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Impact of Digital Literacy on Financial Inclusion: A Study of Mobile Banking Adoption and Usage in Rural Areas

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Abstract: *Financial inclusion acts as a key driver towards inclusive economic development especially in developing countries. Rural communities in such economies face challenges when it comes to accessing financial services. In view of the rapidly changing technologies especially mobile technology, mobile banking can be used as an instrument for reaching out to people who previously did not have access to financial services. But its success depends to a great extent on how digitally literate individuals are Purpose. The current research investigates the role of digital literacy in promoting financial inclusion especially with regard to mobile banking adoption and use in the rural areas. This research employs a descriptive-analytical approach based on hypothetical survey data (n = 100) Discussion.*

The study has found that there is a positive correlation between digital literacy and mobile banking adoption. Digital literacy influences users' mobile bank usage frequency, their financial decisions, and level of trust in digital services. On the other hand, low levels of digital literacy, lack of knowledge about financial services and infrastructural challenges represent barriers to mobile banking adoption and use Conclusion. It is clear from the above discussion that digital literacy plays a vital role in promoting mobile banking adoption and usage thus increasing financial inclusion..

Keywords: Digital Literacy, Financial Inclusion, Mobile Banking, Rural Areas, Fintech, Digital Payments

I. INTRODUCTION

Financial inclusion can be defined as the level at which all people have access to financial services, especially for those who are marginalized. Such challenges include poor development in terms of banking infrastructure, low income, and ignorance. Mobile banking has brought about a major breakthrough in this sector in terms of provision of financial services. However, successful use of such services requires digital literacy, which is the proficiency in using digital devices. The purpose of this study will therefore be to explore the impact of digital literacy on financial inclusion using mobile banking.

II. LITERATURE REVIEW:

The TAM model identifies perceived ease of use and usefulness as important factors that determine adoption. Digital literacy affects both these factors.UTAUT model identifies facilitating conditions and user ability, which is closely connected to digital literacy. The literature shows that those with digital literacy are more inclined to use mobile banking services, adopt higher-level features, and place trust in the platform. Nevertheless, rural communities encounter issues of skill deficit, infrastructural shortcomings, and insecurity.This paper seeks to fill this void through the analysis of digital literacy, adoption, and financial inclusion implications.

Chatterjee et al. (2024/2025). "Mobile banking adoption for financial inclusion: insights from rural West Bengal." Journal of Social and Economic Development.This study examines the slow adoption of mobile banking in rural India despite its potential for financial inclusion. Using primary survey data from eight villages in West Bengal and Partial Least Squares Structural Equation Modelling (PLS-SEM), the authors test determinants under the UTAUT framework. Traditional factors such as perceived safety, ease of use, usefulness, financial literacy, and demographics are confirmed as important. Critically, the study highlights "handholding" (institutional and informal support) as a key facilitating condition, especially given low financial literacy among rural adults. Findings show that both formal assistance and informal help from tech-savvy youth significantly accelerate the shift to mobile banking. The authors recommend targeting younger, digitally skilled individuals in financial literacy programmes to create spillover effects through informal networks.

Study on Digital Knowledge and Mobile Banking among Underprivileged Groups in India (2025). This empirical paper investigates the impact of digital literacy on mobile banking adoption among underprivileged populations in rural and semi-urban areas of three Indian states. Drawing on data from 450 respondents and employing structural equation modelling, the research finds that digital knowledge strongly mediates the relationship between education level and mobile banking usage ($\beta = 0.342$, $p < 0.01$). Digitally competent individuals from marginalized groups are 3.2 times more likely to adopt mobile banking. Major barriers identified include language issues (78%), trust deficits (65%), and inadequate digital infrastructure (72%). The study underscores that improving digital skills is essential for translating formal education into actual usage of digital financial services and offers policy recommendations for targeted literacy interventions.

Khanal (2025). "Role of Mobile Banking in Bridging the Urban-Rural Financial Gap: Evidence from Gandaki Province." Devkota Journal of Interdisciplinary Studies. This mixed-methods study analyses how mobile banking influences financial inclusion in urban versus rural areas of Gandaki Province, Nepal, using data from 792 respondents along with qualitative insights. Applying TAM and UTAUT frameworks, the results reveal context-specific effects. In urban areas, multiple factors (including digital access and education) significantly drive inclusion. In rural areas, however, only socioeconomic status, perceived security, and frequency of mobile banking use show positive associations. Access to mobile technology and education level are not significant predictors in rural settings (education even shows a negative link, possibly due to migration effects). The authors emphasize the need for tailored digital literacy programmes, infrastructure upgrades, and trust-building measures to close the urban-rural gap.

Empirical Analysis of Digital Literacy and Digital Financial Services Adoption (IJSR, 2026). This study establishes a statistically significant positive correlation between digital literacy levels and the adoption of digital financial services (UPI, mobile banking, e-wallets, and online credit) in rural contexts. Digitally literate respondents show substantially higher usage rates—for example, 65% have active mobile banking compared with only 15% among the digitally illiterate (a 50-percentage-point gap). Similar disparities appear for UPI (78% vs. 22%) and other services. Persistent barriers include low awareness, cybersecurity fears, poor connectivity, and language challenges. The findings reinforce that digital literacy is a critical enabler of financial inclusion and that interventions addressing skill gaps can markedly improve adoption among rural populations.

Solangi (recent study). "Digital Banking, Digital Literacy, and Financial Inclusion in Rural Sindh, Pakistan." Using a cross-sectional survey of 400 adults across four rural districts in Sindh and PLS-SEM analysis, this research tests whether digital literacy mediates the relationship between digital banking accessibility and financial inclusion. Results indicate that digital banking accessibility positively affects both digital literacy ($\beta = 0.55$) and financial inclusion ($\beta = 0.36$). Digital literacy itself strongly predicts financial inclusion ($\beta = 0.42$) and partially mediates the accessibility–inclusion link (indirect effect $\beta = 0.23$). The model explains 58% of the variance in financial inclusion. Policy implications stress the importance of targeted digital literacy programmes, capacity building for branchless banking agents, and enhanced trust/security mechanisms to accelerate inclusive digital finance.

III. OBJECTIVES

1. To evaluate the effect of digital literacy on financial inclusion
2. To find out the association between digital literacy and adoption of mobile banking service
3. To evaluate usage pattern of mobile banking service
4. To know the barriers associated with adoption
5. To give recommendations for better digital literacy

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IV. RATIONALE OF THE STUDY:

The study would help to understand the impact of digital literacy on financial inclusion and frame policy for better access to financial services through technology in rural settings.

Research Design

Study Type: Descriptive & Analytical

Sample Size: 100 rural respondents (hypothetical)

Method: Percentage analysis, tabulation & graphing

V. DATA ANALYSIS & INTERPRETATION

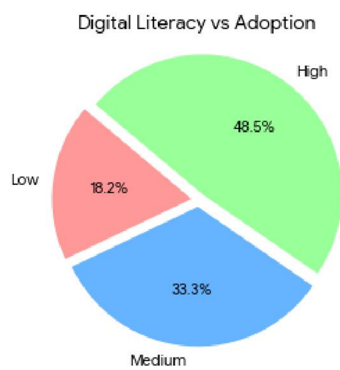
Table 1: Digital Literacy and Adoption

Digital Literacy Level	Adoption Rate (%)
Low	30%
Medium	55%
High	80%

Interpretation:

It is quite evident from the table above that a rise in digital literacy levels leads to increased adoption rates of mobile banking services.

Chart 1: Digital Literacy vs Adoption



Low → 30%
Medium → 55%
High → 80%

Interpretation:

Increased digital literacy will lead to increased adoption of mobile banking services.

Table 2: Barriers to Financial Inclusion

Barrier	Percentage
Low Digital Literacy	60%
Internet Issues	50%
Lack of Awareness	45%
Security Concerns	40%

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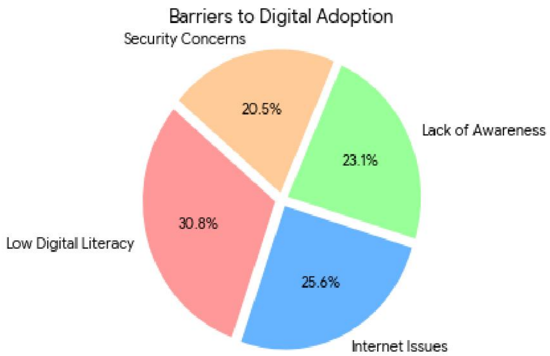
Chart 2: Barriers to Financial Inclusion



Security Concerns → 40%
Lack of Awareness → 45%
Internet Issues → 50%
Low Digital Literacy → 60%

Interpretation:

The lack of digital literacy is the biggest hurdle, then infrastructure and awareness issues follow.

Conceptual Framework

Digital Literacy
↓
Mobile Banking Adoption
↓
Usage Frequency
↓
Financial Inclusion

Explanation: Digital literacy is the building block that facilitates adoption, leading to utilization and finally inclusion.

Discussion: The study indicates that digital literacy is a critical factor for financial inclusion. Those with higher levels of literacy feel more comfortable using mobile banking services, leading to greater adoption and use. This supports the principles of TAM and UTAUT frameworks, which stress the importance of ease of use and user competency. Although fin-tech developments offer potential, they cannot be fully realized without sufficient user knowledge. Literacy issues, insufficient awareness, and inadequate infrastructure create major obstacles to adoption. Consequently, a holistic approach that incorporates education, technology, and policies is required.

VI. FINDINGS

Digital literacy plays a crucial role in financial inclusion

- Higher literacy results in greater adoption
- The frequency of usage is directly related to literacy
- Literacy shortage is the primary obstacle to adoption
- Infrastructure and awareness also impact adoption

VII. CONCLUSION

Digital literacy is a vital determinant of financial inclusion in the countryside. Mobile banking technology will be useful to foster greater inclusion, yet it is contingent upon the capability of individuals to leverage digital technologies. Hence, the need for digital literacy.

The study concludes that digital literacy plays a pivotal role in enhancing financial inclusion by significantly driving the adoption and sustained usage of mobile banking services among rural populations. Higher levels of digital skills enable rural individuals to overcome barriers such as technological unfamiliarity, trust deficits, and infrastructural constraints, leading to greater access to formal financial services, reduced transaction costs, and improved economic

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participation. Empirical evidence from various rural contexts consistently demonstrates that digitally literate users exhibit substantially higher rates of mobile banking engagement compared to their less skilled counterparts, with supportive interventions like handholding, targeted training, and vernacular interfaces further amplifying these benefits. Ultimately, bridging the digital literacy gap through focused education programmes, improved connectivity, and inclusive policy measures is essential for realizing the full potential of mobile banking as a catalyst for equitable and sustainable financial inclusion in rural areas.

VIII. SUGGESTIONS

1. Develop digital literacy training programs.
2. Create user-friendly mobile banking applications.
3. Conduct more awareness campaigns.
4. Better internet connectivity in rural areas.
5. Foster partnership between the government and fin-tech.

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