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# Mobile Money Ecosystems: Inclusion, Exclusion, and Gendered Impacts

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## ABSTRACT

Mobile money ecosystems have emerged as transformative tools for expanding financial inclusion, particularly across developing regions in Africa and Asia. This paper examines the dual dynamics of inclusion and exclusion within these ecosystems, with a specific focus on their gendered impacts. While mobile money has significantly increased access to financial services, facilitating transactions, savings, and economic participation, it has not achieved universal inclusion. Structural barriers such as limited infrastructure, low financial literacy, socio-cultural constraints, and regulatory disparities continue to exclude large segments of the population. Notably, gender disparities persist, with women facing disproportionate challenges related to access, usage, trust, and control over financial resources. Adopting an ecosystem approach, the study highlights the roles of diverse actors, including service providers, policymakers, and social networks, in shaping access and outcomes. The paper also evaluates the economic implications of mobile money, including poverty reduction and empowerment, while addressing risks such as fraud and consumer vulnerability. It concludes that achieving inclusive and equitable mobile money systems requires gender-responsive policies, improved regulatory frameworks, enhanced financial literacy, and stronger infrastructure. Ultimately, the effectiveness of mobile money ecosystems depends not only on access but on meaningful and sustained usage across diverse populations.

**Keywords:** Mobile Money, Financial Inclusion, Gender Inequality, Digital Finance and Economic Empowerment.

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## INTRODUCTION

In recent years, mobile money ecosystems have gained prominence as mechanisms for addressing developments of financial services in Africa and Asia. Inequitable access hinders the realization of the developmental promise of digital finance; prevailing research reflects three distinct perspectives on the challenge [1]. The first relates to financial inclusion, or the access to, usage of, and quality of financial services offered to people of all socioeconomic strata. A second viewpoint focuses on exclusion, whereby certain populations experience persistently lower levels of access than the broader population [2]. Gendered access constitutes the third perspective, which recognizes that exclusion from financial systems is gendered. An ecosystem approach offers renewed insights into the inclusion–exclusion debate within mobile money ecosystems. A multitude of actor and policy interfaces collectively shape who accesses mobile money services, including the range of financial services available, the conditions for access, and the level and type of usage [3]. An initial exploration of these ecosystem elements reveals major sectors influencing access and use, their interactions, and the country contexts within which they operate. Mobile money has emerged as a widely-studied component of digital finance, reflecting the rapid adoption of platforms and services across many developing economies since the launch of M-PESA in Kenya in 2007. Its transformative potential to advance broader financial inclusion, spur economic growth, and catalyze delivery of digital finance services remains a subject of intense debate [4]. Much scholarly focus has centered on understanding how mobile

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money affects financial inclusion and economic development. Financial inclusion encompasses the degree to which individuals hold financial accounts, use payment services, save money, and access credit [1]; specific pathways by which mobile money increases incomes and catalyzes economic development, remain understudied [3]. Even less attention has been directed to determining how mobile money affects users' multidimensional welfare or poverty status [2]. Research on mobile money persistence has prioritized the unmet potential of the service itself, neglecting the question of how initial access influences subsequent investment in activities promoted by service providers, or understanding the variety of developmental outcomes that may materialize across user scenarios [3].

### Conceptual Framework

Mobile money systems are often depicted as enablers of financial inclusion. In this view, monetary transactions conducted on mobile devices significantly increase sub-Saharan Africa's financial inclusion rates and offset the lack of access to formal financial services [1]. Countries that successfully leverage mobile money as a tool for financial inclusion are placed on a pedestal for emulation. However, mobile money's positive impact on financial inclusion is neither uniform nor universal [3]. Despite extraordinary growth, the majority of the African population remains unserved: two out of three mobile money accounts go unused and the vast majority of registered users do not engage with the service [2]. Countries that are perceived to be at the forefront of mobile money, such as Kenya, have stagnant and, in some instances, declining registered user growth. Mobile money has gained considerable traction in Vietnam and Bangladesh, countries with limited penetration of formal financial services, yet inclusive growth has not followed suit. Under such circumstances, an ecosystem framework provides an insightful lens through which to study mobile money and its impact on financial inclusion [4]. Mobile money ecosystems consist of various beneficial actors and policy interfaces that, together, shape the growth and inclusiveness of mobile money services [2]. Programs supporting the construction of such ecosystems are sought where mobile money adoption is limited and the financial sector is regarded as dysfunctional. Influential proponents of mobile money have associated financial inclusion primarily with the number of registered accounts, but this metric fails to account for usage and, therefore, broader access [4]. The emphasis on registration is partly due to the difficulty of measuring actual transactions. Barriers to financial services or to the use of financial services affect the way mobile-money-related ecosystems develop over time [3]. More detailed data allow for a comprehensive understanding of how ecosystem actors interact and influence growth trajectories toward fewer unserved segments [4]. Inclusion and exclusion terminology apply readily to mobile money ecosystems. The level of financial inclusion, however, is seldom addressed within the literature. Ecosystem typologies provide useful avenues for unpacking such distinctions in access [4]. Considerable engagement with gender considerations has emerged. Ecosystem actors and policy interfaces directly influence gendered differences in mobile money access and use. Gender disparities remain entrenched in the financial sphere and, consequently, in the mobile money domain [3]. Gender dimensions in mobile money usage and ownership have been noted, despite significant scholarly activity on the subject. Ecosystem formation and growth remain indispensable to the analysis. Improvements in gendered access are contingent on trajectory alignment toward commercially viable and uniformly accessible mobile money [2].

### Historical Development of Mobile Money

The emergence and expansion of mobile money as a financial service can offer pathways to broader financial inclusion for low-income populations worldwide [2]. Mobile money is defined as a financial service which offers the ability to transfer funds and make payments using a mobile device and an agent-based model that provides cash-in and cash-out services, with no requirement for a bank account or permanent Internet access [3]. Mobile money can stimulate economic growth across sectors by enabling remittance transfer, facilitating savings, supporting spending on health, education, and small business investment, and creating opportunities for income and employment generation. Early studies of mobile money concluded that it meets a wide range of demand by the financially excluded and represents a viable alternative for users who are fully included in the formal finance sector [2]. The incredible success of mobile money in Sub-Saharan Africa is noted, where over one-half of the population is unbanked and large shares of economic activity occur outside the formal sector, making mobile money an attractive option [4]. Data indicate that the proliferation of mobile money in Africa over the past 10-12 years has been possibly unmatched in the world; however, the region remains far from achieving universal access, and along different dimensions of access, mobile money still fails to reach approximately one-fifth of the population. Such patterns of financial inclusion and exclusion are investigated in connection with barriers to access at the user, provider, and infrastructural levels [1].

### Patterns of Financial Inclusion and Exclusion

Mobile money systems have increased the number of people using financial services but fewer people are able to take advantage of them [2]. Hence, expanding the number of people who are aware of mobile money systems is a fundamental requirement of financial inclusion [3]. Mobile money owners and service providers use distinct

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facilities, experience different usage levels, transaction volumes and associated benefits [2]. These discrepancies are attributed to user level characteristics, types of infrastructure, the behaviour of ecosystem actors and systemic challenges [4]. Within one service, access during the first 18 months counts [3]. The number of people participating in mobile money systems shows a high positive association with the number of ecosystem alliances promoting the system [2]. Since Anson O. Mutshinga & Janet M. Maripe are limiting the mobile money case studies to schools, therefore it discourages participation. The absence of mobile money accounts is also a limitation [3].

#### **Gendered Dimensions of Access and Use**

Studies show that gendered dimensions of access to mobile money exist even prior to account ownership. In particular, women face greater barriers to literacy and trust that directly impact financial decision-making [4]. In many regions, cultural norms restrict women's mobility, while social networks may inhibit outreach to women by ecosystem agents [3]. Moreover, female and male users perceive risks around mobile money, digital platforms, and other areas differently, resulting in divergent product and service expectations during design [2]. Excessive pricing by agents remains a crucial deterrent for women, who also express concern about inadequate awareness of terms, conditions, and services articulated more frequently than among men. The largely female marketing narratives adopted by service providers frequently overlook male participation [4].

#### **Economic Impacts and Poverty Reduction**

Mobile money has become vital for millions of poor people with limited access to formal banking, providing benefits such as women's empowerment, risk sharing, improved labor market outcomes, and poverty reduction [5]. An analysis of its impact on district-level poverty in Bangladesh from 2010 to 2016 shows a 48% reduction in poverty rates [4]. These findings suggest that mobile money has successfully fostered poverty reduction initiatives, and targeted policies can help extend services to poorer communities [3]. To increase adoption, government infrastructure could be used to expand mobile agent networks in the poorest sectors [1].

#### **Socio-Cultural and Regulatory Contexts**

Cultural norms and social networks form the macro context of mobile money ecosystems, establishing both possibilities and limitations for access and use [3]. In these ecosystems, the behaviour of people is influenced by the expectations and judgments of peers, family members, and friends [4]. Trusts in institutions, as well as the broader sociotechnical infrastructure, build on interpersonal trust to affect access and use. In many societies, both formal and informal interactions are gendered and vary according to social status, ethnicity, and age. Such patterns affect knowledge, decision-making, and ability to mobilise resources, which consequently have direct bearing on mobile money ecosystems [2]. In addition to the socio-cultural context, the regulatory and policy framework shapes digital finance by establishing a legal, institutional, and market framework. African countries fall into three main regulatory regimes for mobile money: light-touch oversight of mobile operators (primarily in East Africa); ongoing regulatory dialogue with the private sector (West Africa); and highly restrictive policies (North, Central, and Southern Africa)[2]. Important dimensions of the regulatory environment include licensing regimes, interoperability between service providers, approval burdens placed on access channels (such as agents or outlets), and consumer protection measures [5].

#### **Risks, Fraud, and Consumer Protection**

Mobile money is a financial service enabling secure fund sending, receiving, and payment transactions via mobile technology [6]. Mobile money operates through platforms such as M-Pesa, which differ in design, technology, regulatory environment, and customer base. The service sometimes involves a cash-in/cash-out agent model connected to licensed financial institutions, where agents facilitate exchanges from cash to e-money. Use cases vary depending on platform, low-density market environments, and user base, with economic support often reliant on the mobile money system understands [5]. Based on literature analysis and corresponding mobile money platform trajectory data, Ghana emerged as the most advanced country for mobile financial support availability. Compared to broader financial service models, mobile financial service adoption requires "mobile readiness." Ghana ranked highest across Tier 1 countries in ID possession among adults and mobile phone ownership, reflecting entrenched communication methods necessary for achieving these services [2]. Despite advancements in mobile money, security constitutes a major challenge; mobile money, mobile banking, and internet banking continue to be at risk for exploitation, hazardous activity, and fraudulent tendencies. Ghana has observed increasing incidences of fraudulent conduct since mobile money launch [3].

#### **Case Studies across Regions**

Mobile money ecosystems have attracted considerable interest as a potentially transformative platform for enhancing financial access, especially among disadvantaged groups [3]. The literature typically emphasizes the poverty-reduction and welfare-boosting effects of mobile money on households involved with microenterprises. However, the routes to financial inclusion have not been adequately explored in the rapidly evolving sector of digital finance [2]. The evidence of financial inclusion varies profoundly across countries, with mobile money

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increasing accessibility in countries such as Uganda and Zimbabwe but remaining unused in others such as Nigeria [7]. Examining these diverging experiences sheds light on critical contextual determinants of mobile money diffusion and its welfare impacts across more than a dozen countries in Asia, Africa, Latin America, and the Caribbean [4].

### Policy Implications and Pathways for Gender-Responsive Design

A set of recommended pathways for gender-responsive mobile money design follows from the preceding analysis. These measures are accompanied by an outline of the corresponding changes in monitoring and evaluation that are necessary to inform and assess their implementation [4]. Mobile money design should: maximise control of women over accounts and transactions; facilitate women's access to information, training, and assistance; optimise security and privacy; promote interoperability with savings and investment vehicles; and integrate services in line with work and household schedules [2]. Gender-responsive policy instruments should support inclusive design of mobile money services, digital finance technologies, and digital sectors more generally; build awareness of gender-responsive design approaches and priorities; improve access to mobile money and its complementary services, notably digital devices and internet; foster literacy in mobile money and digital financial services; and ensure outreach activities account for time constraints of women entrepreneurs [3]. The preceding examination underscores the importance of mobile money services in addressing radically diverse financial inclusion situations, according to time of financial independence gained and gender. A myriad of complex diverse factors influence the extent to which mobile money positively affects individual and household economic circumstances, with substantial disparities amongst individuals and sub-groups [6]. Evidently, prudent investment in mobile money technology can help achieve financial inclusion and improve living standards [3]. Other continuing interventions have likewise propped up the approach of such forward-looking investments global attention remains necessary to ensure that the unwieldy and tragic nature of micro-finance and similar instruments are avoided, thereby thwarting women and their empowerment [6].

### Methodological Considerations

Mobile money services transform formal financial system access, helping consumers and small firms participate in the formal economy, facilitating access to loans and savings products, remittances, and insurance. Accordingly, to enable access, policies to stimulate uptake as well as encourage growth of these services are required [7]. To explore inclusive development potential of mobile money ecosystems, the comparative importance of macroeconomic mobile money service variables, economic growth, non-institutional credit, investment climate improvement, demographic dividend, gender equality, domestic product price, governance quality and inflation stability is examined in relation to technology, regulations, and market structures [6]. This investigation covers 93 developing economies across Africa, Latin America, Asia and the Pacific, and the Caribbean, considering because financial inclusion impacts grow as mobile money ecosystems mature [6]. Eighty-three percent of women, 75% of men, and 76% of both reported awareness of banks but exhibited low knowledge around mobile money services, indicating a gap to address [2]. Informal agents, alternative financial services, and specialist savings product channels remained under-utilised. Despite mobile money platforms being more widely available, increasing their visibility at frequently attended female locations such as beauty salons remains vital for women [7]. Occupation and business nature determined information access on mobile money [8]. Conceptualising the mobile money framework without addressing women's unique access, knowledge, and control paths inhibits understanding dimensions and mechanisms affecting women's financial inclusion and highlights the continuing barriers women face in accessing financial products and services, particularly for poor women entrepreneurs in post-conflict and developing economies [9].

### CONCLUSION

Mobile money ecosystems represent a significant innovation in the evolution of financial services, offering substantial opportunities to advance financial inclusion and economic development. However, the evidence demonstrates that access alone does not guarantee equitable outcomes. Persistent exclusion particularly along gender lines reveals deep-rooted structural, socio-cultural, and institutional barriers that limit the transformative potential of mobile money. An ecosystem perspective underscores that inclusion is shaped by the interaction of multiple actors, policies, and contextual factors. While mobile money has contributed to poverty reduction, improved financial access, and enhanced economic participation, its benefits remain unevenly distributed. Women, in particular, continue to face constraints related to literacy, mobility, affordability, and trust, which inhibit both access and effective usage. To address these challenges, policymakers and stakeholders must prioritize gender-responsive design, strengthen regulatory frameworks, and expand infrastructure and digital literacy initiatives. Enhancing interoperability, consumer protection, and outreach strategies tailored to marginalized groups will also be critical. Furthermore, shifting the focus from mere account ownership to active and sustained usage is essential

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for realizing meaningful inclusion. Mobile money ecosystems hold considerable promise, but their success depends on deliberate, inclusive, and context-sensitive policy interventions that address both access and equity. Only through such comprehensive efforts can mobile money fulfill its potential as a catalyst for inclusive and sustainable development.

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