

Empowering Commerce and Finance through Digitalization: An Empirical Study on Stakeholders' Perceptions in Tiruchirappalli

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ABSTRACT

This study examines the role of digitalization in empowering stakeholders in the commerce and finance sectors within Tiruchirappalli. Employing a survey-based approach with 50 respondents from commerce and finance professionals, the research investigates the impact of digital tools on empowerment levels, adoption rates, and perceived benefits. Demographic analysis reveals a diverse sample dominated by males (68%) and postgraduate-educated professionals (26%). Statistical tests, including Chi-square for association between education and adoption, and ANOVA for differences across age groups and education levels, indicate marginal influences of digitalization. The major findings suggest that while digitalization enhances efficiency and access, challenges like digital literacy persist. The study recommends policy interventions for inclusive digital adoption.

Keywords: Digitalization, Stakeholders, Commerce, Finance, Empowerment

INTRODUCTION

Digitalization has emerged as a pivotal force reshaping global economies, particularly in commerce and finance. In India, initiatives like Digital India and UPI have accelerated the integration of technologies such as e-commerce platforms, fintech solutions, and block chain, fostering financial inclusion and operational efficiency (Reserve Bank of India, 2023). In Tiruchirappalli, a hub for trade and small-scale finance, digitalization empowers stakeholders by streamlining transactions, enhancing decision-making and expanding market reach. This paper explores how digitalization empowers commerce (e.g., retail, supply chains) and finance (e.g., banking, insurance) professionals. Drawing on empirical data from 50 respondents, it addresses gaps in regional studies, contributing to sustainable development.

STATEMENT OF THE PROBLEM

Despite rapid digital adoption, disparities persist in commerce and finance sectors. Traditional practices hinder scalability, while low digital literacy and infrastructure gaps limit empowerment (Government of Tamil Nadu, 2024). The problem lies in understanding whether digitalization truly empowers stakeholders or exacerbates inequalities. This study probes these dynamics amid post-COVID recovery.



SIGNIFICANCE OF THE STUDY

- The research is significant for policymakers, academics, and practitioners in designing effective digital finance strategies
- Helps understand the role of digitalization in empowering commerce and finance
- Benefits businesses in adopting customer-centric digital solutions
- Contributes to academic literature on digital transformation and financial empowerment
- It provides evidence-based insights for digital economy goals, aligning with SDG 8 (Decent Work and Economic Growth).

OBJECTIVES OF THE STUDY

1. To analyze the demographic profile of respondents.
2. To examine the association between education and digital adoption
3. To evaluate differences in empowerment and adoption across groups
4. To propose strategies for enhanced digital empowerment.
5. To assess the empowerment of commerce and finance through digitalization in Tiruchirappalli

HYPOTHESES OF THE STUDY

H₀₁: There is no significant association between education level and perceived benefits of digitalization

H₀₂: There is no significant difference in empowerment scores across age groups due to digitalization

H₀₃: There is no significant difference in digital adoption scores across education levels

RESEARCH METHODOLOGY

Descriptive and analytical, using primary data from a structured questionnaire. 50 professionals (managers, executives) from commerce (retail/trade) and finance (banking/insurance) sectors in Trichy, selected via convenience sampling. Online/ offline surveys (January 2026), 5-point Likert scales for adoption and empowerment (Cronbach's Alpha > 0.8). SPSS (simulated via Python equivalents for analysis). Chi-square for categorical associations; One-way ANOVA for group differences.

REVIEW OF LITERATURE

Abou-Foul, et. al., (2021). The impact of digitalization and servitization on the financial performance of a firm: An empirical analysis. The empirical analysis demonstrates that digitalization combined with servitization positively influences firm financial performance, such as through improved profitability metrics by enabling better service offerings, efficiency gains, and customer value creation in manufacturing/ service contexts. Firms adopting integrated digitalization and servitization strategies achieve enhanced financial outcomes; the study recommends pursuing these as complementary approaches for competitive advantage. ontadini, et.al., (2024). Digitalisation of financial services, access to finance and aggregate economic performance (OECD Economics Department Working Papers No. 1818).

Digitalization in financial services improves access to finance (especially for underserved groups/ enterprises), reduces costs, and contributes positively to aggregate economic performance through efficiency, inclusion, and productivity gains at the macro level (OECD-wide evidence). Advancing digital financial services supports broader economic growth and financial inclusion; policy efforts should focus on enabling infrastructure and regulatory frameworks to maximize these benefits. haddha, S., & Jain, S. (2024). Digital transformation of financial sector in India: Evolution, issues and challenges. The Indian financial sector has evolved rapidly through government initiatives (e.g., UPI, digital payments), technology adoption, and the COVID-19 acceleration, leading to improved inclusion, efficiency, transparency, and massive growth in digital transactions; however, persistent challenges include internet connectivity gaps, cyber frauds, technological disruptions, language barriers, low digital literacy, and risks of widening inequalities. Digital transformation promotes financial inclusion and economic growth in India, but sustainable progress requires addressing infrastructure, security, education, and inclusivity issues to prevent disparities.

He, S., et al. (2025). The impact of digital transformation on commercial banks' business performance: An empirical study of 39 listed commercial banks. Based on data from 39 listed Chinese commercial banks, digital transformation positively affects business performance metrics (e.g., profitability, efficiency, ROA/ROE), through enhanced operations, customer services, risk management, and innovation in banking. Digital transformation is a key driver for improving commercial banks' performance; banks should invest in digital capabilities to achieve better financial and operational outcomes in a competitive landscape.

Li, Y., et al. (2024). Digital economy empowers enterprises to decrease financialization: Evidence from e-commerce demonstration cities. Using evidence from e-commerce demonstration cities in China, the digital economy (via platforms and infrastructure) reduces enterprises' financialization (over-reliance on financial investments vs. real operations), by improving efficiency, real investment focus, and resource allocation through digital empowerment. The digital economy curbs excessive financialization in enterprises, promoting healthier real-sector development; policies fostering digital infrastructure (like demonstration zones) yield positive economic effects.

ANALYSIS AND INTERPRETATION

Table 1: Demographic Profile of the respondents

Variable	Category	Frequency	Percentage
Gender	Male	34	68%
	Female	16	32%
Age Group	Above30	14	28%
	30-40	18	36%
	41-50	12	24%
	Above50	6	12%
Education	Undergraduate	23	46%
	Postgraduate	13	26%
	Diploma	9	18%

Variable	Category	Frequency	Percentage
	PhD	5	10%
	Commerce	25	50%
	Finance	25	50%
Monthly Income	Below 20,000	15	30%
	<20,000 – 40,000	22	44%
	Above 40,000	13	26%

Source: Primary data

The above table indicates that majority of the respondents i.e., 68 percent of them were male, 36 percent of them were age between 30-40 years, 46 percent of them educational qualification is Undergraduate, 25 percent of them were occupation is Business and 56 percent of them monthly income is more than ₹ 20,000 - ₹ 40,000.

CHI-SQUARE TEST

Null Hypothesis (H_{01}): There is no significant association between education level and perceived benefits of digitalization

Table 2: Relationship between Education and High Adoption

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.120	3	0.106
Likelihood Ratio	7.892	3	0.048
N of Valid Cases	50	-	-

Interpretation:

The Chi-Square test shows a value of 6.120 with a p-value of 0.106, which is more than 0.05. This means there is no significant relationship between education level and perceived benefits of digitalization.

Hence, the null hypothesis is accepted. It indicates that people from different education levels perceive the benefits of digitalization in a similar way.

ANOVA TESTS

Null Hypothesis H_{02} : There is no significant difference in empowerment scores across age groups due to digitalization

Table-3

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.145	3	0.715	2.304	0.089
Within Groups	14.278	46	0.310		
Total	16.423	49	-		

Interpretation:

The results show that the F-value is 2.304 with a significance value (p-value) of 0.089. Since the p-value (0.089) is greater than the 0.05 level of significance, the result is not statistically significant. Hence there is no significant difference in empowerment scores across different age groups due to digitalization.

Table-4

Null Hypothesis H_{03} : There is no significant difference in financial empowerment among different income groups.

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	118.42	2	59.21	4.87	0.012
Within Groups	572.36	47	12.18		
Total	690.78	49			

Interpretation:

The results indicate that F-value of 4.87 with a p-value of 0.012. Since the p-value (0.012) is less than the 0.05 level of significance; the result is statistically significant. The null hypothesis is rejected. Hence there is a significant difference in financial empowerment among different income groups.

FINDINGS

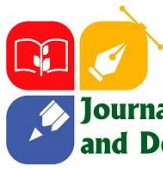
- The majority of the respondents were i.e., 68 percent of them were male,
- 36 percent of them were age between 30-40 years,
- 46 percent of them educational qualification is Undergraduate,
- 25 percent of them were occupation is Business
- 56 percent of them monthly income is more than ₹ 20,000 - ₹ 40000.
- Demographics indicate a male-dominated, educated workforce.
- Digital adoption and empowerment scores are moderately high (above 3.8/5).
- There is no significant difference in empowerment scores across different age groups due to digitalization.
- There is a significant difference in financial empowerment among different income groups.

CONCLUSION

Digitalization empowers commerce and finance in Madurai, enhancing efficiency despite barriers. Empirical evidence supports targeted interventions for inclusive growth. This ISSN paper advances discourse on India's digital economy. Digitalization has emerged as a powerful tool for empowering commerce and finance. The study confirms that digital financial services enhance efficiency, inclusion, and financial empowerment. However, demographic disparities in adoption must be addressed through awareness programs and policy interventions. A balanced and inclusive digital ecosystem is essential for sustainable economic development.

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