



FinTech *for the* Last Mile

Financial Inclusion in the Era of Amrit Kaal

Dr. B. Indira Priyadharshini

Mr. A. Prakalathan

Dr. D. Saranya

Dr. M. Nirmala

FinTech for the Last Mile : Financial Inclusion in the Era of Amrit Kaal

Editors

Dr. B. Indira Priyadharshini

Mr. A. Prakalathan

Dr. D. Saranya

Dr. M. Nirmala

FinTech for the Last Mile : Financial Inclusion in the Era of Amrit Kaal

Dr. B. Indira Priyadharshini

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Mr. A. Prakalathan

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Dr. D. Saranya

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Dr. M. Nirmala

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

First Edition : January 2026

ISBN : 978-93-94004-59-7

Price : Rs. 850/-

Copyright All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the author.

Printed at

CAUVERITECH Computerised Print Shop

21/2, Rajamill Road, Pollachi – 642 001.

Ph : 04259 – 221734

E-Mail : cauveritech@gmail.com

19.	DIGITAL MICRO-LENDING AS A TOOL FOR POVERTY ALLEVIATION <i>Dr. G. Vignesh & Ms. D. Sandhiya</i>	138
20.	PROTECTING DATA RIGHTS OF MARGINALIZED GROUPS: PRIVACY, SECURITY & KYC <i>Dr. G. Vignesh & Ms. S. Jeevitha</i>	144
21.	SAFEGUARDING CONSUMERS IN THE DIGITAL ERA <i>Dr. G. Vignesh & Ms. B. Sri Durga</i>	149
22.	INTEGRATING COGNITIVE AND EMOTIONAL INTELLIGENCE FOR IMPROVED STUDENT OUTCOMES <i>Dr. R. Nandhakumar</i>	154
23.	INSTITUTIONAL GOVERNANCE OF INDIA STACK AND ITS ROLE IN DIGITAL INCLUSION <i>Ms. P. Roshini</i>	169
24.	HUMAN-CENTRIC DELIVERY MODELS : BUSINESS CORRESPONDENTS AND COMMUNITY AGENTS <i>Mr. A. Sivabalan</i>	175
25.	FINANCIAL INCLUSION – USAGE OF MOBILE BANKING APPS AND UPI- A STUDY AT POLLACHI TOWN <i>Mr. T. Sivagnana Selvakumar</i>	180
26.	BRIDGING THE DIGITAL DIVIDE : DIGITAL FINANCIAL INCLUSION FOR MARGINALIZED COMMUNITIES IN THE ERA OF AMRIT KALAL - SUSTAINABLE AND GREEN FINANCE THROUGH DIGITAL CHANNELS <i>Ms. S.S. Shanthi</i>	194
27.	AN EMPIRICAL STUDY ON DIGITAL FINANCIAL INCLUSION AMONG MARGINALIZED COMMUNITIES IN THE ERA OF AMRIT KAAL <i>Ms. P. Divyabharathi</i>	204
28.	DIGITAL CONSUMERISM AND CROSS-CULTURAL BUYING BEHAVIOUR : A STUDY AMONG YOUNG ONLINE SHOPPERS IN TIRUCHIRAPPALLI <i>Rev. Sr. J. Jeyaseeli</i>	211
29.	BRIDGING THE DIGITAL LITERACY GAP : THE ROLE OF SELF-EFFICACY IN GEN Z'S FINANCIAL PRACTICES <i>Mr. A. Saravanan & Dr. G. John</i>	223

AN EMPIRICAL STUDY ON DIGITAL FINANCIAL INCLUSION AMONG MARGINALIZED COMMUNITIES IN THE ERA OF AMRIT KAAL

Ms. P. DIVYABHARATHI

Assistant Professor, Department of Commerce with Computer Application,
NGM College, Pollachi.

ABSTRACT

This study examines the extent of digital financial inclusion among marginalized communities in the era of Amrit Kaal using primary data. A structured questionnaire was administered to 100 respondents selected through convenience sampling. The study employs percentage analysis, ranking analysis, and factor analysis to assess awareness, usage patterns, challenges, and perceptions related to digital financial services. The findings reveal that although awareness and usage of digital financial services are moderate, challenges such as lack of digital literacy, poor internet connectivity and fear of fraud continue to hinder effective adoption. Factor analysis identifies perceived benefits and risk-related barriers as the major determinants of digital financial inclusion. The study highlights the need for targeted digital literacy programs and infrastructure development to ensure inclusive growth in the Amrit Kaal period.

Keywords: Digital Financial Inclusion, Marginalized Communities, Amrit Kaal, Factor Analysis

I. INTRODUCTION

Digital financial inclusion has become a cornerstone of inclusive and sustainable economic development in India, especially in the transformative phase of Amrit Kaal, which envisions equitable growth driven by technology and innovation. The rapid expansion of digital financial services such as Unified Payments Interface (UPI), Pradhan Mantri Jan Dhan Yojana (PMJDY), and Direct Benefit Transfers (DBT) has significantly enhanced access to formal financial systems and reduced transaction costs for large sections of the population. These initiatives have the potential to empower marginalized communities by promoting financial accessibility, transparency, and efficiency.

Despite these advancements, the benefits of digital finance have not been evenly distributed. Marginalized communities continue to face multiple challenges, including limited access to digital devices, inadequate internet connectivity, low levels of digital literacy, and concerns related to cyber security and trust. These barriers contribute to a persistent digital divide, restricting the effective adoption and usage of digital financial services. As a result, mere access to digital platforms does not automatically translate into meaningful financial inclusion.

In this context, an empirical assessment of digital financial inclusion is essential to understand the extent of awareness, usage patterns, perceived benefits, and challenges faced by marginalized communities. Using primary data, the present study seeks to examine the factors influencing digital financial inclusion in the era of Amrit Kaal and to identify key constraints that hinder its effective implementation. The findings of the study aim to provide insights for policymakers and stakeholders to design targeted interventions that promote inclusive and sustainable digital financial ecosystems.

II. OBJECTIVES OF THE STUDY

- To study awareness and usage of digital financial services.
- To identify major problems faced in using digital financial services.
- To examine factors influencing digital financial inclusion using factor analysis.

III. RESEARCH METHODOLOGY

The present study is descriptive and empirical in nature and is based on primary data collected from respondents to examine digital financial inclusion. The required data were gathered using a structured questionnaire designed to capture respondents' awareness, usage, and problems related to digital financial services. A sample size of 100 respondents was selected for the study using the convenience sampling technique. For analyzing the collected data, appropriate statistical tools were employed. Percentage analysis was used to study the demographic profile and awareness levels of digital financial services, ranking analysis was applied to identify and prioritize the major problems faced by respondents, and factor analysis was used to examine the underlying factors influencing digital financial inclusion.

IV. ANALYSIS AND INTERPRETATION

A. AWARENESS OF DIGITAL FINANCIAL SERVICES

Table 1: Awareness of Digital Financial Services

Digital Financial Services	Frequency	Percentage (%)	Frequency	Percentage (%)
UPI (Google Pay, PhonePe, Paytm)	92	92.0	8	8.0
Mobile Banking Apps	85	85.0	15	15.0
Internet Banking	78	78.0	22	22.0
Debit / Credit Cards	90	90.0	10	10.0
Digital Wallets	72	72.0	28	28.0

From the above table: 1 shows that awareness of digital financial services among respondents is considerably high. A vast majority of respondents are aware of UPI services (92%), followed by debit/credit cards (90%) and mobile banking applications (85%). Awareness of internet banking (78%) and digital wallets (72%) is comparatively lower. Overall, the findings indicate that respondents are more familiar with easy-to-use and widely promoted digital payment platforms, while relatively fewer respondents are aware of advanced digital financial services.

B. USAGE OF DIGITAL FINANCIAL SERVICES

Table 2: Usage of Digital Financial Services

Digital Financial Services	Users Frequency	Users (Percentage %)	Non-Users Frequency	Non-Users (Percentage %)
UPI (Google Pay, PhonePe, Paytm)	80	80.0	20	20.0
Mobile Banking Apps	68	68.0	32	32.0
Internet Banking	60	60.0	40	40.0
Debit / Credit Cards	74	74.0	26	26.0
Digital Wallets	55	55.0	45	45.0

From the above table 2 shows the usage pattern of digital financial services indicates that UPI services are the most widely used, with 80% of respondents actively using them. This is followed by debit/credit cards (74%) and mobile banking applications (68%). Usage of internet banking (60%) and digital wallets (55%) remains comparatively lower. The results reveal a noticeable gap between awareness and actual usage, suggesting that issues such as security concerns, lack of technical knowledge, or limited trust may hinder respondents from fully adopting digital financial services.

C. RANKING ANALYSIS

Table: 3 Garrett Ranking of Problems Faced in Using Digital Financial Services

S. No.	Problems	Mean Garrett Score	Rank
1	Lack of digital literacy	68.45	I
2	Poor internet connectivity	62.30	II
3	Fear of fraud and cyber risks	58.75	III
4	Language barriers	52.10	IV
5	Lack of trust in digital platforms	48.60	V
6	Technical issues / transaction failure	44.85	VI
7	Inadequate customer support	41.20	VII

The Garrett ranking results reveal that lack of digital literacy is the most significant problem faced by respondents in using digital financial services, securing the highest mean Garrett score (68.45) and ranked first. This indicates that insufficient knowledge and skills in operating digital platforms remains the primary barrier to effective digital financial inclusion.

Poor internet connectivity was ranked second with a mean score of 62.30, highlighting infrastructural constraints that disrupt digital transactions. Fear of fraud and cyber security risks ranked third, suggesting that safety and privacy concerns continue to influence users' willingness to adopt digital financial services.

Language barriers occupied the fourth rank, indicating difficulties faced by respondents due to limited availability of regional language interfaces.

Lack of trust in digital platforms was ranked fifth, reflecting moderate apprehension regarding reliability and data security.

Problems such as technical issues, transaction failures, and inadequate customer support were ranked lower, implying that although these issues exist, they are comparatively less severe than literacy and infrastructure-related challenges.

D. FACTOR ANALYSIS

Table: 4 KMO and Bartlett's Test

Measure	Value
(KMO) Measure of Sampling Adequacy	0.78
Bartlett's Test of Sphericity – Approx. Chi-Square	412.36
Degree of Freedom	66
Significance (p-value)	0.000

The Kaiser–Meyer–Olkin (KMO) value of 0.78 indicates adequate sampling adequacy and confirms that the data are suitable for factor analysis. The result of Bartlett's Test of Sphericity is statistically significant ($\chi^2 = 412.36$, $df = 66$, $p < 0.05$), indicating that the correlation matrix is not an identity matrix.

Thus, the null hypothesis that variables are uncorrelated is rejected, confirming the presence of sufficient correlations among variables. Therefore, the application of factor analysis is appropriate for identifying the underlying factors influencing digital financial inclusion.

Table:5 Rotated Total Variance Explained

Component	Eigenvalue	% of Variance	Cumulative %
Factor 1: Perceived Benefits & Accessibility	4.82	40.15	40.15
Factor 2: Risk & Infrastructure Barriers	3.06	25.50	65.65

The rotated solution extracted two factors with eigenvalues greater than one. Factor 1 explains 40.15% of the total variance, indicating that perceived benefits and accessibility play a dominant role in influencing

digital financial inclusion. Factor 2 accounts for 25.50% of the variance, highlighting the importance of risk perception and infrastructural barriers.

Together, the two factors explain 65.65% of the total variance, which is considered satisfactory in social science research. This confirms that the extracted factors adequately represent the major dimensions influencing digital financial inclusion among respondents.

Table: 6 Rotated Component Matrix

Variables	Factor 1	Factor 2
Ease of use	0.78	—
Time-saving nature	0.74	—
Cost effectiveness	0.71	—
Accessibility through mobile phones	0.76	—
Availability anytime and anywhere	0.73	—
Security concerns	—	0.69
Fear of fraud and cyber risks	—	0.77
Poor internet connectivity	—	0.75
Technical issues / transaction failure	—	0.72
Lack of digital literacy	—	0.81
Language barriers	—	0.68
Lack of trust in digital platforms	—	0.70

The rotated component matrix clearly shows that variables related to convenience, affordability, and ease of access load strongly on Factor 1, confirming it as Perceived Benefits and Accessibility. High factor loadings indicate that these variables significantly encourage the adoption of digital financial services.

Variables associated with security risks, infrastructural limitations, and skill deficiencies load heavily on Factor 2, justifying its naming as Risk and Infrastructure Barriers. The absence of cross-loadings demonstrates a clear factor structure and validates the reliability of the extracted factors.

CONCLUSION

The study reveals that while awareness of digital financial services is high, actual usage varies, with UPI and debit/credit cards being most popular. Ranking and Garrett analyses show that lack of digital literacy and poor internet connectivity are the major barriers. Factor analysis identifies two key dimensions: Perceived Benefits and Accessibility and Risk and

Infrastructure Barriers, which respectively encourage and hinder adoption. Overall, promoting digital financial inclusion requires improving digital skills, strengthening infrastructure, and enhancing trust and security in digital services.

References

- Reserve Bank of India. (2023). *Financial inclusion and development report 2022–23*. Reserve Bank of India. <https://www.rbi.org.in>
- Government of India. (2022). *Amrit Kaal: Vision for India @2047*. NITI Aayog. <https://www.niti.gov.in>
- Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). *The Global Findex database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. <https://www.worldbank.org>
- Sarma, M., & Pais, J. (2011). Financial inclusion and development. *Journal of International Development*, 23(5), 613–628. <https://doi.org/10.1002/jid.1698>
- Ghosh, S. (2016). Does mobile telephony spur economic growth? Evidence from Indian states. *Telecommunications Policy*, 40(10–11), 1020–1031. <https://doi.org/10.1016/j.telpol.2016.07.009>
- Kumar, V., & Mishra, S. (2020). Digital financial inclusion in India: Issues and challenges. *International Journal of Financial Management*, 10(2), 45–52.
- Chaudhary, R., & Kaur, P. (2022). Digital financial inclusion and financial well-being of rural households in India. *Journal of Public Affairs*, 22(4), e2599. <https://doi.org/10.1002/pa.2599>
- Singh, S., Sahni, M., & Kovid, R. K. (2021). What drives financial inclusion in India? Evidence from banking and fintech. *Journal of Asian Economics*, 75, 101327. <https://doi.org/10.1016/j.asieco.2021.101327>
- NABARD. (2022). *Status of financial inclusion in India*. National Bank for Agriculture and Rural Development. <https://www.nabard.org>
- Reddy, A. A., & Reddy, G. P. (2023). Adoption of digital payment systems among marginalized communities in India. *International Journal of Social Economics*, 50(6), 889–905. <https://doi.org/10.1108/IJSE-09-2022-0604>
