



## FinTech & Financial Inclusion: A Comparative Analysis of India vs. Kenya

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### ***Abstract***

This study conducts a comparative analysis of government-led and market-led FinTech models and their respective impacts on financial inclusion, using India and Kenya as contrasting case studies. India's government-led model, anchored by the JAM Trinity (Jan Dhan–Aadhaar–Mobile) and the Unified Payments Interface (UPI), is compared against Kenya's market-led model, exemplified by Safaricom's M-Pesa mobile money platform. Drawing on secondary data from the World Bank Global Findex Database, the Reserve Bank of India, the Central Bank of Kenya, and existing academic literature, this study employs a qualitative comparative case study methodology to evaluate both models across five analytical dimensions: access, usage, cost, depth, and sustainability. Findings reveal that government-led models demonstrate superior capacity for broad-based, equitable access at zero cost, while market-led models show advantages in product depth and rural usage penetration. The study concludes that hybrid models combining public infrastructure with private competition offer the most promising pathway to comprehensive financial inclusion in developing economies.

### ***1. Introduction***

Over the past two decades, the world of finance has changed dramatically, thanks largely to financial technology — commonly referred to as FinTech. It has transformed banking and investing across rich countries, but the most consequential story is unfolding in the developing world. In emerging economies, banks have historically never adequately served the poor. FinTech is changing that. For the first time, millions of people who never had access to banking are gaining it.

Financial inclusion — providing people access to banking and financial services — is one of the biggest development challenges today. Approximately 1.4 billion adults globally remain without a bank account, the majority concentrated in Sub-Saharan Africa, South and East Asia, and Latin America. Without credit, small business owners cannot grow. Without savings accounts, families cannot weather emergencies. Workers in the informal economy continue to rely on cash, which is both expensive and risky.

This paper examines how FinTech is enabling — and in some cases failing to enable — people in developing countries to access financial services. It explores two distinct governance models through a comparative case study of India and Kenya: India's government-led approach, anchored by the JAM Trinity and Unified Payments Interface (UPI), and Kenya's market-led approach,



exemplified by M-Pesa. By systematically comparing these two models, the paper draws out policy lessons applicable to other emerging economies.

### ***1.1 Research Questions***

This study is guided by the following research questions:

- To what extent has the JAM Trinity expanded financial access among India's unbanked population compared to M-Pesa's private-sector agent network in Kenya?
- How do cost structures differ between India's zero-fee UPI model and Kenya's transaction-fee M-Pesa model, and what is the impact on low-income users?
- What role does the regulatory environment play in shaping FinTech-driven financial inclusion outcomes in each country?
- Which model demonstrates greater depth of inclusion — moving beyond payments into credit, savings, and insurance for the rural poor?
- What are the long-term sustainability risks of each model, including monopoly concentration, data privacy, and state dependency?

## ***2. Literature Review***

### ***2.1 Financial Inclusion — Concept and Significance***

Financial inclusion has been widely recognised as a critical driver of economic development and poverty reduction. It is broadly defined as the availability and usage of affordable financial services — including savings, credit, payments, and insurance — by all segments of society, particularly the poor and marginalised (Sarma & Pais, 2011). The UN 2030 Agenda for Sustainable Development further underscores the centrality of financial inclusion in achieving the Sustainable Development Goals (Klapper, El-Zoghbi & Hess, 2016).

Despite global progress, the World Bank Global Findex Report (Demirguc-Kunt et al., 2021) reveals that approximately 1.4 billion adults worldwide remain unbanked, with the majority concentrated in developing economies across Asia and Africa. The primary barriers include high account costs, geographic distance from financial institutions, and the absence of formal identification documents.

### ***2.2 FinTech and Financial Inclusion***

Financial technology (FinTech) has emerged as a transformative force in expanding financial inclusion globally. FinTech encompasses a broad range of innovations including mobile banking, digital wallets, peer-to-peer lending, blockchain, and mobile money services (Schueffel, 2016).



Several studies have documented a strong positive relationship between FinTech adoption and financial inclusion. Chinoda and Mashamba (2021) found that FinTech significantly reduces income inequality and promotes financial inclusion across African economies.

### ***2.3 Mobile Money and Financial Inclusion in Africa***

The role of mobile money in promoting financial inclusion has been extensively studied, particularly in the Sub-Saharan African context. Jack and Suri (2011) pioneered research on M-Pesa in Kenya, demonstrating that access to mobile money significantly improved household welfare and enabled effective risk-sharing among low-income communities. Morawczynski (2009) explored the transformative potential of M-Pesa, highlighting how mobile financial services facilitated financial access for rural populations previously excluded from formal banking.

### ***2.4 Government-Led vs. Market-Led FinTech Models***

The governance structure underlying FinTech-driven financial inclusion is a critical but underexplored dimension in existing literature. Two dominant models have emerged: government-led models, where the state designs and manages digital financial infrastructure, and market-led models, where private sector innovation drives inclusion within a permissive regulatory environment. Gabor and Brooks (2017) critically examined the risks of market-led digital financial inclusion, arguing that private FinTech platforms may extract value from low-income users without substantially improving their financial wellbeing.

### ***2.5 Research Gap***

While a substantial body of literature examines the impact of FinTech on financial inclusion in individual country contexts, comparative analysis of the underlying governance models remains limited. This study addresses this gap by systematically comparing India and Kenya across dimensions of access, usage, cost, depth, and sustainability.

## ***3. Research Methodology***

### ***3.1 Research Design***

This study employs a qualitative comparative case study design, comparing India and Kenya as contrasting cases of government-led and market-led FinTech models. The case study approach is appropriate for this research as it allows for in-depth examination of complex institutional and contextual factors that quantitative methods may not fully capture (Yin, 2014).

### ***3.2 Research Philosophy***



This study adopts an interpretivist philosophical stance, seeking to understand how and why each governance model produces different financial inclusion outcomes, rather than simply measuring their statistical effects. This approach is consistent with the qualitative, secondary-data methodology employed and with the study's focus on institutional and policy dimensions of financial inclusion.

### ***3.3 Data Sources***

All data used in this study are secondary, drawn from the following sources:

- India: NPCI annual reports and UPI transaction data; Reserve Bank of India (RBI) annual reports and Financial Inclusion Index releases; World Bank Global Findex 2021 India data; Government of India PMJDY scheme reports.
- Kenya: Central Bank of Kenya FinAccess Household Survey reports; Safaricom and M-Pesa annual reports; CGAP mobile money research papers; World Bank Global Findex 2021 Kenya data.
- Common sources: IMF Financial Access Survey; GSMA Mobile Money Industry reports; academic journals accessed via Google Scholar and SSRN.

### ***3.4 Analytical Framework***

The study compares India and Kenya across five analytical dimensions drawn from the financial inclusion depth framework (Sarma & Pais, 2011): Access, Usage, Cost, Depth of services, and Sustainability. This framework allows for a nuanced comparison beyond simple account ownership statistics.

### ***3.5 Scope and Ethical Considerations***

The scope of the study is primarily focused on understanding the role of FinTech in financial inclusion in India and Kenya. As the study is entirely based upon secondary datasets, there was no human interaction nor any personal information gathered. All data and information were gathered from publicly available documents and sources, with full acknowledgement given to original authors, institutions, and organisations.

### ***3.6 Limitations***

Despite its strengths, this study is subject to several limitations. As a qualitative comparative case study relying exclusively on secondary data, it does not establish causal relationships between governance models and financial inclusion outcomes. FinTech is a dynamic concept in which innovations occur rapidly, and the study may not capture the most recent developments. Variation in data collection approaches across sources may also affect comparability.



#### ***4. Conceptual Framework***

This study adopts a comparative institutional framework to analyse government-led and market-led FinTech models, drawing on three theoretical pillars.

##### ***4.1 Public Goods Theory***

Public goods theory, rooted in the work of Samuelson (1954), argues that certain goods and services are non-excludable and non-rivalrous, meaning their benefits extend beyond individual consumers to society as a whole. Digital payment infrastructure exhibits characteristics of a public good — network effects increase its value as more users participate. India's UPI model explicitly treats payment infrastructure as a public good, designed and maintained by the state to ensure universal access at zero cost (Mor & Bharadwaj, 2019).

##### ***4.2 Disruptive Innovation Theory***

Christensen (1997) introduced the concept of disruptive innovation to describe how new entrants target overlooked market segments with simpler, more affordable solutions. Kenya's M-Pesa exemplifies this dynamic — launched as a basic SMS-based money transfer service targeting the unbanked, it disrupted traditional banking by offering financial services without requiring a formal bank account (Jack & Suri, 2011).

##### ***4.3 Financial Inclusion Depth Framework***

This study employs the three-tier financial inclusion framework proposed by Sarma and Pais (2011), which distinguishes between access, usage, and quality of financial services. Access refers to the availability of a financial account or mobile wallet. Usage captures the frequency and volume of active transactions. Quality measures whether services genuinely meet user needs beyond basic payments, including credit, savings, and insurance.

#### ***5. India Case Study — Government-Led FinTech Model***

##### ***5.1 Background***

Before 2014, India's financial landscape was characterised by significant exclusion. Despite being the world's second most populous nation, a large proportion of its adult population lacked access to formal financial services, particularly in rural areas. Traditional banking infrastructure was concentrated in urban centres, leaving hundreds of millions of Indians dependent on informal financial channels.

##### ***5.2 The JAM Trinity***

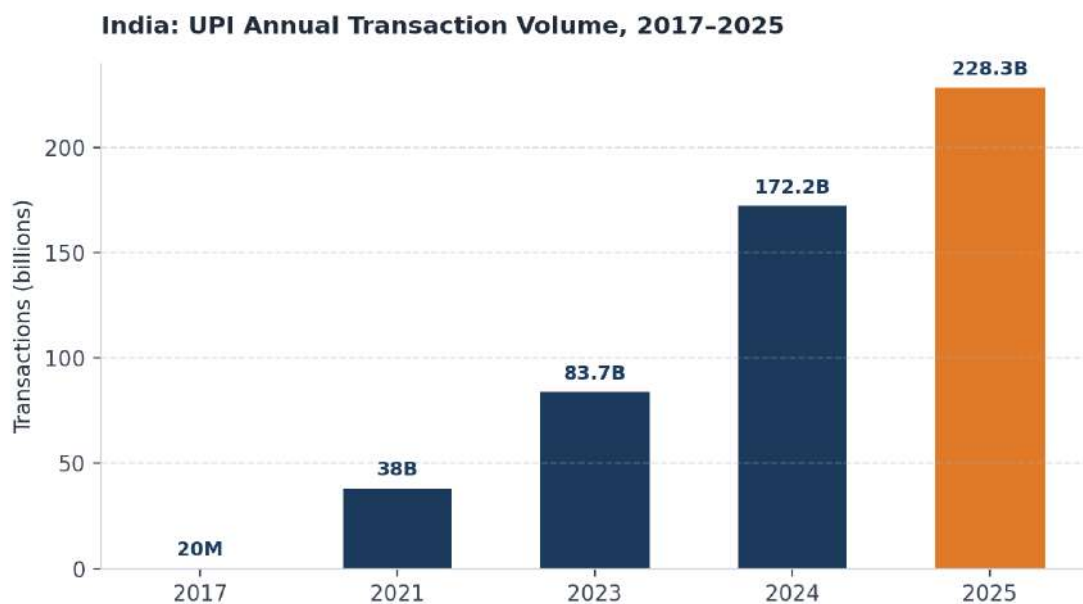


The Government of India's response to this challenge was the JAM Trinity — an integrated framework linking Jan Dhan bank accounts, Aadhaar biometric identity, and Mobile connectivity. Launched in 2014, the Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme opened over 500 million zero-balance bank accounts within a decade. By 2021, approximately 78% of Indian adults held a formal bank account, up from 35% in 2011 (Demirguc-Kunt et al., 2021).

### 5.3 Unified Payments Interface (UPI)

Building on the JAM Trinity, the National Payments Corporation of India (NPCI) launched the Unified Payments Interface (UPI) in 2016. UPI is an open, interoperable, real-time payment system that allows any bank or FinTech application to plug into a single national payments infrastructure at zero cost to consumers. UPI's transaction volumes have grown at an extraordinary pace: from 172.2 billion transactions in 2024 to 228.3 billion in 2025 — a roughly 29–33% annual increase depending on the metric used (NPCI, 2024, 2026).

**Figure 1. India: UPI Annual Transaction Volume, 2017–2025**



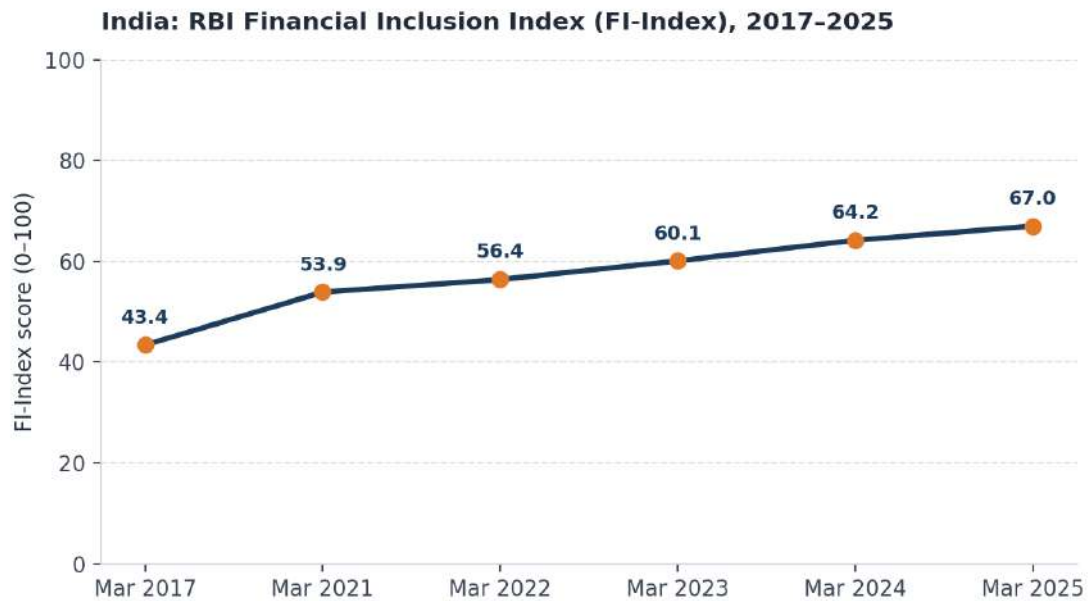
*Source: National Payments Corporation of India (NPCI), UPI transaction statistics, 2017–2025*

*Chart built from official NPCI transaction-volume disclosures across calendar years 2017–2025.*

Alongside transaction growth, the RBI's own composite Financial Inclusion Index (FI-Index) — which combines access, usage, and quality of financial services on a 0–100 scale — has risen steadily every year since its introduction, from 43.4 in March 2017 to 67.0 in March 2025.

**Figure 2. India: RBI Financial Inclusion Index (FI-Index), 2017–2025**





Source: Reserve Bank of India (RBI), Financial Inclusion Index releases, 2017-2025

Chart built from Reserve Bank of India FI-Index press releases, 2017-2025.

#### **5.4 Direct Benefit Transfers**

A distinctive feature of India's government-led model is the integration of financial inclusion with social welfare delivery. The Direct Benefit Transfer (DBT) system channels government subsidies, pensions, and welfare payments directly into Jan Dhan accounts, eliminating intermediaries and reducing leakages, creating a powerful incentive for citizens to maintain active accounts.

#### **5.5 Limitations and Challenges**

Despite its achievements, India's model faces significant challenges. Gender gaps in financial inclusion persist. Cybersecurity concerns have grown alongside digital adoption. Privacy concerns surrounding the Aadhaar biometric database have attracted criticism. Furthermore, account dormancy remains significant — many Jan Dhan accounts were opened to receive government transfers but are not actively used for broader financial services.

### **6. Kenya Case Study — Market-Led FinTech Model**

#### **6.1 Background**

Kenya's financial inclusion challenge in the early 2000s mirrored that of India — a large unbanked population, inadequate banking infrastructure outside urban centres, and high costs associated with formal financial services. In 2006, only 26.7% of Kenyan adults had access to formal financial services (Central Bank of Kenya, FinAccess 2006).

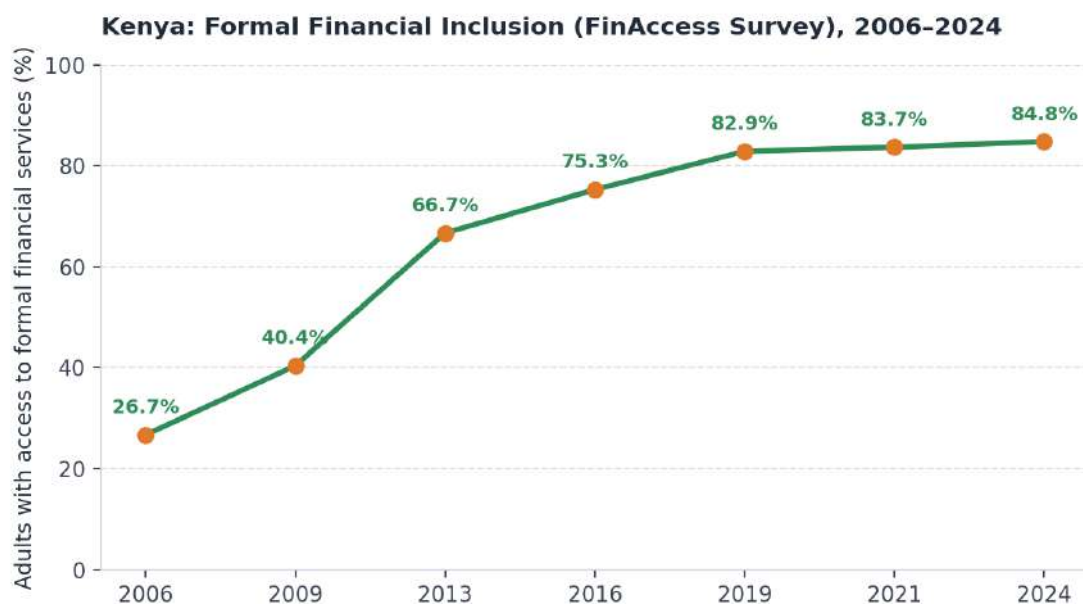


## 6.2 The Emergence of M-Pesa

Kenya's financial inclusion transformation was driven not by state design but by private sector innovation. In 2007, Safaricom launched M-Pesa, an SMS-based mobile money service enabling users to deposit, withdraw, transfer money, and pay for goods and services using a basic mobile phone (Jack & Suri, 2011). By 2025, M-Pesa had over 60 million active users across multiple African countries, processing over 180 million transactions daily with an annual transaction value equivalent to approximately 55% of Kenya's GDP (GSMA, 2025).

The Central Bank of Kenya's FinAccess Household Survey series — the authoritative national dataset on financial inclusion, run jointly with the Kenya National Bureau of Statistics and FSD Kenya since 2006 — documents this transformation in detail. Formal financial access rose from 26.7% in 2006 to 84.8% in 2024, the highest level ever recorded in the survey's seven editions.

**Figure 3. Kenya: Formal Financial Inclusion (FinAccess Household Survey), 2006–2024**



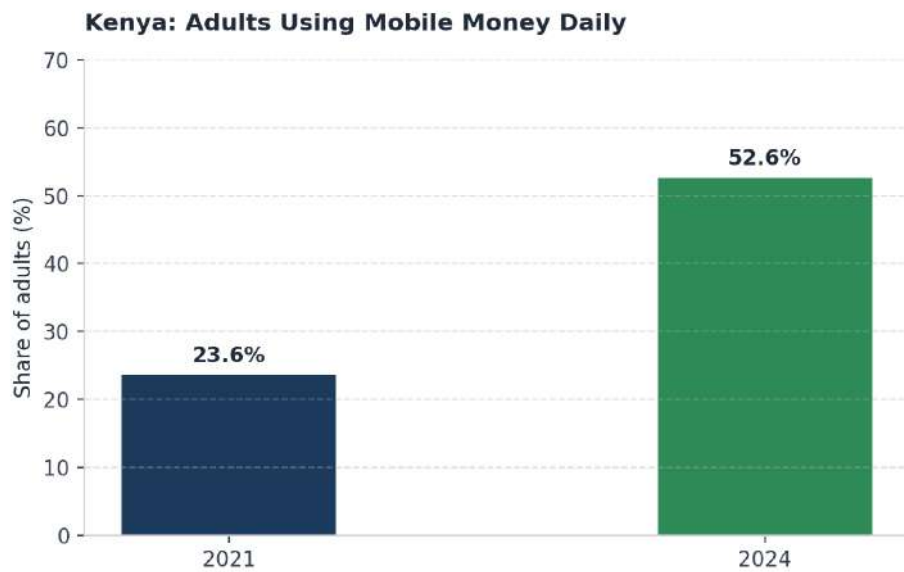
Source: Central Bank of Kenya (CBK), KNBS & FSD Kenya, FinAccess Household Survey, 2006–2024

Chart built from Central Bank of Kenya / KNBS / FSD Kenya FinAccess Household Survey editions, 2006–2024.

The same 2024 survey recorded a sharp rise in daily active usage of mobile money — from 23.6% of adults in 2021 to 52.6% in 2024 — indicating that Kenya's gains have moved beyond simple account-holding into habitual, everyday use (Central Bank of Kenya, 2024).

**Figure 4. Kenya: Adults Using Mobile Money Daily, 2021 vs. 2024**





Source: Central Bank of Kenya, FinAccess Household Survey 2024

Chart built from the Central Bank of Kenya FinAccess Household Survey 2024 topline findings.

### ***6.3 Regulatory Environment***

A critical factor in M-Pesa's success was the Central Bank of Kenya's regulatory approach. Rather than applying existing banking regulations, the CBK adopted a permissive 'test and regulate' stance, allowing M-Pesa to operate under a letter of no objection while regulators studied its impact before formalising oversight (Jack & Suri, 2011).

### ***6.4 Depth of Financial Services***

M-Pesa has evolved significantly beyond its origins as a simple money transfer service. Through partnerships with commercial banks, Safaricom launched M-Shwari in 2012, offering savings accounts and micro-loans directly through the M-Pesa platform. Credit uptake continued to climb in the 2024 FinAccess survey, alongside a steep rise in 'Hustler Fund' and 'buy-now-pay-later' products.

### ***6.5 Limitations and Challenges***

Kenya's market-led model faces significant challenges. Market concentration is a major concern — Safaricom controls approximately 95% of Kenya's mobile money market, creating monopolistic conditions. Transaction fees remain a disproportionate burden for the lowest-income users. A transfer of KES 500 currently costs KES 23, equivalent to 4.6% of the transaction value (Ecofin Agency, 2025).

## ***7. Comparative Analysis***

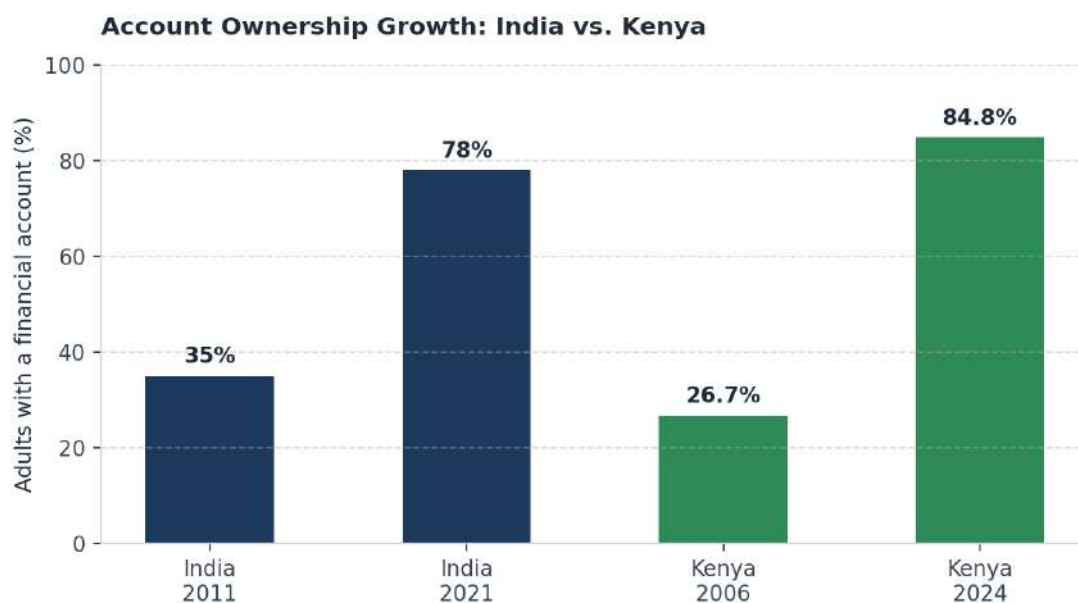


| Dimension         | India (Government-Led)               | Kenya (Market-Led)            |
|-------------------|--------------------------------------|-------------------------------|
| Model Type        | Government-led public infrastructure | Market-led private innovation |
| Key Instrument    | UPI / JAM Trinity                    | M-Pesa                        |
| Regulator Role    | Architect and operator               | Permissive enabler            |
| Cost to User      | Zero fees                            | Transaction fees (avg. 4.6%)  |
| Account Ownership | 78% (2021)                           | 84.8% (2024)                  |
| Depth of Services | Payments-focused; credit emerging    | Payments + credit + savings   |
| Market Structure  | Open and interoperable               | Concentrated (95% Safaricom)  |
| Key Risk          | Data privacy, state dependency       | Monopoly, fee exclusion       |

## 7.1 Access

Both India and Kenya have achieved remarkable gains in financial access through fundamentally different mechanisms. India's state-driven PMJDY scheme created over 500 million bank accounts through top-down mandate, while Kenya's M-Pesa expanded access organically through a market-driven agent network. The chart below places both countries' account-ownership trajectories side by side, using World Bank Global Findex figures for India and Central Bank of Kenya FinAccess figures for Kenya.

**Figure 5. Account Ownership Growth: India vs. Kenya**



Source: World Bank Global Findex Database (2021); Central Bank of Kenya FinAccess Survey (2024)

Chart built from World Bank Global Findex Database (2021) and Central Bank of Kenya FinAccess Household Survey (2024).

Critics note that account dormancy remains a significant challenge in India — many Jan Dhan accounts are not actively used beyond receiving government transfers (Demirguc-Kunt et al., 2021).



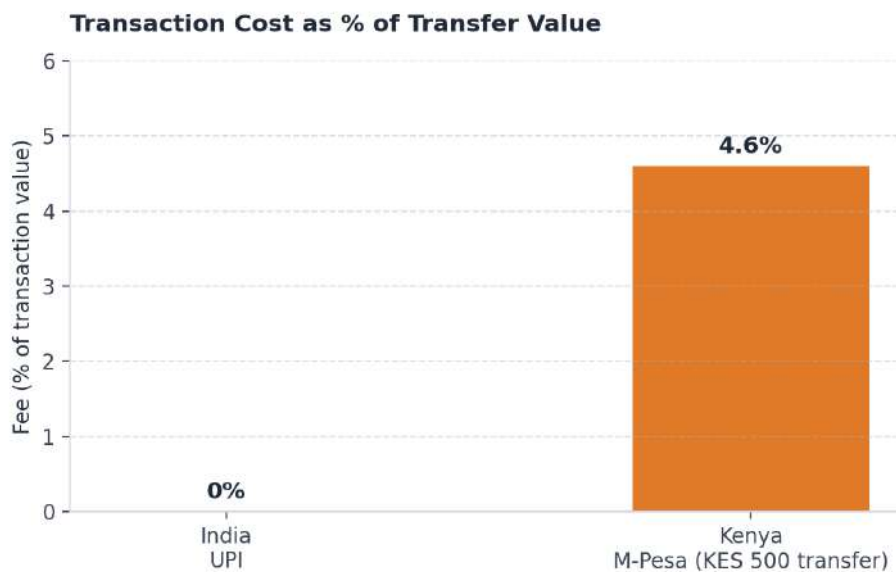
## 7.2 Usage

India's UPI has achieved extraordinary transaction volumes, processing over 172 billion transactions in 2024 and 228.3 billion in 2025 — figures that place it among the largest real-time payment systems in the world (NPCI, 2024, 2026). However, usage remains concentrated in urban and semi-urban areas. Kenya's mobile money ecosystem shows more evenly distributed usage across rural and urban populations, facilitated by the dense agent network (Central Bank of Kenya, 2024).

## 7.3 Cost

Cost represents the starkest difference between the two models. India's UPI operates at zero cost to consumers — a deliberate policy choice reflecting the government's view of payments as public infrastructure. Kenya's M-Pesa charges transaction fees that, while lower than traditional banking costs, remain significant for the poorest users.

**Figure 6. Transaction Cost as a Percentage of Transfer Value**



Source: NPCI (UPI, zero-MDR policy); Ecofin Agency, 2025 (M-Pesa KES 500 transfer fee)

Chart built from NPCI's zero-MDR UPI policy and Ecofin Agency (2025) reporting on M-Pesa's KES 500 transfer fee.

## 7.4 Depth

Kenya has made greater strides in depth of financial inclusion. M-Shwari, Fuliza, and KCB M-Pesa have created pathways from basic payments to more sophisticated financial products, leveraging transaction data to generate credit scores for previously unscored populations. India's depth of inclusion has developed more slowly, though the Account Aggregator framework and the Open Credit Enablement Network (OCEN) aim to address this.



## **7.5 Sustainability**

Each model carries distinct sustainability risks. India's government-led model is vulnerable to political risk and data privacy concerns surrounding Aadhaar. Kenya's market-led model faces the sustainability risks of monopolistic private control — Safaricom's dominance creates systemic risk, and the tension between shareholder returns and financial inclusion objectives may deprioritise the poorest users.

## **8. Findings and Discussion**

This study finds that both government-led and market-led FinTech models can achieve significant gains in financial inclusion, but through different mechanisms and with different trade-offs. Three core findings emerge from the comparative analysis.

### **8.1 Government-Led Models Excel at Broad, Equitable Access**

Government-led models are more effective at achieving broad and equitable access at low cost. India's zero-fee UPI model and state-backed account opening eliminated the cost barriers that exclude the poorest users in market-led systems. This finding is consistent with public goods theory, which predicts that state provision of network infrastructure generates broader social benefits than market provision alone (Samuelson, 1954).

### **8.2 Market-Led Models Excel at Depth and Innovation**

Market-led models demonstrate advantages in depth of inclusion and product innovation. Kenya's M-Pesa ecosystem has moved further along the spectrum from basic payments toward credit, savings, and insurance, driven by competitive incentives and entrepreneurial innovation. This supports Christensen's (1997) disruptive innovation framework, which identifies market competition as a powerful driver of financial service innovation for underserved populations.

### **8.3 Hybrid Models Offer the Most Promising Pathway**

The most effective outcomes may emerge from hybrid models that combine elements of both approaches. India's UPI architecture — state-designed public infrastructure open to private competition — represents an emerging hybrid model that captures the benefits of both approaches. The participation of private players such as PhonePe and Google Pay within UPI's public framework has driven significant user experience innovation while maintaining zero-cost access (Federal Reserve Bank of Kansas City, 2024).

## **9. Conclusion**

### **9.1 Summary of Key Findings**



This study has conducted a systematic comparative analysis of government-led and market-led FinTech models for financial inclusion, using India and Kenya as contrasting case studies. The analysis demonstrates that both models have achieved remarkable progress in expanding financial access, yet the mechanisms, trade-offs, and distributional outcomes of each model differ substantially across the five analytical dimensions of access, usage, cost, depth, and sustainability.

India's government-led model, anchored by the JAM Trinity and UPI, has demonstrated exceptional capacity for broad-based access at zero cost, driven by state mandate and coordinated public infrastructure investment. The integration of financial inclusion with social welfare delivery through Direct Benefit Transfers has been particularly powerful in activating accounts and sustaining usage among low-income populations. However, the model continues to face challenges of gender gaps, account dormancy, and data privacy.

Kenya's market-led model, centred on M-Pesa's private innovation and expansive agent network, has demonstrated greater product depth and rural usage penetration, driven by commercial incentives and a permissive but adaptive regulatory framework. The evolution of M-Pesa from a basic money transfer service into a full financial services ecosystem — encompassing savings, micro-credit, and insurance — demonstrates the power of market-driven innovation when appropriately enabled. Yet, monopolistic market concentration and the financial burden of transaction fees on the poorest users remain unresolved structural challenges.

Critically, neither model is unambiguously superior. Each reflects the institutional, political, and economic context of its home country. The most significant insight to emerge from this comparative analysis is that the dichotomy between government-led and market-led approaches may itself be false. India's UPI framework — a state-designed open infrastructure that invites private competition — offers a compelling third pathway: a hybrid model that preserves the equity and accessibility of public infrastructure while harnessing the innovation and depth of private market participation.

## ***9.2 Broader Implications***

The India–Kenya comparison offers lessons beyond these two countries. Emerging economies across Sub-Saharan Africa, Southeast Asia, and Latin America face the same fundamental challenge: how to design FinTech ecosystems that reach the most excluded populations without sacrificing innovation, sustainability, or user protection. The evidence from this study suggests that the answer lies not in choosing between state and market, but in carefully designing the interface between them.

FinTech's potential as a catalyst for financial inclusion is real and documented. However, that potential is not automatic. It is conditioned by governance structures, regulatory frameworks, cost



architectures, and the deliberate inclusion of women, rural populations, and the informally employed. Technology provides the tools; policy choices determine who benefits.

### ***10. Recommendations***

Based on the comparative analysis of India and Kenya's FinTech models, this study offers the following evidence-based recommendations for policymakers, regulators, and FinTech practitioners in emerging economies:

| <b>Recommendation</b>                                    | <b>Rationale and Evidence Base</b>                                                                                                                                                                                                                         |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Adopt the Hybrid Model</b>                            | India's hybrid architecture — open public payment infrastructure combined with regulated private competition — is a viable, replicable pathway to achieving both breadth and depth of financial inclusion simultaneously.                                  |
| <b>Reform Fee Structures in Market-Led Systems</b>       | Market-led FinTech models must be paired with regulation that constrains fees for low-value transactions. Tiered fee caps, as explored in Kenya's ongoing FinTech reform discussions, can protect the poorest users while preserving commercial viability. |
| <b>Prioritise Gender-Responsive Design</b>               | Both models reveal persistent gender gaps in active usage. Providers must embed gender-responsive design into products, digital literacy programmes, and regulatory requirements.                                                                          |
| <b>Prevent Monopolistic Concentration</b>                | Regulators in market-led systems must actively prevent concentration of the kind observed in Kenya, where one provider controls roughly 95% of the mobile money market. Interoperability mandates and open API requirements are key tools.                 |
| <b>Leverage Transaction Data for Credit Inclusion</b>    | Both models generate vast transaction data that remains underused for credit scoring of the unbanked. Frameworks such as India's Account Aggregator and OCEN can extend responsible credit access.                                                         |
| <b>Invest in Digital and Financial Literacy</b>          | Technology alone is insufficient. Sustained literacy investment, particularly among rural populations, women, and the elderly, is essential to converting account ownership into active participation.                                                     |
| <b>Ensure Cybersecurity and Data Privacy Protections</b> | As digital financial systems accumulate sensitive data, robust cybersecurity frameworks and independent data-protection oversight are non-negotiable.                                                                                                      |
| <b>Enable Regulatory Sandboxes</b>                       | Countries without India's or Kenya's regulatory capacity should consider supervised sandboxes. Kenya's original 'test and regulate' approach, formalised into a structured sandbox, offers a replicable model.                                             |

### ***11. Limitations and Future Research***

This study is subject to several limitations that should inform the interpretation of its findings and guide future research. As a qualitative comparative case study relying exclusively on secondary data, it does not establish causal relationships between governance models and financial inclusion outcomes. The India–Kenya comparison, while analytically rich, may not be directly generalisable to other developing economy contexts with different institutional, political, or cultural conditions.

Future research should employ quantitative panel data methods — such as those used by Umar et al. (2023) — to test the causal relationships identified in this study across a broader sample of developing economies. Additionally, longitudinal research tracking the evolution of hybrid





models such as UPI over time would contribute significantly to the emerging literature on FinTech governance. Primary data collection through household surveys and qualitative interviews with FinTech users, particularly in rural areas, would provide ground-level insights that secondary data cannot capture.

The rapidly evolving nature of FinTech also means that findings documented here may be partially superseded by innovations emerging after the data collection period. Future studies should incorporate real-time transaction data, emerging technologies such as central bank digital currencies (CBDCs), and the growing role of artificial intelligence in credit scoring and financial product design.

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