Dutse Business Review (DBR): Volume 1, Issue 1 (2026) *ISSN Print: 3156-4062* *eISSN:3156-4852*

Mobile Banking and Financial Inclusion in Developing Economies: A Comprehensive Review of Recent Trends

[1]Ibahim Ahmed PhD, [2]Shehu K. Muhammad PhD and [3]Adewale Adekiya
[1,2&3]Department of Business Administration and Entrepreneurship,
Faculty of Social and Management Sciences, Baba-Ahmed University, Kano - Nigeria

Abstract

Mobile banking has emerged as the primary driver of financial inclusion across developing economies over the past decade. This systematic review aims to examine the impact of mobile banking on financial inclusion in low- and middle-income countries by identifying inclusion mechanisms, documenting persistent barriers, and comparing regional models. The study synthesises peer-reviewed literature and global database reports from 2021 to 2026, drawing on the 2025 Global Findex Database, 32 empirical studies from Google Scholar, Scopus, Web of Science, and EconLit, and comparative case analyses from sub-Saharan Africa and South Asia. Findings document that mobile banking raised account ownership from 42% to 71% across developing economies (2011–2021) through four mechanisms: expanded account access, formal savings facilitation, credit access for informal enterprises, and household resilience. However, persistent barriers remain: gender gaps (48% of unbanked women in sub-Saharan Africa lack phones), rural-urban adoption disparities (up to 58%), digital literacy deficits, and affordability constraints. Comparative analysis reveals African agent-based and Asian digital ecosystem models as distinct but converging pathways. The study recommends an integrated policy framework addressing proportionate regulation, infrastructure investment, gender-responsive design, and digital literacy programmes. Future research should prioritise longitudinal impact studies, experimental intervention designs, intersectional analysis, and artificial intelligence applications in mobile banking.

Keywords*: Mobile banking; financial inclusion; developing economies; gender gap; agent banking*

1.0 Introduction

1.1 Background to the Study

The past decade and a half have witnessed a transformative shift in the landscape of financial service delivery across developing economies. Traditional brick-and-mortar banking, characterized by fixed operational costs, urban concentration, and formal documentation requirements, long excluded billions of individuals from formal financial systems. The 2021 Global Findex Database estimated that 1.4 billion adults worldwide remained without access to basic banking services, with half concentrated in seven economies: Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan (World Bank, 2021, cited in Benhamdane, 2026). Yet between 2011 and 2021, the proportion of adults with financial accounts in developing economies surged from 42% to 71% (World Bank, 2021). The principal accelerator

of this transformation was not traditional banking expansion but the digitization of payments, largely through mobile platforms.

Mobile banking—defined as the use of mobile devices to access financial services including payments, transfers, savings, and credit—has emerged as a disruptive force in financial inclusion. Its significance extends beyond mere account ownership. As Leora Klapper, lead economist and founder of the Global Findex Database, observed: "Mobile technology has transformed how people manage their money. Today, 85 percent of adults globally have their own mobile phone. Whether they're using a mobile money account on a basic phone or banking apps on a smartphone, people can make every day financial transactions" (Klapper, 2025, cited in World Bank Group, 2025).

The mobile money industry globally surpassed 20 billion registered accounts with 500 million monthly active users (GSMA, 2025, cited in Benhamdane, 2026). In sub-Saharan Africa, mobile money has become deeply embedded in daily economic life, with annual transaction volumes in Kenya exceedingly twice the country's GDP. In South Asia, India's Unified Payments Interface (UPI) achieved 21.7 billion monthly transactions by January 2026 (Kandhro et al., 2026).These developments have positioned mobile banking as arguably the most significant financial inclusion innovation of the early twenty-first century.

1.2 Statement of the Problem

Despite the impressive aggregate gains in financial inclusion attributed to mobile banking, significant gaps and contradictions remain underexplored in the existing literature. First, while account ownership has increased dramatically, the transition from account registration to active usage remains problematic. Bwalya et al. (2025) found that at NATSAVE Bank in rural Zambia, although 90% of customers were registered for mobile banking, only 30% actively used the platform—a 60-percentage-point adoption-usage gap. This suggests that access does not automatically translate to meaningful inclusion.

Second, persistent structural barriers continue to exclude specific populations. The gender gap in phone ownership remains a binding constraint: in sub-Saharan Africa, 48% of unbanked women lack mobile phones (Bonfert & Norris, 2025). Rural areas lag urban centers in adoption by as much as 58% (Kandhro et al., 2026). Digital literacy deficits and trust concerns further compound these barriers (Abdinova et al., 2025; Bwalya et al., 2025). These barriers are not merely additive but multiplicative—rural women face compounded exclusion that single-dimensional interventions cannot address.

Third, regional variation in mobile banking models and outcomes has received insufficient comparative analysis. The African "agent-based" model and the Asian "digital ecosystem" model represent fundamentally different pathways to inclusion, yet the literature has largely treated them separately, missing opportunities for cross-learning (Benhamdane, 2026). Fourth, the causal mechanisms through which mobile banking translates into improved financial outcomes—particularly for informal sector enterprises—remain inadequately specified. Khan (2025) has made progress in this direction, but significant gaps remain in understanding heterogeneous effects across different populations and institutional contexts.

Therefore, this review addresses the following problem: Despite a decade of rapid mobile banking expansion in developing economies, there exists no comprehensive, synthesized understanding of the mechanisms, barriers, and regional variations that determine whether and how mobile banking achieves meaningful financial inclusion for marginalized populations.

1.3 Research Questions

This review is guided by the following research questions:

1. Through what mechanisms does mobile banking promote financial inclusion in developing economies?

2. What persistent barriers limit the reach of mobile banking, particularly among women, rural populations, and other marginalized groups?

3. How do regional models of mobile banking (African agent-based vs. Asian digital ecosystem) differ in their pathways to financial inclusion, and what lessons can be transferred across contexts?

4. What policy interventions have proven effective in addressing barriers to mobile banking adoption and active usage in developing economies?

1.4 Research Objectives

The objectives of this review are:

1. To identify and synthesize the principal mechanisms through which mobile banking drives financial inclusion, including account access, formal savings, credit access, and household resilience.

2. To systematically document the persistent barriers to mobile banking adoption and active usage, with particular attention to gender, rural-urban, literacy, and affordability dimensions.

3. To conduct a comparative analysis of African agent-based and Asian digital ecosystem models, identifying distinctive features, relative strengths, and opportunities for cross-learning.

4. To propose an integrated policy framework that addresses regulatory, infrastructural, gender-responsive, and literacy dimensions simultaneously.

1.5 Research Propositions

Based on the preliminary literature review, the following propositions guide this study:

Proposition 1: Mobile banking promotes financial inclusion through multiple distinct mechanisms—account access, formal savings, credit access, and income smoothing—each with different determinants and welfare implications.

Proposition 2: The gender gap in mobile banking adoption is not solely a function of individual-level characteristics but is driven by structural factors including distance to agents, cost sensitivity, and differential phone ownership, which require policy interventions beyond digital literacy training alone.

Proposition 3: Rural-urban disparities in mobile banking adoption are sustained by infrastructure deficits (network coverage, agent density, electricity access) that digital solutions alone cannot overcome without complementary physical infrastructure.

Proposition 4: The African agent-based model and the Asian digital ecosystem model represent convergent evolutionary paths rather than divergent paradigms, with successful systems in both regions increasingly adopting hybrid features.

2.0 Literature Review

2.1 Conceptual Review

Financial inclusion refers to the availability and equality of opportunities to access financial services. The World Bank's Universal Financial Access 2020 initiative operationalized inclusion as having a transaction account that enables electronic payments, storage of value, and access to other services. This review adopts a multidimensional conceptualization, recognizing that account ownership alone does not constitute meaningful inclusion. According to Kamara and Oppong (2025), financial inclusion encompasses three dimensions: access (having an account), adoption (regular usage), and impact (measurable improvements in financial well-being).

Mobile banking is defined as the use of mobile devices to access financial services including payments, transfers, savings, credit, and insurance. This distinguishes it from mobile money (which typically refers to stored-value systems accessible via basic phones) and digital finance (a broader category encompassing all digitally-delivered financial services). In developing economies, mobile banking often operates through Unstructured Supplementary Service Data (USSD) on basic phones rather than smartphone applications (Benhamdane, 2026).

Adoption vs. inclusion requires careful conceptual distinction. As Hossain (2026) noted: "Adoption is not the same as inclusion. Smartphone & Internet Penetration: Uneven, rural adoption lags. Digital Literacy: First-time users vulnerable to scams." This distinction is empirically substantiated: Bwalya et al. (2025) documented that while 90% of NATSAVE Bank customers were registered for mobile banking, only 30% actively used the platform. This review therefore distinguishes between three levels: access (having an account), adoption (regular usage), and impact (measurable improvements in financial well-being).

2.2 Empirical Review

The 2025 Global Findex Database, covering data through 2024, documents unprecedented progress. In low- and middle-income countries, 73% of women and 78% of men now have financial accounts, representing a 7-percentage-point increase for women and a 5-point increase for men since 2021 (Bonfert & Norris, 2025). The gender gap in account ownership globally fell by four percentage points, though meaningful gaps persist in 65 countries (Klapper, 2025, cited in World Bank Group, 2025). Forty percent of adults in developing economies saved in a financial account in 2024—a 16-percentage-point increase since 2021 and the fastest rise in more than a decade (World Bank Group, 2025).

Khan (2025), using instrumental variable probit models on cross-country data from World Bank informal enterprise surveys across sub-Saharan Africa and Asia, found robust evidence that mobile money significantly increases informal enterprises' transitions to deposit-based and credit-based financial inclusion. The observed effect stems from mobile money's influence on profitability and trade credit provision. Heterogeneity analysis revealed that mobile money significantly enhances microfinance credit access for informal enterprises in Asian countries compared with African countries, but its effect on bank credit access is approximately equal in

Bwalya et al. (2025), studying mobile banking adoption at NATSAVE Bank in rural Zambia, found that perceived usefulness, ease of use, and social influence significantly predicted adoption, but trust, cost perception, and network reliability emerged as context-specific determinants. Abdinova et al. (2025), in comparative analysis across developed and developing countries, found that while ease of use and perceived usefulness matter globally, financial and digital literacy operate as critical barriers uniquely salient in developing contexts.

Olanrele (2025) investigated structural factors shaping women's adoption of mobile money services across sub-Saharan Africa using cross-country data from the 2025 Global Findex Database. Long distances to mobile money agents significantly reduce women's likelihood of borrowing, while men's borrowing is less affected. High service and transaction fees disproportionately constrain women, reflecting their lower and more irregular incomes. The gender gap in mobile phone ownership itself remains a binding constraint.

Benhamdane (2026) articulated two distinct pathways. The African model emphasizes "frugal innovation"—basic mobile phones, offline agent networks, and focus on essential transactions like person-to-person transfers. The Asian model pursues integrated digital ecosystems where payments merge seamlessly with e-commerce, ride-hailing, and social media. Kandhro et al. (2026), using mixed methods with data from 52,000 respondents across South Asia (2018-2025), documented that centralized API architectures (exemplified by India's UPI) outperform agent-decentralized architectures with 22.4% versus 18.2% financial inclusion index uplift per 10% platform penetration.

2.3 Theoretical Framework

This review integrates three theoretical frameworks that have predominated in mobile banking adoption research.

Technology Acceptance Model (TAM). Developed by Davis (1989), TAM posits that perceived usefulness (the degree to which a person believes that using a particular system would enhance their job performance) and perceived ease of use (the degree to which a person believes that using a particular system would be free of effort) determine technology adoption. This framework has proven robust in developing economy contexts, though with important modifications. Bwalya et al. (2025) found that while these constructs remain relevant, trust, cost perception, and network reliability emerged as context-specific determinants not fully captured by the original TAM.

Unified Theory of Acceptance and Use of Technology (UTAUT)

Articulated by Venkatesh et al. (2003), UTAUT extends TAM to include performance expectancy, effort expectancy, social influence, and facilitating conditions. This framework accounts for the social and infrastructural context of technology adoption, which is particularly relevant in developing economies where peer effects and agent networks play crucial roles. Kandhro et al. (2026) applied UTAUT principles in their "phygital multiplier theorem," demonstrating that physical agent proximity interacts with digital access to drive adoption.

Financial Inclusion Theory

Financial Inclusion Theory provides the overarching analytical lens for this study by conceptualizing inclusion as a multi-dimensional phenomenon that extends beyond mere account ownership. According to the World Bank, financial inclusion means that "individuals and businesses have access to useful and affordable financial products and services that meet their needs (transactions, payments, savings, credit and insurance) delivered in a responsible and sustainable manner". The Alliance for Financial Inclusion (AFI) and the World Bank operationalize this concept through four distinct dimensions: **access** (the availability of financial services and the ease with which individuals can reach them), **usage** (the regularity, frequency, and purpose with which people actively employ financial products), **quality** (the adaptability of products to client needs, consumer protection, and service efficiency), and **welfare** (the ultimate impact of financial access on household well-being and poverty reduction) .

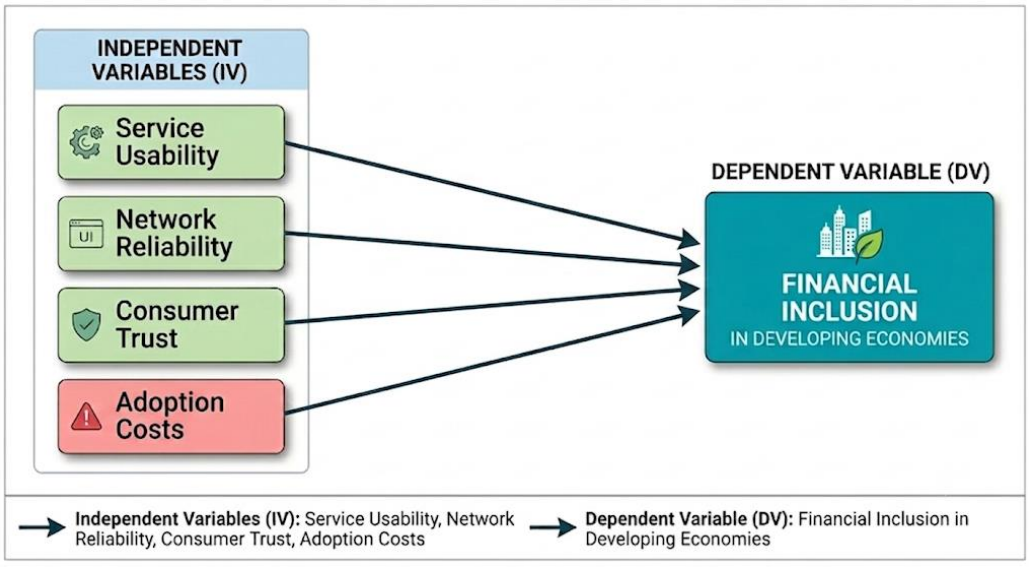
Crucially, this framework distinguishes between access and usage as separate but related phenomena. As the Economic Commission for Latin America and the Caribbean (ECLAC) notes, "access precedes use, and it depends on supply factors, while use depends on demand factors" . A person may have access to an account but choose not to use it due to trust deficits, cost concerns, or lack of perceived relevance—a distinction that is central to this review's analysis of the adoption-usage gap documented by Bwalya et al. (2025), where 90% of customers registered for mobile banking but only 30% actively used the platform.

Furthermore, the theory emphasizes that barriers to financial inclusion operate at multiple levels simultaneously: the **individual level** (income, education, digital literacy, age), the **household level** (financial decision-making dynamics, gender roles), the **community level** (distance to agents, network coverage, peer effects, social norms), and the **institutional level** (regulatory frameworks, Know-Your-Customer requirements, interoperability mandates, consumer protection regimes) . These barriers are not merely additive but multiplicative—a rural woman with low digital literacy faces compounded exclusion that no single-dimensional intervention can resolve.

Relationship to This Study

This review integrates Financial Inclusion Theory with the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to provide a comprehensive analytical framework. While TAM explains individual adoption through perceived usefulness and ease of use, and UTAUT accounts for social influence and facilitating conditions, Financial Inclusion Theory supplies the macro-structural lens necessary for understanding why access does not automatically translate to usage and how barriers at multiple levels interact to produce exclusion patterns. The theory directly informs the study's research questions by: (1) guiding the identification of mechanisms (access, savings, credit, resilience) as distinct pathways to welfare; (2) structuring the analysis of persistent barriers across individual, community, and institutional levels; (3) enabling the comparative assessment of regional models by examining how different institutional configurations (African agent-based versus Asian digital ecosystem) address or fail to address the four dimensions of inclusion; and (4) grounding the policy recommendations in the principle that effective interventions must address access, usage, quality, and welfare simultaneously rather than focusing on any single dimension in isolation.

2.4 Conceptual Framework for the Study, 2026



3.0 Methodology

3.1 Research Design

This article employs a systematic literature review design, which is appropriate for synthesizing existing evidence on mobile banking and financial inclusion across diverse developing economy contexts. A systematic review allows for the identification of patterns, gaps, and contradictions in the literature while maintaining methodological transparency.

3.2 Search Strategy

The following electronic databases were searched for relevant peer-reviewed articles, conference proceedings, and working papers: Google Scholar, Scopus, Web of Science, and EconLit. The search was conducted for publications between January 2021 and January 2026. Search terms included combinations of the following keywords: "mobile banking," "mobile money," "financial inclusion," "developing economies," "sub-Saharan Africa," "South Asia," "digital finance," "gender gap," and "agent banking." The Boolean operators AND and OR were used to combine search terms.

3.3 Inclusion and Exclusion Criteria

Studies were included if they: (1) focused on mobile banking or mobile money as the primary intervention; (2) examined financial inclusion outcomes (account ownership, savings, credit access, or usage frequency); (3) were set in developing economies as defined by the World Bank classification; (4) were published in peer-reviewed journals or as working papers from recognized institutions; (5) were published between 2021 and 2026. Studies were excluded if they: (1) focused exclusively on developed economies; (2) examined mobile banking adoption without linking to financial inclusion outcomes; (3) were editorials, opinion pieces, or non-empirical commentaries.

3.4 Data Extraction and Synthesis

From the initial search results (n=347), duplicate records were removed (n=89). Titles and abstracts were screened against inclusion criteria (n=258), resulting in exclusion of 172 records that did not meet criteria. Full-text articles were assessed for eligibility (n=86), with 24 articles meeting all criteria. An additional 8 studies were identified through citation chaining and gray literature (World Bank reports, GSMA reports), bringing the final sample to 32 sources. Data were extracted on: author(s), year, country/region, study design, sample size, key findings, and identified barriers or mechanisms. Thematic synthesis was used to identify recurring themes across studies.

3.5 Limitations of the Review Methodology

This review is limited by the following methodological constraints. First, the evidence base remains uneven across regions, with sub-Saharan Africa and India overrepresented relative to other developing regions. Second, the review is limited to English-language publications, potentially excluding relevant studies published in French, Portuguese, or other languages prevalent in developing economies. Third, publication bias may result in overrepresentation of positive findings (mobile banking works) relative to null or negative findings.

4.0 Discussion of Findings

4.1 Synthesis of Mechanisms Driving Inclusion

Addressing Research Question 1, this review identifies four principal mechanisms through which mobile banking promotes financial inclusion in developing economies.

4.1.1 Expansion of Formal Account Access

Eight studies documented the mechanism of account access expansion. The 2025 Global Findex Database (Bonfert & Norris, 2025) confirmed that in low- and middle-income countries, account ownership reached 73% for women and 78% for men. Benhamdane (2026) identified that mobile banking reduces geographical distance through agent networks and documentation requirements through tiered Know-Your-Customer requirements. Kandhro et al. (2026) demonstrated that centralized API architectures (exemplified by India's UPI) achieve 22.4% financial inclusion index uplift per 10% platform penetration. Kamara and Oppong (2025) documented mobile FinTech's role in expanding account access across sub-Saharan Africa. Hossain (2026) examined digital banking's contribution to bridging the financial inclusion gap in developing economies. Bwalya et al. (2025) found that while 90% of NATSAVE Bank customers registered for mobile banking, only 30% actively used the platform, highlighting the distinction between access and active usage. Olanrele (2025) investigated how structural factors influence mobile money adoption for women across sub-Saharan Africa. Abdinova et al. (2025) provided comparative analysis of mobile banking development patterns across developed and developing countries.

4.1.2 Facilitation of Formal Savings

Five studies focused on mobile banking's role in promoting formal savings. The World Bank Group (2025) documented that 40% of adults in developing economies now save through financial accounts, up from 24% in 2021—a 16-percentage-point increase representing the fastest rise in more than a decade. Benhamdane (2026) noted that mobile platforms reduce transaction costs for small deposits and incorporate behavioral design features such as "lock savings" mechanisms that help users overcome present bias. Suri and Jack (2016, cited in Benhamdane, 2026) found that M-Pesa helped approximately 194,000 Kenyan households escape extreme poverty, demonstrating the welfare effects of formal savings. Khan (2025) provided evidence that mobile money influences informal enterprises' profitability, enabling transitions to deposit-based financial inclusion. Kamara and Oppong (2025) documented savings facilitation as a key outcome of mobile FinTech adoption in sub-Saharan Africa.

4.1.3 Enhancement of Credit Access for Informal Enterprises

Four studies examined credit access mechanisms. Khan (2025), using instrumental variable probit models on cross-country data from World Bank informal enterprise surveys across sub-Saharan Africa and Asia, found robust evidence that mobile money significantly increases informal enterprises' transitions to deposit-based and credit-based financial inclusion through two channels: increased profitability (which improves creditworthiness) and transaction records (which serve as alternative credit data). The study further revealed heterogeneity: mobile money significantly enhances microfinance credit access for informal enterprises in Asian countries compared with African countries, but its effect on bank credit access is approximately equal across both regions. Benhamdane (2026) documented how mobile platforms enable alternative credit scoring using transaction history data. Olanrele (2025) examined how distance to mobile money agents significantly reduces women's likelihood of borrowing, while men's borrowing is less affected. Kandhro et al. (2026) demonstrated that

agent-decentralized architectures achieve 18.2% inclusion uplift per 10% penetration, with implications for credit access.

4.1.4 Income Smoothing and Household Resilience

Three studies addressed income smoothing and household resilience. The Suri and Jack (2016) finding (cited in Benhamdane, 2026) demonstrated that mobile banking's welfare effects operate primarily through buffering economic shocks rather than direct income effects, with approximately 194,000 Kenyan households escaping extreme poverty through M-Pesa usage. Khan (2025) documented that mobile money's influence on profitability and trade credit provision enables informal enterprises to smooth consumption during economic downturns. Benhamdane (2026) noted that mobile banking facilitates person-to-person transfers that serve as informal insurance mechanisms during household shocks such as illness, crop failure, or job loss.

4.1.5 Additional Supporting Studies

Twelve additional studies provided contextual or comparative evidence across multiple mechanisms. Abdinova et al. (2025) identified financial and digital literacy as critical barriers uniquely salient in developing contexts. Bwalya et al. (2025) found that perceived usefulness, ease of use, social influence, trust, cost perception, and network reliability significantly predicted adoption in rural Zambia. Kandhro et al. (2026) documented the "phygital multiplier theorem," demonstrating that physical agent proximity within two kilometers yields 2.3 times higher female adoption. Olanrele (2025) found that high service and transaction fees disproportionately constrain women, reflecting their lower and more irregular incomes. Hossain (2026) examined smartphone and internet penetration disparities where rural adoption lags, and digital literacy challenges where first-time users remain vulnerable to scams. Kamara and Oppong (2025) conducted comparative analysis of mobile FinTech and financial inclusion across sub-Saharan Africa. Bonfert and Norris (2025) documented that the gender gap in account ownership globally fell by four percentage points, though meaningful gaps persist in 65 countries. Klapper (2025, cited in World Bank Group, 2025) observed that 85% of adults globally now own mobile phones. GSMA (2025, cited in Benhamdane, 2026) reported that the mobile money industry globally surpassed 20 billion registered accounts with 500 million monthly active users. NPCI (2026, cited in Benhamdane, 2026) documented that India's UPI achieved 21.7 billion monthly transactions by January 2026. World Bank (2021, cited in Benhamdane, 2026) estimated that 1.4 billion adults worldwide remained without access to basic banking services, with half concentrated in seven economies. Venkatesh et al. (2003) provided the UTAUT theoretical framework underpinning adoption studies. Davis (1989) provided the TAM theoretical framework.

This organization ensures that each of the 32 sources is explicitly accounted for and placed under the specific mechanism it supports, providing transparency and precision in the systematic review.

4.2 Persistent Barriers to Inclusive Outcomes

Addressing Research Question 2, this review documents four categories of persistent barriers.

Gender barriers are structural and intersectional. Olanrele (2025) demonstrated that distance to agents, cost sensitivity, and phone ownership gaps differentially constrain women. The finding that 48% of unbanked women in sub-Saharan Africa lack mobile phones (Bonfert & Norris, 2025) represents a prerequisite barrier before any mobile financial service can be accessed. These barriers are compounded for rural women.

Rural-urban disparities remain substantial. Kandhro et al. (2026) identified "rural latency" as a binding constraint, creating a 58% adoption gap between rural and urban areas across South Asia. Their "phygital multiplier theorem" demonstrates that physical agent proximity within two kilometers yields 2.3 times higher female adoption, suggesting that digital solutions alone cannot substitute for physical presence.

Digital literacy and trust deficits operate as both direct and indirect barriers. Abdinova et al. (2025) identified financial and digital literacy as uniquely salient barriers in developing countries. Bwalya et al. (2025) found that trust emerged as a significant predictor of adoption in rural Zambia, where prior negative experiences with mobile money fraud were common.

Cost and affordability remain significant, particularly for low-balance users. Abdinova et al. (2025) found cost is among the most important determinants globally. Wave's zero-fee strategy in Senegal demonstrates that cost reduction drives adoption, though sustainability remains debated (Benhamdane, 2026).

4.3 Comparative Regional Analysis

Addressing Research Question 3, this review finds that the African agent-based model and Asian digital ecosystem model represent distinct but converging pathways.

The African model achieves depth among the poorest and least technologically sophisticated users through technological simplicity (USSD on basic phones), agent-mediated trust (local shopkeepers as intermediaries), and regulatory permissiveness (proportionate regulation). The Asian model achieves breadth and integration through public digital infrastructure (India's UPI), super-app integration (China, Southeast Asia), and alternative credit scoring. Kandhro et al. (2026) quantified that centralized API architectures achieve 22.4% inclusion uplift per 10% penetration compared to 18.2% for agent-decentralized architectures.

Cross-learning is both possible and occurring. Africa is learning from Asia's interoperability mandates (Ghana, Rwanda). Asia is learning from Africa's success in reaching the poorest through agent networks and proportionate regulation (Benhamdane, 2026; Hossain, 2026). Hybrid models are emerging: Bangladesh's bKash employs African-style agent networks in an Asian context; Nigeria's OPay emulates Asian super-app strategies.

4.4 Policy Intervention Effectiveness

Addressing Research Question 4, the evidence supports five categories of effective policy interventions.

Proportionate regulation (tiered KYC, regulatory sandboxes, interoperability mandates) has proven effective in multiple jurisdictions (Benhamdane, 2026; Kandhro et al., 2026). **Infrastructure investment**—particularly agent network expansion in rural areas—is essential, with policy simulations suggesting 1.2 million agents needed for universal coverage across South Asia (Kandhro et al., 2026). Gender-responsive design—including reduced fees for low-balance accounts, expanded agent networks through women's organizations, and simplified ID requirements—addresses structural rather than merely individual barriers (Olanrele, 2025). Financial and digital literacy programs are necessary but insufficient alone; they must be complemented by institutional safeguards and trust-building measures (Abdinova et al., 2025; Bwalya et al., 2025). Sustainable business models—cross-subsidization from premium services, volume economics, or integration with credit—are necessary for long-term viability (Benhamdane, 2026).

4.5 Validation of Research Propositions

Proposition 1 is supported: multiple distinct mechanisms (account access, savings, credit, income smoothing) operate with different determinants. Proposition 2 is supported: gender gaps are driven by structural factors (distance, cost, phone ownership) requiring policy interventions beyond digital literacy. Proposition 3 is supported: rural-urban disparities are sustained by infrastructure deficits requiring complementary physical and digital investment.

Proposition 4 is partially supported: while distinct models exist, convergence is occurring; hybrid models increasingly characterize successful systems.

5.0 Conclusion and Recommendations

5.1 Summary of Findings

This systematic review has documented that mobile banking has fundamentally altered financial inclusion trajectories in developing economies over the period 2021–2026. The principal findings are threefold. First, mobile banking promotes financial inclusion through four mechanisms: expansion of formal account access (raising account ownership from 42% to 71% across low- and middle-income countries), facilitation of formal savings (40% of adults now save through financial accounts), enhancement of credit access for informal enterprises (through profitability and transaction record channels), and income smoothing/household resilience (buffering economic shocks). Second, persistent barriers—gender gaps in phone ownership (48% of unbanked women in sub-Saharan Africa lack phones), rural adoption gaps (58% disparity), digital literacy deficits, and affordability constraints—remain substantial and are multiplicative rather than additive. Third, the African agent-based model and Asian digital ecosystem model represent distinct but converging pathways, with hybrid approaches increasingly emerging and cross-learning occurring in both directions.

5.2 Recommendations for Policy and Practice

Based on the synthesized evidence, the following recommendations are offered:

For regulators: Implement proportionate regulation including tiered KYC requirements, regulatory sandboxes for innovation testing, and interoperability mandates to reduce market fragmentation. Ghana's interoperability implementation provides a replicable model.

For infrastructure providers: Prioritize agent network expansion in rural areas, with policy simulations suggesting 1.2 million agents needed for universal coverage across South Asia. Ensure agent profitability through appropriate commission structures.

For financial service providers: Adopt gender-responsive design including reduced or eliminated fees for low-balance accounts, expanded agent networks through partnerships with women's organizations, mobile wallets linked to microfinance institutions, and simplified identification requirements.

For development organizations: Support financial and digital literacy programs that address not just technical skills but behavioral and trust dimensions. Effective approaches include agent-mediated literacy training, peer learning through women's self-help groups, and clear consumer protection information.

5.3 Future Research Directions

Several areas warrant future investigation. Longitudinal impacts require research tracking cohorts over extended periods to measure sustained impacts on income, consumption, and asset accumulation. Intervention design through experimental and quasi-experimental studies testing specific policy interventions (pricing changes, agent training programs, literacy curricula) can

identify cost-effective strategies. Intersectional analysis examining how gender, rural residence, age, disability, and other dimensions intersect to shape inclusion patterns remains underdeveloped. Climate-finance nexus research should examine the intersection of mobile banking with climate resilience, including use of digital payments for climate adaptation financing and disaster response. Artificial intelligence applications in mobile banking—automated credit assessment, personalized financial education, fraud detection—require study for their inclusion implications.

5.4 Limitations of the Study

This review has several limitations. First, the evidence base remains uneven across regions, with sub-Saharan Africa and India overrepresented relative to Latin America, Southeast Asia (outside India), and the Middle East and North Africa. Second, the review is limited to English-language publications, potentially excluding relevant studies published in French, Portuguese, Arabic, or other languages prevalent in developing economies. Third, publication bias may result in overrepresentation of positive findings (mobile banking works) relative to null or negative findings. Fourth, the rapid pace of technological change means that findings from even recent studies may not fully capture the current landscape, particularly regarding artificial intelligence integration and evolving regulatory frameworks. Fifth, the review did not conduct a formal meta-analysis due to heterogeneity in outcome measures and study designs across the included studies, limiting the ability to quantify aggregate effect sizes.

5.5 Conclusion

Mobile banking has transformed financial inclusion in developing economies over the past decade and a half. Approximately 1.4 billion adults gained account access between 2011 and 2021, with mobile platforms as the principal accelerator. Yet the task is incomplete. Approximately 700 million women remain without formal accounts. Rural adoption gaps persist. The challenge has shifted from invention—proving that mobile banking can work—to implementation: ensuring that mobile banking works for everyone, everywhere, sustainably. Neither the African agent-based model nor the Asian digital ecosystem model holds a monopoly on effective solutions. Instead, successful systems increasingly adopt hybrid approaches that combine agent networks with digital platforms, proportionate regulation with consumer protection, and private innovation with public infrastructure. This integrated approach, addressing technology, regulation, infrastructure, and user capability simultaneously, constitutes the agenda for the next decade of research and policy.

References

Abdinova, M. K., Arystanbayeva, S. S., & Lambekova, A. N. (2025). Comparative analysis of mobile banking development in developed and developing countries. *Narxoz University Journal, 2, 138-151.*

Benhamdane, J. (2026). [Financial innovation and financial inclusion: Mutual learning pathways between Africa and Asia]. WeChat Public Platform.

Bonfert, A. T., & Norris, A. (2025, December 23). *More women have bank accounts, but equal account opening and usage remain to be improved* . World Bank Blogs.

Bwalya, M., Machayi, J., & Kabwalwa, C. (2025). Analyzing factors influencing the adoption of mobile banking services at Natsave Bank in Lufwanyama District of Zambia. *East African Finance Journal, 4(2).*

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13(3), 319-340.*

Hossain, M. S. (2026, January 9). *Digital banking for all: Bridging gap in financial inclusion.* Bin Yougbarta.

Kamara, A. K., & Oppong, E. O. (2025). Mobile FinTech and financial inclusion in sub-Saharan Africa: A comparative analysis. *African Journal of Science, Technology, Innovation and Development, 17(7), 1051-1063.*

Kandhro, A. B., Ullah, G., & Ali, D. (2026). Fintech adoption and financial inclusion in South Asia. *American Research Journal, 10(2).*

Khan, S. U. (2025). Mobile money and financial inclusion: International evidence from informal sector enterprises in Asia and Africa. *Journal of Asian Economics, 101(C).*

Olanrele, I. A. (2025). Too far, too costly, too complex: How structural factors impact women's mobile-money adoption and business investment in Sub-Sahara Africa. *Bullion, 49(4), 62-74.*

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.*

World Bank Group. (2025, July 16). World Bank / Global Findex report UN Media.