%). Gender distribution shows a slight predominance of females (53.8%) over males (46.2%). Educational levels are diverse, with artisans/craftspersons comprising 24.8% of respondents, followed by managerial/executive roles (20.5%), and a significant portion categorized under 'Other' (16.7%). With a combined total of 14.1% of the sample, pottery/ceramics and woodcraft enterprises dominate the handicraft employment landscape. Jewellery (12.0%) and metalcraft (14.1%) follow closely behind. In order to comprehend the use of ICT tools and their effect on sales performance in this particular industry, it is necessary to have a thorough grasp of the respondent characteristics, and this demographic breakdown does just that.

Figure 1

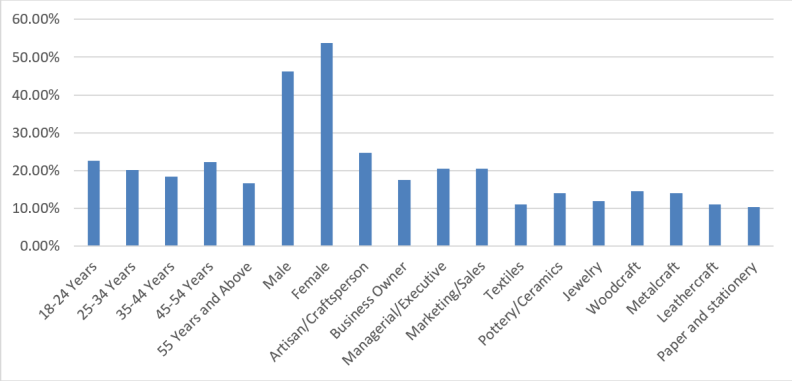

Figure 1 Demographic Profile of Respondents of Study

4.2. RELIABILITY ANALYSIS

Table 2 displays the results of the reliability evaluation for the study's variables. With a Cronbach's alpha value of 0.906, the 10-item Sales Performance (SP) scale shows great reliability and a high degree of internal consistency. Another 10-item scale that confirms great reliability is the Use of ICT Tools (UICTT) scale, which similarly receives a Cronbach's alpha of 0.911. These findings indicate that the survey questions evaluating sales success and the use of information and communication technology tools are quite valid for gauging the aforementioned components among respondents from the Delhi/National Capital Region handicraft industry.

Table 2 Reliability Assessment

Sr. No.	Variable	Number of Items	Cronbach's Alpha	Remark on Reliability
1	Sales Performance (SP)	10	0.906	Excellent
2	Use of ICT Tools (UICTT)	10	0.911	Excellent

4.3. DESCRIPTIVE ANALYSIS

Respondents in the Delhi/National Capital Region handicraft industry provided the descriptive data for the variables SP and UICTT (Use of Information and Communication Technology Tools) in Table 3. With an average score of 3.8949 on the Sales Performance (SP) scale, it's clear that people have a favourable impression of the results of sales made via digital means.

Responses concerning sales success show modest variability, with a standard deviation of 0.74923 and a variance of 0.561. With a mean score of 3.7803 on the Use of ICT Tools (UICTT) subscale, enterprises and craftsmen alike have a favourable but not quite overwhelming impression of the prevalence of ICT tool use. There is a little more variation in the answers about the use of ICT tools, as seen by the standard deviation of 0.80532 and variance of 0.649. Using these descriptive data, we can get a feel for the handicraft sector in Delhi/NCR and how its members see and use information and communication technology (ICT) tools in connection to their sales success.

Table 3 Descriptive Statistics

Variables	Mean	Std. Deviation	Variance
Sales Performance (SP)	3.8949	.74923	.561
Use of ICT Tools (UICTT)	3.7803	.80532	.649

4.4. REGRESSION ANALYSIS

In order to test hypotheses about the link between UICTT and SP in the Delhi/NCR handicraft industry, a multiple linear regression analysis was performed. The findings are shown in Table 4. An R-squared value of 0.814 indicates a statistically significant association in the regression model, suggesting that information and communication technology (ICT) tools account for about 81.4% of the variation in sales performance. With a p-value of 0, the F-statistic of 455.840 is highly significant, indicating that the entire regression model fits the data well.

Sp = 1.032 + 0.757 × UICTT is the regression equation. With all other factors held equal, this equation predicts a 0.757-unit improvement in sales performance (SP) for every 1-unit increase in the use of information and communication technology tools (UICTT). Increased sales performance in the handicraft industry is correlated with increasing utilisation of ICT tools, as shown by the statistically significant coefficient for UICTT (t = 21.32, p = 0.000). Results like these lend credence to the idea that information and communication technology (ICT) tools have a substantial impact on the handicraft industry's sales performance in Delhi/National Capital Region (NCR), and they shed light on how this sector might benefit from embracing digital technology.

Table 4 Multiple Linear Regression Analysis for Hypotheses Testing

Variables Entered	R Square	F	P-Value	Unstandardized Coefficients	t	P-Value
Independent Variables: UICTT **Dependent Variable:** SP	0.814	455.840	0	(Constant) 1.032	7.52	0.000
				UICTT .757	21.32	0.000

$$SP = 1.032 + 0.757 \times UICTT \qquad (1)$$

Table 5 Pearson's Correlation of Variables

Correlations				
			SP	**UICTT**
Spearman's rho	**SP**	Correlation Coefficient	1	.746**
		Sig. (2-tailed)	.	0
		N	234	234
	UICTT	Correlation Coefficient	.746**	1
		Sig. (2-tailed)	0	.
		N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).				

Businesses and craftsmen in the Delhi/NCR region's handicraft industry were surveyed to determine their sales performance (SP) and the extent to which they used information and communication technology (ICT) tools (UICTT). The findings of the survey were presented in a table. The results are explained in great detail here:

4.5. CORRELATION COEFFICIENT

- SP and UICTT: The correlation coefficient between Sales Performance (SP) and the Use of ICT Tools (UICTT) is 0.746. This value indicates a strong positive correlation between the two variables. In other words, as the usage of ICT tools increases, sales performance tends to increase as well.
- UICTT and SP: Similarly, the correlation coefficient between UICTT and SP is also 0.746. This symmetry is expected because correlation is a mutual relationship.

5. DISCUSSION

The results of this research shed light on important connections between the use of ICT tools and sales success in the Delhi/National Capital Region handicraft industry. Using ICT tool use to explain almost 81.4% of the variation in sales results was uncovered by the multiple linear regression analysis, which demonstrated a substantial positive connection between UICTT and SP. This demonstrates how important it is for companies and craftsmen to use digital channels like social media and e-commerce websites to increase their earnings. The study's measures are further validated by the strong reliability of the Sales Performance and Use of ICT Tools scales (Cronbach's alpha > 0.90). These results line up with the latest tendencies after virus, when digital transformation was already crucial for expanding market reach and enhancing operational efficiency. The direct influence of digital strategies on company success is confirmed by the regression coefficient (0.757), which shows that there is a one-unit rise in ICT tool utilisation correlated with a 0.757-unit improvement in sales performance.

As a result of the inclusive nature of ICT adoption in this industry, the demographic profile of respondents shows a diversified workforce with strong representation across all age groups and genders. There was a wide range of educational backgrounds, with a significant share working as artisans. This highlights how digital technologies may be used for a variety of tasks in the handcraft business. To put these digital benefits into practice, lawmakers and industry partners should push for more artisans' and companies' use of ICT. To make the transition to e-commerce and digital marketing easier, strategies can include providing infrastructure support and implementing targeted training programmes to raise digital literacy levels.

6. CONCLUSION

Ultimately, this research presents strong proof that the use of ICT tools greatly improves sales performance in the Delhi/NCR handicraft industry. Use of information and communication technology (ICT) tools explained a significant 81.4% of the variation in sales results, according to the robust multiple linear regression analysis, which also showed a high positive correlation between UICTT and SP. This highlights the importance of online marketplaces and social media as cash generators for small companies and craftsmen. Consistent and accurate assessments of ICT utilisation and company performance were validated by the excellent reliability of the study's measuring scales, which further confirms these results. This survey's results show that people from all walks of life and all levels of education are using information and communication technologies (ICTs) in the handicraft sector. These results have real-world consequences for how politicians and business leaders might encourage and facilitate craftsmen' continued use of information and communication technologies. Digital marketing strategy optimisation and talent enhancement might be the focus of targeted training programmes and infrastructure investments. Despite caveats such convenience sampling and self-reported data biases, this research adds substantial information to the virus environment regarding the use of ICT for company resilience and development. The precise impacts of various ICT tools on different sub-sectors of the handicraft industry may be better understood, and longitudinal studies tracking the long-term consequences of ICT adoption could be an interesting avenue for future study. In sum, the results highlight how information and communication technologies may revolutionise handcraft enterprises, giving them a leg up in the increasingly digital market.

CONFLICT OF INTERESTS

None.

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