

<https://doi.org/10.59298/NIJRE/2026/613944>

# Fintech Inclusion versus Exclusion: Beneficiaries and Impediments within Mobile Money Ecosystems

Nanyonjo Sauda

Science Education Kampala International University Uganda

Email [nanyonjosauda@kiu.ac.ug](mailto:nanyonjosauda@kiu.ac.ug)

## ABSTRACT

Financial technology (fintech) has transformed financial service delivery across developing and emerging economies, with mobile money ecosystems emerging as a key instrument for promoting financial inclusion. By enabling low-cost digital payments, savings, transfers, and credit services through mobile devices, mobile money has the potential to integrate previously unbanked populations into the formal financial system. This paper examines the dynamics of fintech inclusion and exclusion within mobile money ecosystems, focusing on identifying the primary beneficiaries of inclusion as well as the structural and behavioral barriers that hinder broader participation. Drawing on theoretical perspectives such as the capability approach, accessibility theory, and network effects, the study analyzes how ecosystem architecture including providers, agents, merchants, regulators, and digital technologies, shapes access and usage patterns. Evidence from empirical studies across Africa, Asia, and Latin America shows that mobile money services significantly benefit low-income households, small merchants, rural populations, and women by facilitating savings, remittances, and reduced transaction costs. However, several impediments continue to restrict equitable participation, including high transaction costs, digital and financial literacy gaps, limited agent availability, regulatory friction, liquidity constraints, and socio-cultural barriers. These challenges highlight the coexistence of inclusion and exclusion within the same financial ecosystem. The paper also explores policy and regulatory strategies designed to enhance inclusive outcomes, such as expanding agent networks, improving interoperability, strengthening consumer protection, and investing in digital literacy initiatives. Ultimately, the study demonstrates that while mobile money ecosystems offer substantial opportunities for financial empowerment, achieving truly inclusive fintech systems requires coordinated efforts addressing both supply-side and demand-side constraints.

**Keywords:** Fintech Inclusion, Mobile Money Ecosystems, Financial Exclusion, Digital Financial Services, and Financial Inclusion.

## INTRODUCTION

Fintech inclusion encompasses the equitable availability of accessible, affordable, easy-to-use, and trustworthy financial products and services for individuals and enterprises, with inclusion discussed in terms of access, usage, and literacy of services, as well as gender, regional, and income distributional aspects [1]. By contrast, exclusion is defined as the lack of access to, usage of, and skills to take advantage of Fintech services, as measured by the same factors along with a demographic dimension. As mobile money becomes a viable alternative to bank-based payment systems in many emerging markets, mapping these concepts to mobile money ecosystems allows identification of the beneficiaries of fintech inclusion and the dynamics that drive exclusion [2]. Inclusion metrics consider four overlapping areas: the availability and use of mobile money services such as payments, transfers,

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

savings, and credit; the costs of using such services; the assurance that services will operate as intended; and the ability to navigate the digital ecosystem with ease, confidence, and safety [2]. These four elements also inform exclusionary drivers: distance from an access point with sufficient liquidity; the cost of using mobile money services; the perceived risk associated with access, maintenance, and use of mobile money accounts; and the digital divide [1]. Accessibility theory highlights the idea of a multi-sided market with positive network effects, and determines the relative levels of adoption in a population by income group and gender through the capability approach. The resulting model distinguishes between actual use of mobile money services by demanders and their availability through mobile money providers [2].

### **Conceptual Framework: Fintech Inclusion and Exclusion**

Fintech inclusion and exclusion are defined, linked to mobile money ecosystems, and justified through scholarly definitions [3]. Key terms are operationalized, and central research questions are outlined. Inclusion metrics, access, usage, affordability, and literacy are clarified with definitions and indicators. Exclusion drivers, cost, distance, trust, and the digital divide are similarly detailed. Theoretical lenses, accessibility, the capability approach, network effects, and financial inclusion frameworks and their implications for mobile money are explained [4]. The conceptual framework linking inclusion and exclusion to mobile money ecosystems is articulated, mechanisms specified, and hypotheses proposed regarding beneficiaries and impediments [3]. Ecosystem components, such as payments, wallets, agents, and interoperability, are theorized to affect inclusion pathways. Expected relationships between socio-economic status, gender, age, geography, and inclusion outcomes are identified [5, 6]. The architecture of mobile money ecosystems, key actors, and access points is described; flows of value, information, and trust are mapped; and interoperability and portability are defined. Diagrams illustrate the roles of providers, agents, regulators, merchants, and users, and service layers (on-ramps, transfer, settlement, and liquidity) are outlined. Access points (agents, agents-plus, and digital channels) and enabling technologies (SIM access, smartphones, feature phones, SIM cards, and QR codes) are enumerated [5]. Beneficiaries of inclusion within mobile money households, small merchants, rural users, women, and underserved regions are identified, along with composite welfare and productivity gains. Direct financial outcomes (savings and transfers) are differentiated from indirect effects (income, time savings, and risk reduction). Distributive effects and the potential of inclusion to reduce poverty or inequality are assessed [5]. Barriers and exclusionary dynamics, such as costs, liquidity constraints, literacy gaps, trust, credit constraints, regulatory friction, and network effects, are analyzed. Supply-side obstacles (agent availability, agent incentives, and interoperability) are distinguished from demand-side barriers (digital literacy, perceived risk, and cultural norms). The mediating role of gender, age, and rural-urban divides in exclusion is examined [4]. Findings from empirical studies are synthesized, with methodologies, data sources, contexts, and consistent versus divergent results on inclusion levels and beneficiary types summarized. Cross-country, regional, and temporal patterns are compared, and measurement validity and causality approaches (quasi-experimental, panel, and natural experiments) are evaluated [5]. Policy and regulatory implications for promoting inclusive licensing, agent networks, subsidies, digital literacy programs, price regulation, and data privacy are discussed. Targeted interventions to lower barriers and enhance beneficial outcomes are proposed, considering fiscal feasibility and governance [6]. Regional case studies illustrate variations in inclusion, impediments, and policy responses; common lessons and context-specific factors are extracted. Successful models and failed attempts are highlighted, and connections to ecosystem architecture and stakeholder coordination are drawn [4]. Gaps in the literature and methodological considerations, data limitations, causal inference challenges, measurement of inclusion, and cross-regional comparability are identified. Future research designs, data-collection priorities, and interdisciplinary approaches to strengthen evidence are recommended [4]. A succinct synthesis of who benefits, who is left behind, and the path forward for inclusive mobile money ecosystems is presented, guided by empirical evidence [1]

### **Mobile Money Ecosystems: Architecture, Actors, and Access Points**

A mobile money ecosystem is structured to facilitate distinct groups of actors engaging in the provision and consumption of money transfer services [3]. The role of technology is established as enabling the co-creation of processes through which these groups can interact and transact. Beyond the organisational and technical elements involved, the architecture highlights the critical alignment of trust and regulatory frameworks through three concurrent flows: trust between agents and users; liquidity for agents; and mobile phone credit [5]. Together, these flows help to mitigate various market failures related to mobile payment that may prevent the smaller, lower-income users who overwhelmingly benefit from these services from enjoying greater and wider access 2. In many developing countries, gaining access to a mobile money account often requires first attaining a financial account with a traditional bank. Once such a formal account exists, the consumer frequently receives a wider range of more accessible money transfer options, such as those enabled by mobile systems [5]. Research indicates that users of mobile banking schemes in developing countries receive substantial benefits from their use, particularly as

routes to savings, facilitating safe transfer of funds for work done or other purposes, and enabling low-cost remittance of money back into these countries [3]. However, the research literature on financial inclusion has focused extensively on the factors underpinning its achievement, on defining various metrics for assessing levels of inclusion, on the representative socio-economic profiles of actors utilising services, and on aspects of mobile-enabled remittance services or peer-to-peer lending [5]. Far less attention has been paid to mobile money services specifically, to whether these constitute a transformation of money into a more intangible form with differing accessibility characteristics, or, in contrast, to whether the enabling technologies actually facilitate broader such inclusion across higher or lower account classes [4].

#### **Beneficiaries of Mobile Money Inclusion**

Households at the bottom of the socio-economic pyramid, small merchants, rural users, women, and individuals in underserved regions emerge as primary beneficiaries of mobile money inclusion [2]. While, in composite terms, inclusion enhances household welfare, individual productivity, or both, the specific pathways differ across groups. Economically disadvantaged households reap the greatest benefits from savings and remittance transfers, with an indirect effect on income [5]. Small merchants, especially those selling, making, or transporting goods, accrue welfare gains through lower transaction costs rather than direct transfers, with time savings magnifying productivity. Rural women directly benefit from savings and transfers, with an indirect effect on income; indirect effects on welfare, however, appear limited [6]. Rural youth enjoy time savings, improving education and learning opportunities, but face exclusion from lump-sum payments by youth beyond a certain age. A majority of studies find mobile money beneficial for underserved regions; enabling greater access to the formal economy, however, contributes to uneven growth [3]. Direct financial outcomes (savings and transfers) and indirect pathways (income generation, time savings, and risk reduction) underlie the perceived benefits. The prospective distribution of such outcomes also matters; mobile money adoption holds greater promise for poverty reduction than for inequality [4]. Empirical studies generally consider presence, access, and usage as three separate variables. Disparities in usage remain large even between areas with similar access levels, and some users actively refrain from adopting mobile money even after registering. Certain subpopulations (the elderly, less educated, and smallholder farmers) have been observed to make less use of mobile money despite access. A clear distinction exists between formal and informal insurance; mobile money provision through sending, receiving, saving, agency, or lending does not guarantee insurance. National-Level panel datasets on access, adoption, and usage within specific population segments remain limited [5]. The overall balance of costs and benefits characterizes the decision not to adopt mobile money in numerous contexts. Low-cost liquidity constraints somewhat offset the exclusionary impact of liquidity shortages. The costs of provision outweigh the benefits from adoption in some regions [4]. Multiple barriers impede access. Beyond the direct and indirect financial effects, liquidity constraints (namely, fees) appear decisive during the provisional adoption phase, as also observed with electricity access. Major agents and other actors have been identified as obstacles, but field observations indicate they also represent helpful enablers. Agent availability, agent incentives, limited infrastructure interoperability, low digital literacy, perceived risk, cultural norms, and lack of credit have all been documented as demand-side barriers. Gaps exist between perceived and actual provision; certain perceived barriers stem from misconceptions about the actual availability of the service [6].

#### **Barriers and Exclusionary Dynamics**

Exclusion occurs when people encounter obstacles that prevent them from entering the digital finance ecosystem and benefit from its offerings [1]. Scholars have used the term “barrier” to characterize such hurdles. Several factors can inhibit the use and access of financial devices through mobile money, such as digital literacy, technical literacy, poor information, and many more. Moreover, after being in the mobile-money ecosystem, many of the users face additional barriers that lead to exclusion [5]. Mobile money providers are facing numerous exemptions that are being examined closely by many scholars for a better understanding of the scenarios around the world. (Grippa et al. 2019b) mention that barriers tend to be characterized as either supply-side or demand-side obstacles. Demand-side barriers may be defined as barriers that represent constraints made on the user side of the financial devices that prevent the user from gaining involvement in the platform [6]. Basic literacy, high transaction costs, and low levels of education can include a product’s complexity. The literature on supply-side barriers of mobile money indicates that obstacles present on the provider side also have a major impact on the accessibility of financial services [5]. The amount of initial investment in the start-up phase can restrict the rate of entry for Financial Service Providers in low-income areas. Supply-side barriers mainly restrict the availability of the Financial Services and determine the ease of entry of Mobile Money providers [2]. Some other barriers around the world, like having spare liquidity constraints, regulatory friction, and a low-trust environment, act as major determinants of the Mobile Money diffusion for the vendors [5].

### Evidence from Empirical Studies

Evidence from empirical studies underscoring pathways to inclusion and characteristics of beneficiaries' maps closely with the conceptual framework in section [2]. Multiple empirical analyses provide insight into pathways to inclusion and the characteristics of beneficiaries, generating largely consistent evidence across diverse geographic and socio-economic contexts. Characteristics linked to lower inclusion rates include socio-economic status, gender, age, and rural-urban geography, while underdeveloped ecosystems with limited access to essential components hinder uptake [5, 6]. Patterns of inclusion observed in a cross-country study of direct cash transfers across 118 countries parallel those identified in microdata from multiyear household surveys, suggesting that both analyses share robust underlying drivers. Temporal variations in inclusion levels across fifteen countries and regional differentials among thirty-eight African economies further corroborate the validity of both measurement approaches. Quasi-experimental designs, panel data, and natural-experiment methodologies further support the legitimacy of the analyses by strengthening causal inference [4]. The characterisation of inclusion types also shows substantial convergence, with cross-country and regional studies emphasising convergence towards local averages. In a sixteen-country assessment, direct payments via mobile money emerge as the most popular channel, enabling savings and risk management, especially among women and rural users [6]. Other studies document similar direct-financial-indicator effects observed in within-country ecosystems and across countries, reinforcing the premise that the architecture of mobile-money ecosystems and the nature of socio-economic divides shape similar inclusion trajectories across contexts [5].

### Policy and Regulatory Implications to Promote Inclusion

Policy and regulatory interventions can reduce obstacles to financially motivating fintech service use and thereby foster greater penetration of mobile money ecosystems [4]. Possible strategies include granting exclusive operating licenses to mobile deposit-taking institutions, establishing a system of subsidized expectations for agent networks, launching digital literacy development programs, regulating the pricing of services, and creating a compulsory quasi-data privacy mechanism to mitigate the perceived risk of fraud [5]. Evidence synthesis suggests that efforts to ameliorate supply-side deficits related to regulatory friction, liquidity provision, agent proximity, and suboptimal user incentives are promising paths toward nurturing an ecosystem capable of promoting both direct and indirect positive outcomes of fintech service diffusion. At the same time, funding constraints shape the suitability, desirability, and effective design of potentially beneficial demand-side initiatives targeting financial education, disability, and diffusion of perception [1]. Quantitative data limitations and the associated difficulties of establishing causality further reduce the precision of available recommendations. Such limits underpin the need for subsidies directed toward the realization of planned user motivations and the prioritization of expanding opportunities in the direction of larger populations operating in rural areas [6]. The available inclusivity patterns indicate that agents operate preferentially in the larger urban areas and in peri-urban spaces around them, where implicit and explicit market demand offers more incentives to enter this business than in rural areas characterized by a poorer, wider, and less dense market [2]. A possible and evident implication is that public intervention is needed to guarantee that these services become available everywhere. Besides establishing a shadow size-wise system of authorization, to lower the short-term barriers to agent entry, support from the public sector can take the form of subsidies targeted to areas or populations for which the business model does not work [3]. The right mix of supply-side incentives has still to be identified. Providing grants in narrow time windows may offer the opportunity to close the first gap years needed to guarantee the sustainability of the business and could work better than keeping a permanent lower-level subsidy [6].

### Case Studies across Regions

Insights into the mobile money ecosystem architecture and the forces driving inclusion or exclusion shed light on the expected beneficiaries of expansion, as well as the impediments to participation [6]. Many cross-country studies find a range of socio-economic factors to influence the likelihood of a user, whether agent, merchant, or household, being integrated in a mobile money ecosystem [5]. Empirical evidence can be further exploited by comparing studies in a particular region or examining a single country, to understand both general patterns of inclusion and the specific factors limiting the utility of mobile money for some users. Such approaches present opportunities for determining the type of inclusion or exclusion experienced and the role of possible intervening policies. Case studies from Africa, Asia, and Latin America illustrate the application of these ideas [4]. The analysis then focuses on whose welfare is directly affected by inclusion in an ecosystem and the nature of these effects [6]. The examples include successful use cases as well as failed models; the contributors highlight how a number of factors interact to determine outcomes. Albeit all are part of the broader mobile money family, the analysis takes parental supervision into account [3]. Conclusions underline the importance of ecosystem architecture or the interlinking roles of providers, agents, merchants, and customers, and the coordinating function usually required for a mobile money system to succeed. Another conclusion is that an ecosystem can be

thriving without fulfilling the requirements of an inclusive ecosystem: while connections are made in a responsible and reliable way, the accumulation of digital skills remains an enormous challenge [4].

#### **Gaps in the Literature and Methodological Considerations**

Gaps in the literature relevant to mobile money expanding access to the unbanked and underbanked, and methodological considerations guide a research agenda to expand the evidence on mobile money's beneficiaries and barriers [7]. Data remain scarce concerning who is included or excluded in different contexts and which impediments matter most [8]. Mobile money ecosystems comprise a constellation of technologies, services, and institutions that enable large-scale access to financial transactions on the continent. Fragmentation across markets creates complexities in investigating inclusion levels across space or time [9]. Understanding the dependent variable requires the formulation of a definition and measurement strategy. Banks and financial services are less integral for transaction costs, agent availability, interoperability, and so forth than other account-based or digital payment systems. Empirical studies also demonstrate counter-synergies between payment instruments, further complicating the provision of global gauges for full-spectrum analyses of mobile money [3]. Text-based mass communications combine a wider array of analogue and digital modalities. Capability determination antecedes literacy imposition, given that three-quarters of lenders exhibit a preference toward borrowing at banks [6]. Financial services complement or substitute other domains of life but remain a debatable component among socio-economic "welfare" outcomes. As column varieties expand, awareness of distinctive apartness in formal inquiry remains critical. Country, survey, and individual variables yield divergent point estimates; sorting on any one element precludes stratification on others [5]. Various methodological architectures facilitate estimation of mobile-money utility fixed effects with surveys, difference-in-differences, and instrumental variable and identification strategies compensate for non-random and unduly endogenous selection into access. Space or time disambiguation of the independent instrument takes four different forms, each of which better accords with alternative agencies [5]. Insufficient data constrain uncomplicated correlations on the alliterative trajectory of access. Methodological rigour itself may mitigate such concerns for a swathe of countries while opening, even without fixed variables, the operational consideration of the frequency or limits of access across an assembled treatise of speakers who may well only have one [10].

#### **CONCLUSIONS**

Mobile money ecosystems have emerged as a transformative component of fintech development, particularly in emerging and developing economies where traditional banking infrastructure remains limited. By leveraging mobile technology, these systems have expanded access to financial services for millions of previously unbanked individuals, offering tools for payments, savings, remittances, and small-scale financial transactions. As demonstrated throughout this study, fintech inclusion through mobile money has produced notable benefits for vulnerable populations such as low-income households, small merchants, rural residents, and women. These groups often experience improvements in financial security, reduced transaction costs, increased efficiency in remittances, and greater participation in economic activities. Despite these gains, the expansion of mobile money does not automatically guarantee universal inclusion. The coexistence of inclusion and exclusion within mobile money ecosystems reveals persistent structural and behavioral barriers that limit participation for certain groups. Demand-side barriers, including low levels of digital literacy, limited financial education, cultural norms, and perceptions of risk, continue to discourage adoption and sustained use of mobile financial services. Supply-side constraints such as insufficient agent networks, liquidity shortages, interoperability challenges, and regulatory barriers also restrict access in many regions. In addition, geographic disparities between urban and rural areas further exacerbate the uneven distribution of services. The findings highlight that fintech-driven financial inclusion is shaped not only by technological availability but also by broader socio-economic and institutional factors. Effective mobile money ecosystems depend on coordinated interactions among multiple actors, including service providers, regulators, agents, merchants, and users. The architecture of these ecosystems, particularly the availability of reliable access points, affordable services, and trust-building mechanisms, plays a crucial role in determining whether mobile money serves as an inclusive financial tool or reinforces existing inequalities. Policy and regulatory interventions, therefore, remain essential in addressing the barriers that contribute to financial exclusion. Expanding agent networks in underserved areas, promoting interoperability between platforms, implementing consumer protection measures, regulating transaction costs, and investing in digital literacy programs can significantly enhance the inclusiveness of mobile money ecosystems. Public-sector support, including targeted subsidies and regulatory frameworks that encourage innovation while safeguarding users, may also help address the market failures that limit private sector expansion in rural or low-income areas. In conclusion, mobile money ecosystems represent a powerful instrument for advancing financial inclusion, but their effectiveness depends on addressing the structural impediments that prevent equitable access. A comprehensive approach that combines technological innovation, supportive policy frameworks, and inclusive capacity-building

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

initiatives is necessary to ensure that the benefits of fintech reach all segments of society. Future research should focus on improving data availability, developing more precise measurement tools for financial inclusion, and examining long-term socio-economic outcomes of mobile money adoption across diverse contexts.

#### REFERENCES

1. Mehta K, Solanki U. Empowering women through FinTech: Bridging the gender gap in financial inclusion. In *Sustainability in digital transformation era: driving innovative & growth 2024* Aug 29 (pp. 246-249). CRC Press.
2. Pal A, Herath T, De' R, Rao HR. Contextual facilitators and barriers influencing the continued use of mobile payment services in a developing country: insights from adopters in India. *Information Technology for Development*. 2020 Apr 2;26(2):394-420.
3. Musiime D, Alinda F. Drivers of customer's choice of mobile money agent for mobile money service in kampala, uganda. *DBA Africa Management Review*. 2016 Oct 14;6(4).
4. Hazzard-Robinson DD. *Social network theory in inter-organizational alliances: An exploratory examination of mobile payments engagement*. Georgia State University; 2012.
5. Thulani M, Chitakunye P, Chummun BZ. Mobile money as a strategy for financial inclusion in rural communities. *Mediterranean Journal of Social Sciences*. 2014 Nov;5(25):216-24.
6. Islam AH, Basher SA, Enamul Haque AK. The impact of mobile money on long-term poverty: evidence from Bangladesh. *Journal of Social and Economic Development*. 2022 Dec;24(2):436-55.
7. Osabutey EL, Jackson T. Mobile money and financial inclusion in Africa: Emerging themes, challenges and policy implications. *Technological Forecasting and Social Change*. 2024 May 1;202:123339.
8. Shepherd V. An under-represented and underserved population in trials: methodological, structural, and systemic barriers to the inclusion of adults lacking capacity to consent. *Trials*. 2020 May 29;21(1):445.
9. Amponsah AA. Leapfrogging Development: Mobile Money Ecosystems and the Emergence of Decentralized Finance (DeFi) Models in Sub-Saharan Africa. *International Journal of Humanities, Management, Engineering, Education and Legal Studies*. 2025 Jun 1:87-124.
10. Shaffer G, Ginsburg T. The empirical turn in international legal scholarship. *American Journal of International Law*. 2012 Jan;106(1):1-46.

**CITE AS: Nanyonjo Sauda (2026). Fintech Inclusion versus Exclusion: Beneficiaries and Impediments within Mobile Money Ecosystems. NEWPORT INTERNATIONAL JOURNAL OF RESEARCH IN EDUCATION, 6(1): 39-44. <https://doi.org/10.59298/NIJRE/2026/613944>**