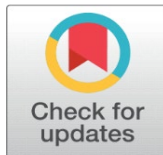


DIGITAL FINANCIAL SERVICES AND FINANCIAL INCLUSION: A STUDY OF BANKING TRANSFORMATION IN URBAN BENGALURU

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ABSTRACT

This research investigates the transformative role of Digital Financial Services (DFS) in enhancing financial inclusion within the urban context of Bengaluru. As digitalisation reshapes the banking sector, particularly post-demonetisation, platforms like UPI, mobile banking, and digital wallets have redefined consumer access to financial systems. This study combines empirical data and secondary research to examine DFS usage trends, identify key barriers to adoption, and assess how effectively these innovations have advanced inclusive banking practices. The analysis reveals that while DFS offers enhanced convenience and outreach, issues such as digital literacy and cybersecurity concerns continue to limit its universal acceptance.

Keywords: Digital Financial Services, Financial Inclusion, Urban Banking, UPI, FinTech, Bengaluru



1. INTRODUCTION

India's banking ecosystem is witnessing an unprecedented transformation driven by digital innovation. In urban centres like Bengaluru, recognized globally for its tech industry, the convergence of finance and technology is accelerating financial inclusion. Traditional banking, which relied heavily on physical infrastructure, is rapidly being supplemented—and in some cases replaced—by digital platforms that offer instant and mobile access to financial services. This study explores the growing reliance on DFS, aiming to understand its effectiveness in facilitating inclusive growth in the financial sector among the urban population of Bengaluru.

2. REVIEW OF LITERATURE

Kumar & Mishra (2021) explored how digital literacy enhances the adoption of DFS in Indian metropolitan cities. Sharma (2020) examined banking evolution post-COVID-19, emphasizing digital readiness and cybersecurity frameworks. The World Bank (2021) acknowledged India as a global leader in DFS proliferation among developing nations. NASSCOM (2022) highlighted that Bengaluru contributes significantly to India's FinTech revolution, housing over a quarter of the country's FinTech professionals. Evaluations of PMJDY by government and independent agencies

demonstrate a 37% increase in digital banking among urban households, emphasizing the role of government-driven financial inclusion initiatives.

3. OBJECTIVES OF THE STUDY

- To evaluate the level of awareness and the extent of usage of digital financial services among urban consumers in Bengaluru.
- To analyse the impact of digital banking services in promoting financial inclusion.
- To identify and examine the primary challenges encountered by users of DFS in urban Bengaluru.
- To propose actionable strategies for enhancing the adoption and effectiveness of DFS among urban populations.

4. RESEARCH METHODOLOGY

Research Design: The study adopts a descriptive and analytical research design to provide a comprehensive understanding of DFS adoption patterns.

Sample Size: A total of 300 respondents were surveyed across prominent urban localities of Bengaluru, including R.T. Nagar, Indiranagar, and Whitefield.

Sampling Technique: Stratified Random Sampling was used to ensure demographic and economic diversity among respondents.

Data Sources: Primary data were collected through structured questionnaires, while secondary data were sourced from RBI reports, peer-reviewed journals, government portals, and bank websites.

Tools Used: Data analysis was conducted using SPSS software, employing statistical tools such as Chi-square tests and ANOVA to validate the research hypotheses.

5. SCOPE OF THE STUDY

The scope of this study is confined to urban Bengaluru, focusing on consumers residing in technology-driven localities such as R.T. Nagar, Indiranagar, and Whitefield. It centres on the adoption patterns, awareness levels, and challenges related to digital financial services among bank users. The research examines a wide range of digital tools such as mobile banking apps, Unified Payments Interface (UPI), internet banking, and digital wallets. Although rural areas are excluded, the findings can serve as a valuable reference for comparative urban-rural financial behaviour studies and for policymakers intending to scale urban successes to other regions. This study also lays the groundwork for future investigations into digital banking in semi-urban and peri-urban areas.

6. DATA ANALYSIS AND INTERPRETATION

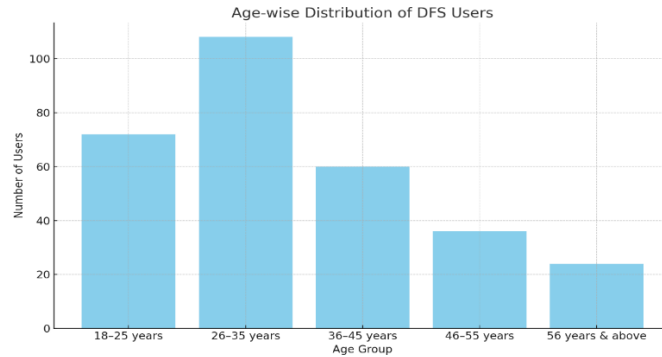
1) Age-wise Usage of Digital Financial Services

Data:

The sample population of 300 respondents was categorized by age to determine DFS usage patterns.

Table 1: Age-wise Distribution of DFS Users

Age Group	Number of Users	Percentage (%)
18–25 years	72	24%
26–35 years	108	36%
36–45 years	60	20%
46–55 years	36	12%
56 years & above	24	8%
Total	300	100%

Chart 1: Age-wise Distribution of DFS Users**Inference:**

The highest concentration of DFS users is in the 26–35 age group (36%), followed by the 18–25 group (24%). This indicates that younger populations are more inclined to use digital financial tools, likely due to their familiarity with technology. DFS usage declines progressively with age.

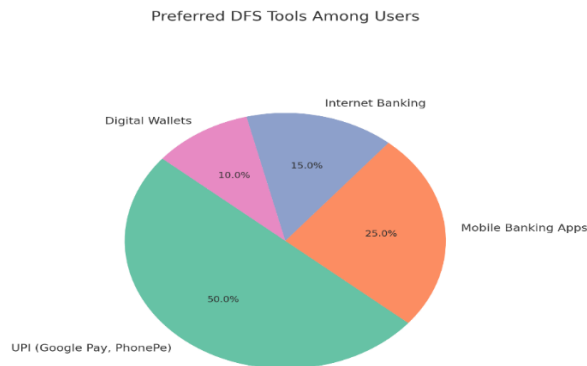
2) Preferred Digital Financial Services Tools

Data:

Respondents were asked to choose their most frequently used DFS platforms.

Table 2: Preferred DFS Tools

DFS Tool	Number of Users	Percentage (%)
UPI (Google Pay, PhonePe)	150	50%
Mobile Banking Apps	75	25%
Internet Banking	45	15%
Digital Wallets	30	10%
Total	300	100%

Chart 2 Preferred DFS Tools (Pie Chart)**Inference:**

UPI platforms dominate DFS usage, with 50% of users preferring them due to ease of access and instant transactions. Mobile banking ranks second (25%). Digital wallets have the lowest share (10%), possibly due to functional overlap with UPI apps.

3) Challenges Faced in Using Digital Financial Services

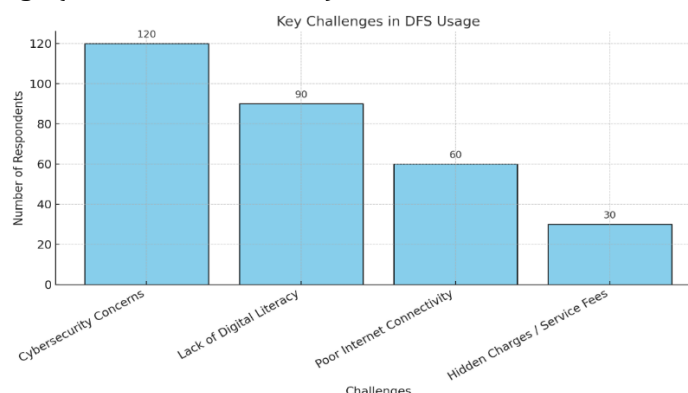
Data:

Respondents identified major difficulties while using DFS.

Table 3 Key Challenges in DFS Usage

Challenge	Number of Respondents	Percentage (%)
Cybersecurity Concerns	120	40%
Lack of Digital Literacy	90	30%
Poor Internet Connectivity	60	20%
Hidden Charges / Service Fees	30	10%
Total	300	100%

Chart 3 Challenges in DFS Usage (Horizontal Bar Chart)



Inference:

Cybersecurity concerns are the most prevalent issue (40%), indicating user apprehension over online fraud and privacy breaches. A lack of digital literacy (30%) and poor connectivity (20%) also hinder wider DFS adoption. Addressing these issues is critical to improving trust and usability.

7. FINDINGS AND SUGGESTIONS

7.1. FINDINGS

- High penetration of DFS among younger age groups, especially professionals.
- UPI has emerged as the dominant digital platform, followed by mobile banking apps.
- Major challenges include cybersecurity threats, low digital literacy, and inconsistent connectivity.

7.2. SUGGESTIONS

- Conduct targeted digital literacy campaigns in collaboration with local banks.
- Enhance security frameworks and transparent grievance redressal mechanisms.
- Partner with telecom providers to improve internet connectivity in underserved pockets of Bengaluru.
- Offer incentives and simplified onboarding to encourage late adopters, particularly among older demographics.

8. CONCLUSION

Digital Financial Services have significantly transformed banking in urban Bengaluru by making it more accessible and inclusive. While the younger population has enthusiastically embraced these technologies, systemic challenges continue to inhibit broader adoption. Addressing cybersecurity, digital literacy, and infrastructure issues is essential for

realizing the full potential of DFS. This study contributes empirical evidence to support strategic planning for more inclusive and secure digital banking frameworks.

9. FURTHER RESEARCH AREAS

Future research could explore the comparative impact of DFS adoption between urban and rural consumers or delve into the behavioural economics behind digital banking choices. Studies may also examine the long-term sustainability of DFS models and their integration with AI-based financial advisory systems.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

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ENDNOTES

- 1) DFS includes UPI, IMPS, NEFT, mobile wallets, and other app-based financial services.
- 2) Financial Inclusion is measured using RBI's CRISIL Inclusix Index.
- 3) Urban Bengaluru includes wards within BBMP limits.
- 4) PMJDY's contribution to DFS is visible in Aadhaar-based payments and UPI penetration.
- 5) FinTech startups in Bengaluru have increased access to instant credit and micro-insurance.