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From Access to Active Use in Digital Financial Inclusion in India

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Abstract

Digital public infrastructure has transformed the meaning of financial inclusion from mere access to formal accounts into the ability to participate actively, safely, and autonomously in digital economic life. This article examines India as a critical case for understanding this transition. Using secondary data from the World Bank Global Findex Database 2025, National Payments Corporation of India statistics, official Government of India digital payment records, and international policy literature, the study analyses how account ownership, mobile connectivity, interoperable payments, and public digital platforms interact to produce new forms of financial capability. The article argues that India's digital financial inclusion model has moved decisively beyond the first-generation access agenda, but the conversion of access into meaningful financial agency remains uneven. The evidence indicates rapid expansion of account ownership and exceptionally high digital payment intensity, particularly through Unified Payments Interface. However, persistent concerns remain around inactive accounts, gendered digital use, digital safety, consumer grievance redressal, and the limited translation of payment use into formal savings, responsible credit, insurance, and long-term financial resilience. The article contributes a capability-conversion framework for analysing digital financial inclusion and argues that future policy must shift from infrastructure expansion to inclusive, secure, and welfare-enhancing use.

Keywords

Digital public infrastructure; financial inclusion; UPI; India Stack; digital payments; financial capability

Introduction

Financial inclusion has traditionally been measured through indicators such as bank branch access, account ownership, deposit mobilisation, and credit penetration. In the digital era, these indicators are necessary but insufficient. A person may own a bank account yet rarely use it; may make digital payments yet remain excluded from formal savings and responsible credit; or may be connected to digital platforms yet lack the capability, confidence, or safety needed to use them meaningfully. The contemporary policy challenge is therefore not only to expand

access, but to understand how access is converted into active, secure, and welfare-enhancing financial participation.

India provides a significant case for studying this transition because its financial inclusion strategy combines large-scale public policy, digital identity, universal bank accounts, mobile connectivity, and an interoperable real-time payment system. The Global Findex Database 2025 reports updated financial inclusion indicators based on nationally representative surveys of about 148,000 adults across 141 economies, including new measures of mobile phone ownership, internet use, and digital safety. Globally, 79 percent of adults now own a financial account, while about 1.3 billion adults remain unbanked; approximately 900 million of the unbanked own a mobile phone, indicating the continuing relevance of digital channels for inclusion policy.

India's model is particularly important because it shows how a country can move from access-centred inclusion to transaction-centred inclusion. Official sources report that account ownership in India reached about 89 percent in 2024, while the Unified Payments Interface has become one of the world's largest real-time digital payment systems. NPCI data show that UPI processed 22,641.11 million transactions in March 2026, with a transaction value of ₹29,52,542.05 crore and 705 banks live on the platform.

The central argument of this article is that India's digital public infrastructure has successfully reduced the access barrier to formal finance, but access has not automatically produced equal financial capability. The next stage of digital financial inclusion requires attention to active use, gendered capability gaps, digital safety, consumer trust, and the integration of payments with savings, credit, insurance, and social protection.

Research Problem

The first-generation financial inclusion agenda treated access to accounts as the principal policy objective. This was reasonable in contexts where large sections of the population were unbanked. However, the expansion of digital public infrastructure has altered the problem. In India, the core question is no longer whether people can be formally connected to the financial system, but whether such connection is converted into meaningful and autonomous financial participation.

The research problem addressed in this article is therefore: How does digital public infrastructure convert formal financial access into active financial capability, and what inclusion gaps remain after account ownership and payment access have expanded?

Research Objectives

The study has the following objectives.

1. To analyse the role of digital public infrastructure in transforming financial inclusion in India from account access to active financial use.
2. To examine secondary evidence on account ownership, digital payment growth, and payment infrastructure expansion in India.
3. To identify the continuing social and institutional gaps that limit the conversion of digital access into financial capability.
4. To develop a capability-conversion framework for evaluating digital financial inclusion in emerging economies.
5. To suggest policy directions for moving from digital payment expansion to inclusive financial resilience.

Review of Related Literature

The concept of financial inclusion has evolved from physical banking access to a broader concern with the use, quality, affordability, and welfare effects of financial services. Earlier financial inclusion literature emphasised the expansion of formal accounts, credit access, savings instruments, and institutional reach. The Global Findex series contributed significantly to this shift by offering comparable demand-side data on how adults save, borrow, make payments, and manage risk. The 2025 edition further extends the agenda by combining financial inclusion indicators with mobile phone ownership, internet access, digital safety, and frequency of financial transactions.

Digital public infrastructure has emerged as a major policy concept in this context. In contrast to privately controlled digital platforms, digital public infrastructure refers to foundational digital systems that are interoperable, reusable, and capable of supporting multiple public and private services. The International Monetary Fund describes India Stack as a foundational digital public infrastructure composed of digital identity, payment systems, and data exchange layers, with the potential to foster innovation, expand markets, reduce financial inclusion gaps, and improve public expenditure efficiency.

The Unified Payments Interface represents one of the most widely discussed elements of India's digital public infrastructure. BIS-related work describes UPI as an interoperable digital payment system that has promoted safe, real-time, and low-cost transactions while supporting financial inclusion and consumer protection objectives.

However, the literature also indicates that digital inclusion cannot be equated with digital access. Digital divides persist along gender, income, rural–urban, age, education, and device-ownership lines. The Global Findex 2025 identifies continuing gaps in access to and use of digital and financial services among women and poor adults. Women's account ownership has improved globally, but usage gaps remain; World Bank analysis notes that women in low- and middle-income economies have increased account ownership and digital payment use, yet hundreds of millions of women remain financially excluded.

A second limitation in the literature is the tendency to measure digital financial inclusion through transaction volume alone. High transaction volume indicates behavioural adoption, but it does not necessarily demonstrate financial resilience, bargaining power, creditworthiness, savings capacity, or protection from fraud. A more complete approach requires a movement from access metrics to capability metrics. This article addresses that gap by proposing a capability-conversion framework.

Theoretical Framework

The article is guided by the capability approach, particularly the distinction between resources and the real freedom to use those resources for valued outcomes. In the context of digital finance, a bank account, mobile phone, or payment application is not itself financial inclusion. It becomes inclusion only when individuals can use these instruments to make payments, receive income, save securely, access fair credit, manage risk, and exercise control over their financial lives.

The framework proposed in this article treats digital financial inclusion as a four-stage conversion process.

Table 1: Digital Financial Inclusion as a Capability-Conversion Process

Stage	Meaning	Inclusion Question
Formal access	Ownership of a bank or mobile money account	Does the person have formal entry into the financial system?
Digital activation	Ability to use digital channels for transactions	Is the account used for payments, transfers, receipts, or savings?
Financial agency	Control, confidence, and informed decision-making	Does the user exercise independent and meaningful financial choice?
Financial resilience	Ability to manage shocks and improve welfare	Does digital finance improve savings, credit access, risk protection, and security?

This framework distinguishes between infrastructural inclusion and capability-based inclusion. The first depends on systems; the second depends on social conversion factors such as literacy, gender norms, affordability, grievance redressal, trust, safety, and institutional responsiveness.

Methodology

The study uses a secondary-data based qualitative and descriptive analytical design. No primary survey was conducted. The article relies on documentary analysis, descriptive secondary data interpretation, and policy synthesis.

The major sources of data are the World Bank Global Findex Database 2025, National Payments Corporation of India UPI statistics, official Government of India digital payment data, Reserve Bank of India-linked policy material, and international institutional reports on digital public infrastructure. The Global Findex 2025 is particularly relevant because it contains nationally representative survey indicators from 141 economies and includes measures of account ownership, digital financial use, mobile ownership, internet use, and digital safety.

The analysis follows three steps. First, key secondary indicators were identified to describe the scale of formal account ownership and digital payment use. Second, the indicators were interpreted through the capability-conversion framework. Third, the findings were synthesised to identify policy implications for inclusive digital financial governance.

Table 2: Secondary Data Profile of Digital Financial Inclusion Indicators

Indicator	Latest Reported Value	Relevance to the Study
Global adult account ownership	79 percent	Shows worldwide progress in formal financial access
Adults still unbanked globally	1.3 billion	Indicates continuing exclusion despite progress
Global Findex 2025 coverage	About 148,000 adults in 141 economies	Provides demand-side evidence on financial and digital inclusion
India account ownership	About 89 percent in 2024	Indicates near-universal formal access

UPI transactions in March 2026	22,641.11 million	Shows mass-scale digital payment use
UPI value in March 2026	₹29,52,542.05 crore	Shows the monetary scale of payment infrastructure
Banks live on UPI in March 2026	705	Indicates broad institutional participation
Average UPI transaction value in March 2026	About ₹1,304	Suggests strong use in routine small-value transactions
UPI transactions in FY 2017–18	92 crore	Establishes early-stage baseline
UPI transactions in FY 2023–24	13,116 crore	Shows rapid expansion of digital transactions

The average UPI transaction value was computed from NPCI's March 2026 volume and value figures. The Department of Financial Services reports that UPI transactions increased from 92 crore in FY 2017–18 to 13,116 crore in FY 2023–24, with UPI accounting for 70 percent of digital payment transactions in FY 2023–24.

Analysis and Findings

Expansion of Formal Access

India's first major success lies in the expansion of formal financial access. Account ownership has reached a level where exclusion from basic formal banking access is no longer the dominant national problem. This marks a structural shift in financial inclusion policy. Earlier policy debates focused on opening accounts, reducing documentation barriers, and bringing unbanked households into formal finance. The current challenge is different: ensuring that accounts are active, useful, safe, and connected to broader financial wellbeing.

This distinction is important because dormant or low-use accounts may create an illusion of inclusion. A person may possess an account but continue to rely on cash, informal borrowing, family-controlled finance, or insecure savings. Therefore, India's high account ownership represents an essential foundation, but not the completion of financial inclusion.

UPI and the Routinisation of Digital Finance

UPI has altered the everyday sociology of money in India. Digital payments are no longer limited to salaried, urban, or highly literate consumers. They are increasingly embedded in street vending, small retail, transport, utilities, peer-to-peer transfers, household transactions, and microenterprise activity. The March 2026 NPCI data indicate not only large volume but also low average transaction value, suggesting that UPI is used heavily for everyday payments rather than only for high-value transfers.

The routinisation of digital finance is sociologically significant. When digital payments become ordinary, they reshape habits, expectations, trust relations, and market participation. Small merchants can receive payments without point-of-sale machines. Consumers can transact without carrying cash. Migrant workers can transfer money instantly. Government transfers can be routed into accounts. These changes reduce some frictions associated with cash-based economies.

However, routinisation is not the same as empowerment. Payment convenience may increase transaction capacity without improving long-term financial resilience. A user who pays digitally may still lack savings, insurance, responsible credit, financial literacy, or protection against fraud. Therefore, UPI should be understood as a powerful inclusion rail, not as a complete inclusion outcome.

From Digital Access to Financial Agency

The key analytical finding is that digital financial inclusion depends on conversion factors. Infrastructure creates possibility, but social and institutional conditions determine whether that possibility becomes agency. These conversion factors include device access, language usability, digital literacy, gendered control over phones, household bargaining power, affordability of data, confidence in grievance redressal, and protection from fraud.

Gender is particularly important. The Global Findex 2025 and associated analyses show that women's account ownership has improved, but gaps remain in use, especially in low- and middle-income economies. In South Asia, women account owners are less likely than men to use digital payments, indicating that account parity does not automatically produce usage parity.

This finding is consistent with the capability approach. A bank account in the name of a woman does not necessarily imply financial control if phone access, password control, mobility, literacy, or household decision-making remain constrained. Digital financial inclusion therefore requires gender-sensitive design rather than gender-neutral infrastructure alone.

The Payment-Credit Gap

A major policy question is whether digital payment use can deepen access to formal credit. Digital transaction histories can potentially reduce information asymmetry, improve small borrower visibility, and support cash-flow based lending. Yet the conversion from payments to responsible credit is not automatic. It requires appropriate underwriting, consumer consent, data protection, fair pricing, and safeguards against over-indebtedness.

India's digital public infrastructure creates the technical possibility for linking payment trails, identity, and consent-based data sharing. The policy risk is that transaction visibility may be used either to empower small users or to expose them to aggressive lending, surveillance, or exclusionary scoring. Thus, the payment-credit transition must be governed through fairness, transparency, and accountability.

Digital Safety and Trust

As digital finance expands, safety becomes central to inclusion. Fraud, failed transactions, phishing, social engineering, unauthorised access, and poor grievance redressal can disproportionately harm first-generation digital users. For vulnerable users, one negative experience may lead to long-term distrust of formal digital finance.

Global Findex 2025 includes digital safety indicators, showing that the international financial inclusion agenda now recognises safety as part of inclusion rather than as a secondary technical issue.

For India, this means that the next stage of digital financial inclusion must prioritise consumer protection. A digitally included citizen must be able not only to transact, but also to complain, reverse errors where justified, understand risks, and obtain timely redress.

Discussion

The findings suggest that India's digital financial inclusion model should be interpreted through three transitions.

The first transition is from institutional access to platform access. Account ownership gives individuals formal entry into the banking system, but platforms such as UPI provide everyday usability. This transition is crucial because financial inclusion becomes meaningful when accounts are used regularly.

The second transition is from platform access to financial capability. Digital payments increase convenience, speed, and visibility, but capability requires control, literacy, trust, and safety. This is where social inequalities matter most. Gender, class, rural residence, education, and age affect whether individuals can convert infrastructure into agency.

The third transition is from financial capability to financial resilience. The ultimate aim of inclusion is not transaction volume but improved welfare. Financial inclusion should help households manage shocks, save securely, borrow responsibly, insure against risk, and participate in markets on fair terms. Payment infrastructure is therefore a foundation, not a final measure of success.

This interpretation challenges overly celebratory accounts of digital financial inclusion. India's digital public infrastructure is highly significant and internationally relevant, but its social value depends on whether it strengthens the capabilities of those who were historically excluded from formal finance.

Policy Implications

The policy focus should move from account ownership targets to active-use and welfare indicators. Future dashboards should include account activity, gender-disaggregated digital payment use, failed transaction rates, fraud exposure, grievance resolution time, formal savings, responsible credit access, insurance coverage, and financial resilience indicators.

Digital financial literacy should be redesigned as practical capability training. Users need to know how to check payee details, identify fraud, protect PINs, use grievance mechanisms, compare credit products, and manage digital records.

Gender-sensitive digital inclusion is essential. Policies must address women's independent phone access, language-friendly interfaces, assisted digital use without loss of autonomy, and safe design for low-literacy users.

Consumer protection should be treated as core infrastructure. Strong grievance redressal, transparent liability rules, fraud reporting systems, and accountable intermediaries are necessary for sustaining trust.

The payment-credit transition should be governed carefully. Transaction data can support inclusion, but only if consent, fairness, explainability, and protection from predatory lending are ensured.

India's digital public infrastructure experience also has implications for other developing economies. The lesson is not simply to replicate UPI, but to build interoperable, low-cost, inclusive, and well-governed public digital rails that allow innovation while protecting citizens.

Limitations of the Study

The study is based entirely on secondary data and documentary evidence. It does not use primary survey responses, interviews, or ethnographic data. The analysis is therefore best understood as a macro-level policy and development study. Future research can extend the article through state-level panel data, district-level digital payment indicators, gender-disaggregated microdata from Global Findex, or qualitative fieldwork among women, migrant workers, small merchants, and rural households.

Conclusion

India's digital financial inclusion experience marks a decisive shift in the global inclusion debate. The country has moved beyond the narrow problem of account access and has demonstrated how interoperable digital public infrastructure can normalise everyday digital payments at population scale. However, the deeper objective of financial inclusion is not access alone, nor even transaction volume alone. It is the expansion of financial capability and resilience.

The article shows that digital public infrastructure is most valuable when it enables individuals to convert formal access into active, autonomous, safe, and welfare-enhancing financial participation. India's experience provides strong evidence of infrastructural success, especially through account expansion and UPI-led payment adoption. At the same time, continuing gaps in active use, gendered capability, digital safety, credit access, and long-term resilience indicate that the next generation of policy must focus on inclusive conversion. The future of digital financial inclusion depends not only on building digital rails, but on ensuring that the most vulnerable users can travel on them with confidence, control, and protection.

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