

IMPACT OF FINANCIAL INCLUSION SCHEMES ON DIGITAL BANKING ADOPTION AND USAGE INTENSITY: EVIDENCE FROM HOUSEHOLDS IN NAGPUR DISTRICT

Yogesh Subhashrao Wankhede

Research Scholar,

C.P. & Berar E.S. College, Tulsibag, Mahal,
Nagpur, Dist. Nagpur

Email: coolyog.26@gmail.com

Dr. Medha Kanetkar

Principal

Shri Niketan Arts Commerce College,
Reshimbag Nagpur, Dist. Nagpur

Email: medhakanetkar@gmail.com

Crossref DOI - <https://doi.org/10.63665/rh.v7i2.69>

Abstract :

One of the policy priorities in India today has been financial inclusion, and multiple government-based schemes targeting the dissemination of formal banking service access have been developed. In these endeavours, digital banking has rapidly developed and has changed the manner in which households interact with financial institutions. The present study explores the effects of financial inclusion plans on the rate of digital banking adoption and intensive adoption among households at Nagpur District. A descriptive research design was also chosen and 400 households were surveyed using a structured questionnaire. The analysis is done using a Chi-square test and descriptive analysis in order to investigate the relationship between the intensity of digital banking use and scheme participation. According to the findings, the households that are engaging in financial inclusion programs have considerably high rates of digital banking adoption and digital banking usage frequency than non-participants. Although the use of digital payment systems like UPI appears to be accepted by a vast majority of consumers, some disparities in the use rates are evident in terms of income and location categories. The findings underscore the fact that financial inclusion initiatives are more than access making activities and that they are also drivers of supportive digital financial activities. This paper highlights the importance of policy responses involving digital financial literacy, usability, and trust building as a means of making sure that the process of converting financial access to meaningful digital inclusion could be effective, inclusive and sustainable.

Keywords : Financial Inclusion, Digital Banking, Usage Intensity, Financial Inclusion Schemes, Household Behaviour, etc.

Introduction :

The financial inclusion policy in India has increasingly turned towards access-only (opening accounts) to attaining the active utilization of formal and digital financial services. Mass initiatives like PMJDY, direct benefit transfers connect to bank accounts, and an institutional on-ramp to households previously locked out PMJDY and vast packages of products linked to social-security services can broaden the coverage of the banking system



and serve as an institutional opening of the door to the bank (Dua, 2025; Banerjee and Gupta, 2019). Simultaneously, the dispersal of portable internet and interoperative payment rails has increased digital banking and digital payment transactions, allowing households to transact, save and receive benefits at reduced time and travel expense compared with traditional banking based on the necessity to visit a bank (Haque, 2025). However, the policy question has changed into not only whether households switch to digital banking, but whether they do it extensively that is, often enough, broadly in services and regularly in transactions so that they can yield long-term welfare benefits and enhance financial inclusion.

The research paper will look at the effects of financial inclusion programs on (i) adoption of digital banking as well as (ii) intensity of use among households in Nagpur District. The district offers an appropriate background as it is a mixture of both urban and peri-urban banking, and a non-homogeneous digital preparedness spectrum among socio-economic classes. It has been demonstrated in the past about Nagpur and its commercial environment that the awareness and intent to use factors will alleviate the process of scheme-based provision to a sum daily routine digital banking behavior (ShodhKosh, 2024; Informatics Journals, 2025). Following on this, it is the exposure to schemes (e.g., being an account holder and having a scheme-related attachment) as a policy instrument, which can lower the entry barrier to digital finance, as proposed in the proposed research study, though admittedly the adoption and the degree of attachment is also a behavioural and infrastructural determinant (perceived usefulness, ease of use, social influence, and facilitating conditions; Davis, 1989; Venkatesh et al., 2003). The study will focus on households, not institutions, and on the distinction between adoption (when nominal versus digital access is increasing) and usage intensive (including meaningful digital engagement).

Literature Review :

Financial inclusion schemes and the “access–usage” gap :

Increased penetration of accounts is recorded by the early evaluation of PMJDY and related inclusion programs, however, the difficulty in making the initiatives active is also indicated. According to Banerjee and Gupta (2019), financial inclusion leads to the growth of formal access but necessitates the combination of efforts, such as the financial literacy of the target area, redressing grievances, and service quality to prevent dormant accounts. At the institutional level, Agarwala et al. (2023) assess bank performance related to the inclusion exercise throughout the PMJDY era, which strengthens the position that capacity of supply side and outreach initiatives on inclusion determine whether inclusion would lead to long-term maintainability. Even more recent synthesis literature has underlined the aspect that inclusion architecture in India is growing interdependent on digitised provision of payments and services, and this may create better resilience and widen its engagement, assuming that the last-mile impediments are resolved (Dua, 2025).

Determinants of digital banking adoption :

There is a wide body of studies describing the adoption of digital banking in terms of behavioural technology-adoption models. Technology Acceptance Model (TAM)



hypothesizes that the adoption is mainly driven by the perceived usefulness and perceived ease of use (Davis, 1989). Social influence and facilitating conditions have been added to the extensions like the Unified Theory of Acceptance and Use of Technology (UTAUT), which makes them more explanatory in consumer financial services where a network effect and infrastructure are considered (Venkatesh et al., 2003). Digital readiness and contextual constraints are found to exhibit a varying influence aspect on the digital technology adoption in the Indian context, based on socio-economic layer and local enabling condition, indicating the need to consider factors such as digital readiness and environment when studying household adoption (Economic & Political Weekly, 2021). Similar findings also suggest that utility of service, trust, and usability have a strong influence on adoption and satisfaction in mobile banking across developing settings, which is also likely to be of relevance to the first-time/ new banked households switching to digital infrastructures (Khatun et al., 2024).

Financial inclusion and digital payments: from adoption to intensity :

New empirical literature is associating digital payments with inclusion results and studies heterogeneity in geographically and wealth-based adoption. In the case of rural India, it can be demonstrated that including rural areas through interoperable payment techniques and including digital initiatives of this type can be supported, but the results would be influenced by access, literacy, and local ability to connect with digital rails (Haque, 2025). On a district-comparative level, Gupta (2025) observes systematic difference in UPI adoption relating to endowments in wealth, which implies that accessing it through digital mediums can re-create or even increase inequality unless limitations imposed on low-income users are clearly detailed. These results justify the allocation or requirement of the measurement of usage intensity and not just adoption since frequent infrequent or single purpose usage may not be material in altering financial behaviour or alleviating cash requirement.

Evidence specific to Nagpur and identified gaps :

Nagpur-based localised research shows an increase in the use of digital banking and digital payments, but there are also such gaps as lack of a sufficient level of awareness about the existence of schemes associated with digital banking and payments, and unequal recognition of digital modes and digital connectivity (ShodhKosh, 2024). A pilot study that specifically discusses the financial inclusion programmes and digital banking in Nagpur indicates that the use of schemes and awareness can affect the outcomes of digital banking, although further rigorous household level modeling, which separates adoption variation and intensity variation and absorbs the effect of other socio-economic and infrastructure variables, is necessary (Informatics Journals, 2025). Also Nagpur-specific research on access and use among particular groups (e.g., rural workers women) suggests further that the demographic segmentation is fundamental since the obstacles can be gender-based and occupation-specific and can influence the adoption rates as well as the usage (SSRN, 2023).

In general, the available literature underpins three hypotheses: (1) inclusion schemes can widen the differences between formal and informal access but not necessarily result in active use; (2) perceived value, convenience, trust, and encouraging infrastructure are the



driving forces behind digital adoption tactical use: the level of intensive and equitable gains depends on market position; (3) digital payments can empower inclusion processes but sharply depending on the socio-economic beginning. Nevertheless, a vacuum in evidence on the district level of households that would measure the causal or quasi-causal relationship between exposure to an inclusion scheme and both the extent and subsequent digital banking adoption in a non-metropolitan but mixed urban-rural area such as Nagpur is still noticeable. The gap in this study is by (i) modelling adoption and intensity as two parameters clearly and (ii) by locating the scheme participation in the body of knowledge of the technology-adoption theory and context specific constraints, which are recorded in the Indian evidence base.

Objective of the Study :

The primary objective of this study is to examine the impact of financial inclusion schemes on digital banking adoption and usage intensity among households in Nagpur District, and to analyse how socio-economic, awareness, and accessibility factors influence the transition from mere account ownership to regular and meaningful use of digital banking services.

Methodology :

This research design is the descriptive research design because it intends to examine the effect of financial inclusion initiative on the level of adoption of digital banking and the level of the intensity of usage by the households within Nagpur District. The primary data is gathered by use of a structured questionnaire that is administered to 400 households. Multistage stratified random sampling process is used where stratification is done on urban and rural zones in order to cover the representative. Descriptive statistics and other relevant inferential statistics are employed to compare data on patterns of adoption and intensity of applying digital banking.

Data Analysis and Interpretation :

The study has been analysed on primary data of 400 households of Nagpur District conducted using a structured questionnaire. Descriptive statistics were used to analyse the data to get a picture of the patterns of the financial inclusion scheme participation, digital banking adoption and level of use.



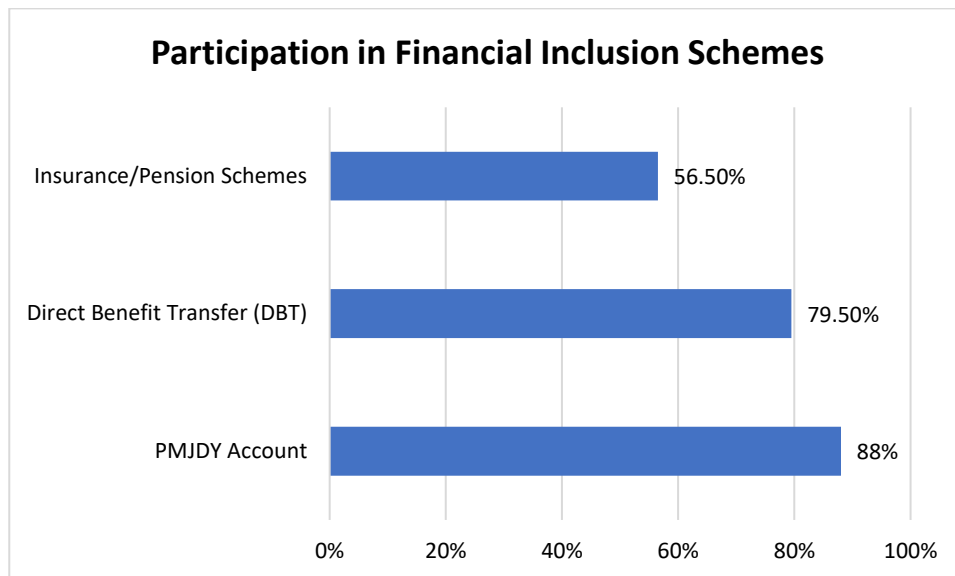


Fig. 1 Participation in FIS

PMJDY and DBT have been effective in outreach of financial inclusion schemes since a significant majority of households are covered by the schemes. Nevertheless, the fact that the proportion of people participating in insurance and pension plans are relatively low implies that the bundled inclusion benefits are partially used.

Table 1 Digital Banking Adoption among Respondents

Digital Banking Service Used	Yes (%)	No (%)
Mobile Banking App	274 (68.5)	126 (31.5)
UPI Payments	298 (74.5)	102 (25.5)
Internet Banking	186 (46.5)	214 (53.5)

UPI becomes the most popular digital banking service that is followed by mobile banking apps. Internet banking adoption remains relatively low, which is indicative of preference of easier, mobile-based digital banking by households.

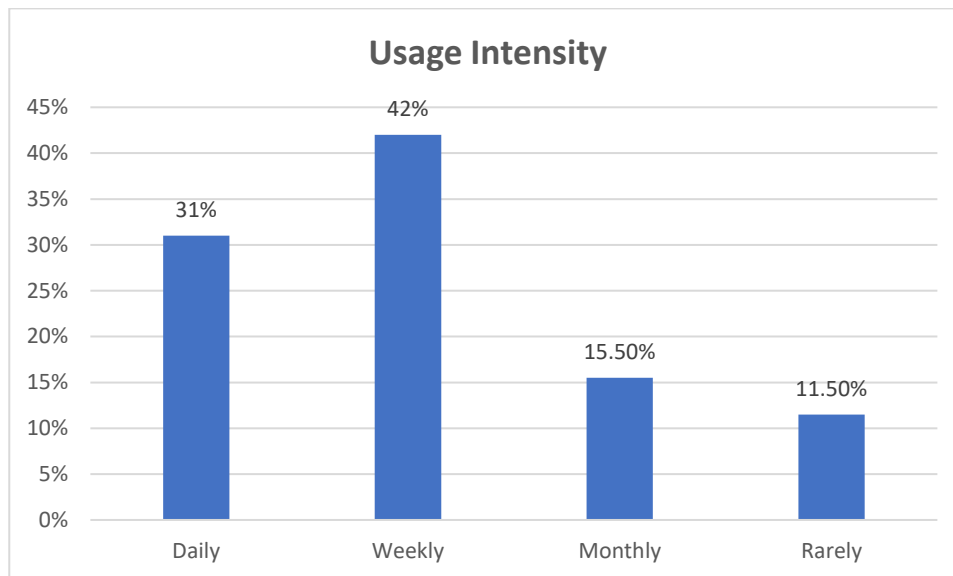


Fig 2 Usage Intensity of Digital Banking Services

The adoption is relatively high; however, there is some variation in the level of usage. Most of the respondents access digital banking features on a daily or a weekly basis, which means that it is used effectively. Furthermore, the frequency of low usage amounts to almost a quarter of the total users, and it can be assumed that adoption does not expect intensive usage.

Table 2 Relationship between Financial Inclusion Schemes and Digital Banking Usage

Scheme Participation	High Usage (%)	Moderate Usage (%)	Low Usage (%)
Participants (n=352)	46.3	38.1	15.6
Non-participants (n=48)	18.7	35.4	45.9

Those households which use financial inclusion schemes exhibit much greater intensity of use of digital banking than their non-participants do. This means that the ownership of schemes linked accounts and the transfer of benefits are the drivers of frequent use of digital banking.

The review has established that financial inclusion initiatives have been significant in ensuring that households in Nagpur District adopt digital banking. Nevertheless, notwithstanding positive adoption rates, the difference in the intensity of use shows the effects of socio-economic status, awareness rates, and the perceived ease of use. The results imply that the efforts of the policy should shift to the enhancement of digital literacy and trust on the long-run and intense utilization of digital banking services.

Hypothesis :

There is no significant association between participation in financial inclusion schemes and the intensity of digital banking usage among households in Nagpur District. To test the above hypothesis, chi-square test has been applied, the results are as follows:



Table 3 Association between Financial Inclusion Scheme Participation and Digital Banking Usage Intensity

Scheme Participation	High Usage	Moderate Usage	Low Usage	Total
Participants	163	134	55	352
Non-participants	9	17	22	48
Total	172	151	77	400

Table 4 Chi-Square Test

Test Statistic	Value
Chi-square (χ^2)	29.84
Degrees of Freedom	2
Significance (p-value)	0.000

According to the outcome of Chi-square test, there is statistical significance between the involvement in financial inclusion schemes and the intensity of the digital banking usage since the p-value is less than the level of significance 5 per cent. Accordingly, one rejects the null hypothesis. The implications of this finding are that the households with a membership in financial inclusion schemes would more likely utilize a digital banking service than households not in the scheme and use it often and meaningfully. The outcome validates the idea that financial inclusion initiatives do not only enable the accessibility to the banking services but also ensure stable long-term digital participation thus enhancing the overall digital financial ecosystem on a household-level basis.

Conclusion :

The research comes to the conclusion that financial inclusion programs have contributed positively to the adoption of and level of use intensity of digital banking among the Nagpur District families. Although a greater percentage of households are now formally banked by receiving scheme-linked accounts, the results prove that a great number of scheme-linked account users tend to engage more often and deliberately in digital banking services. That implies a beneficial change in accessing the financial to being an active part of digital presence. Nonetheless, the differences in the degree of usage among socio-economic groups indicate that digital awareness, technology trust, and a lack of complicated processes still form the aspects of the severity of digital banking usage.

Recommendations :

According to the results, the research suggests that policymakers and banking institutions should not focus on account-opening goals anymore but instead focus on



approaches that would promote long-term adoption of digital. Intensive digital financial literacy trainings, especially among low-income and rural families, need to be enhanced so as to enhance confidence as well as the skills in using digital platforms. To overcome the issue of usability and trust, banks are advised to make the digital interface easy to use and improve customer service. Also, the closer one aligns financial inclusion programs with daily digital exchange and incentives, the more likely the infiltration of usage and will guarantee that the goals of financial inclusion are more effectively met in an inclusive and sustainable way.

References :

- Agarwala, N., et al. (2023). *Efficiency of Indian banks in fostering financial inclusion*. (DEA-based empirical study under PMJDY-era inclusion efforts).
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Banerjee, A., & Gupta, A. (2019). Pradhan Mantri Jan Dhan Yojana as a financial inclusion drive: A case study of West Bengal. *Decision*, 46(4), 335–352.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Dua, P. (2025). *Financial inclusion in India* (discussion/working paper).
- Economic & Political Weekly. (2021). Determinants of digital technology adoption and financial inclusion (India-focused empirical analysis).
- Gupta, R. (2025). Are digital payments driven by wealth inequality? Evidence from district-level UPI adoption in India.
- Haque, M. I. (2025). UPI and financial inclusion in rural India: A case study.
- Informatics Journals. (2025). Assessing the impact of financial inclusion programs on digital banking: Evidence from a pilot study.
- Khatun, M. N., et al. (2024). Adoption of mobile banking to promote financial inclusion: Evidence from a rural user survey. [*Journal article on ScienceDirect*].
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). Free Press.
- ShodhKosh. (2024). The study of socio-economic effects of digital banking adoption on financial inclusion: Evidence from Nagpur District.
- SSRN Working Paper. (2023). Study of access and usage of traditional and digital banking services: Evidence from rural women workers in Nagpur District.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.

