



Mobile Banking and Financial Inclusion: A Comprehensive Review of Adoption, Accessibility, and Outcomes

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ARTICLE INFORMATION	ABSTRACT
Submitted: April 05, 2026 Accepted: July 20, 2026 Published: August 29, 2026 Volume: 2 Issue: 1	Mobile banking has emerged as a transformative financial technology with significant potential to expand financial inclusion, particularly among underserved and unbanked populations. This review examines the relationship between mobile banking and financial inclusion, focusing on adoption, accessibility, and socioeconomic outcomes. Drawing on findings from existing academic literature and empirical studies, the review explores the major factors influencing mobile banking adoption, including perceived usefulness, ease of use, trust, security, affordability, digital literacy, network availability, and regulatory support. The findings indicate that mobile banking can reduce geographic and financial barriers to formal financial services by enabling users to conduct payments, transfers, savings, and other transactions through mobile devices. However, persistent challenges—including limited digital literacy, inadequate telecommunications infrastructure, cybersecurity concerns, transaction costs, privacy risks, and disparities in access to mobile technology—continue to constrain its inclusive potential. The review further demonstrates that effective mobile banking ecosystems can contribute to improved household financial management, expanded access to savings and credit, greater participation in digital commerce, and increased economic opportunities for underserved communities. Overall, mobile banking represents an important mechanism for advancing financial inclusion, but its benefits depend on affordable access, user trust, appropriate consumer protection, digital skills, reliable infrastructure, and supportive regulatory frameworks.

KEYWORDS

Mobile Banking; Financial Inclusion; Digital Finance; Banking Adoption; Financial Accessibility.

1. Introduction

Mobile banking has emerged as a transformative component of the contemporary financial system, fundamentally changing how individuals and businesses access, use, and manage financial services. The rapid expansion of mobile phones, digital payment platforms, mobile applications, and telecommunications infrastructure has enabled financial transactions to be conducted beyond the traditional boundaries of banks and physical branches. Mobile banking encompasses a broad range of services, including money transfers, deposits, withdrawals, bill payments, savings, credit applications, account management, and digital payments. Its growing importance is particularly evident in developing economies, where conventional banking systems have historically faced challenges associated with limited branch networks, high transaction costs, geographical barriers, and stringent account-opening requirements. As a result, mobile banking has increasingly been viewed as an important mechanism for extending formal financial services to underserved and financially excluded populations (Sami et al., 2026; Sarwer et al., 2022).

Financial inclusion refers to the availability, accessibility, affordability, and effective use of appropriate financial services by individuals and businesses. Despite substantial progress in expanding access to financial services, significant disparities remain across countries, income groups, genders, rural and urban populations, and socioeconomic categories. Low-income households, rural communities, informal-sector workers, women, young people, and individuals with limited financial documentation frequently encounter barriers that prevent them from participating fully in formal financial systems (Shaikh, 2023). Mobile banking can potentially reduce some of these barriers by allowing users to access financial services through mobile devices without requiring close physical proximity to conventional banking institutions. The convenience, relatively low cost, extended

operating hours, and ability to conduct transactions remotely make mobile banking particularly relevant to populations that have traditionally been excluded from formal financial systems.

The adoption of mobile banking, however, is influenced by a complex combination of technological, economic, social, institutional, and individual factors. Perceived usefulness, ease of use, trust, security, transaction costs, digital literacy, financial literacy, network reliability, smartphone ownership, income, age, education, and previous experience with digital technologies can all shape users' willingness and ability to adopt mobile financial services. At the institutional level, regulatory frameworks, consumer protection mechanisms, interoperability between financial platforms, cybersecurity measures, and the availability of digital infrastructure influence the broader environment in which mobile banking develops. Consequently, access to a mobile phone or digital financial platform alone does not necessarily guarantee meaningful financial inclusion. The quality, reliability, affordability, and usability of available services are equally important in determining whether mobile banking produces sustainable financial benefits (Sarwer et al., 2022).

The relationship between mobile banking and financial inclusion is especially significant in emerging and developing economies. Mobile-based financial services have provided alternative channels through which people can save money, transfer funds, receive payments, pay for goods and services, and participate in other financial activities. In some contexts, mobile banking has also supported small businesses by facilitating faster payments, improving transaction records, and reducing dependence on cash. For households, digital financial services can increase convenience and potentially improve the ability to manage income and expenditures. Nevertheless, the outcomes of mobile banking are not uniformly positive. Digital exclusion can persist among individuals who lack appropriate devices, reliable connectivity, digital skills, or sufficient financial resources. Concerns regarding fraud, privacy, cybersecurity, hidden fees, service interruptions, and misuse of personal data may also discourage adoption and undermine user confidence.

Accessibility therefore represents a critical dimension of the mobile banking–financial inclusion relationship. While mobile platforms can overcome geographical barriers, unequal access to digital infrastructure may reproduce existing socioeconomic inequalities. Rural communities may experience weaker network coverage and fewer opportunities for digital education, while low-income users may face difficulties associated with device affordability, transaction charges, or limited access to reliable electricity and internet services. Gender-based disparities in mobile ownership and digital skills can further constrain participation. These challenges demonstrate that technological availability should not be equated automatically with effective financial inclusion. Instead, inclusive mobile banking requires an enabling ecosystem involving affordable services, accessible infrastructure, appropriate regulation, consumer education, and mechanisms that protect vulnerable users (Adenike, 2018; Hossain et al., 2024).

The outcomes associated with mobile banking extend beyond simple access to financial accounts or transaction facilities. Increased use of mobile banking may influence household financial management, saving behavior, access to credit, remittance practices, business performance, and resilience to financial shocks. For micro, small, and informal enterprises, mobile financial services can facilitate payments and improve the efficiency of business transactions. At the household level, convenient digital transfers may reduce the time and costs associated with sending or receiving money. However, the benefits depend on users' capacity to use services effectively and safely. Excessive fees, digital fraud, limited consumer awareness, and inappropriate financial products may reduce or even reverse some potential benefits. Assessing outcomes therefore requires attention not only to the number of people who adopt mobile banking but also to how frequently they use it, what services they access, and whether such use improves their financial well-being.

Existing research has examined different dimensions of mobile banking, including technology adoption, consumer behavior, financial accessibility, digital payments, and socioeconomic outcomes. However, the evidence remains fragmented across disciplines and geographical contexts. Studies focusing on adoption frequently emphasize behavioral and technological determinants, whereas financial inclusion research often concentrates on access and usage indicators. Other studies examine the socioeconomic consequences of digital financial services without sufficiently connecting these outcomes to the mechanisms through which mobile banking contributes to inclusion (Islam, 2025). A comprehensive review is therefore necessary to integrate these perspectives and identify the broader patterns emerging from existing research. Such an approach can clarify the conditions under which mobile banking enhances financial inclusion while also identifying the barriers that limit its effectiveness.

Against this background, this study provides a comprehensive review of mobile banking and financial inclusion, with particular emphasis on adoption, accessibility, and outcomes. The review synthesizes existing evidence concerning the factors influencing mobile banking adoption, the extent to which mobile platforms improve access to financial services, and the economic and social outcomes associated with their use. It also considers persistent challenges, including digital inequality, affordability, trust, cybersecurity, financial literacy, infrastructure limitations, and regulatory concerns. By bringing these dimensions together, the

study seeks to provide a more integrated understanding of the role of mobile banking in advancing inclusive finance and to identify important areas for future research, policy development, and practical intervention.

2. Methodology

2.1 Research Design

This study adopts a systematic narrative review design to comprehensively examine the relationship between mobile banking and financial inclusion, with particular attention to adoption, accessibility, and socioeconomic outcomes. A review-based approach is appropriate because mobile banking is a multidisciplinary phenomenon that intersects with financial services, information and communication technology, development economics, consumer behavior, and public policy. Rather than collecting primary data, the study synthesizes findings from previously published empirical studies, conceptual papers, institutional reports, and other credible scholarly sources to identify major trends, theoretical explanations, benefits, barriers, and emerging issues associated with mobile banking and financial inclusion. The review is structured thematically to facilitate comparison of evidence across different socioeconomic and geographical contexts.

2.2 Review Scope and Research Focus

The review focuses on literature examining how mobile banking contributes to financial inclusion through increased access to formal financial services, reduced transaction barriers, improved convenience, and expanded opportunities for underserved populations. Particular attention is given to three interconnected dimensions: mobile banking adoption, accessibility, and outcomes. Adoption literature is examined to understand the factors influencing individuals' willingness and ability to use mobile banking services, including perceived usefulness, ease of use, trust, security, digital literacy, income, education, network availability, and cost. Accessibility literature is reviewed in relation to geographical coverage, affordability, mobile-device ownership, digital infrastructure, gender, age, and socioeconomic status. The outcomes dimension considers the effects of mobile banking on savings, payments, remittances, access to credit, household financial management, business activities, resilience, and broader economic participation.

2.3 Literature Search Strategy

Relevant literature is identified through searches of major academic and research databases, including Google Scholar, Scopus, Web of Science, ScienceDirect, SpringerLink, and ResearchGate, where applicable. Searches are conducted using combinations of keywords and Boolean operators such as "mobile banking" AND "financial inclusion," "mobile money" AND "financial access," "digital banking" AND "financial inclusion," "mobile banking adoption," "mobile financial services," "financial inclusion barriers," and "mobile banking outcomes." Additional searches are conducted using combinations involving specific populations and geographical contexts, such as low-income households, rural communities, women, small businesses, and developing economies. Reference lists of relevant studies are also examined to identify additional sources that may not have been retrieved through database searches.

2.4 Inclusion and Exclusion Criteria

The review includes scholarly and institutional sources that directly address mobile banking, mobile financial services, digital financial access, or their relationship with financial inclusion. Priority is given to peer-reviewed empirical studies, systematic reviews, conceptual studies, and authoritative reports that provide clear methodological or analytical evidence. Studies are included when they discuss at least one of the major dimensions of the review: adoption, accessibility, or outcomes. Literature from both developed and developing economies is considered to enable comparison of contextual differences. Studies are excluded when they focus exclusively on conventional banking without a meaningful connection to mobile or digital financial services, lack sufficient relevance to financial inclusion, or provide inadequate information for understanding the phenomenon under investigation. Duplicate publications and sources with substantial methodological or conceptual limitations are also omitted where appropriate.

2.5 Data Extraction and Organization

Information from the selected literature is systematically extracted and organized according to the study's research focus. Key information considered includes authorship, publication year, geographical setting, research objectives, study population, methodological approach, major variables, principal findings, and implications for financial inclusion. Particular attention is paid to evidence concerning determinants of mobile banking adoption, differences in accessibility among population groups, and measurable socioeconomic or financial outcomes. The extracted information is subsequently grouped into thematic categories, allowing similarities, differences, and gaps in the existing literature to be identified.

2.6 Thematic Analysis of the Literature

A thematic analysis is employed to synthesize the findings across the reviewed studies. The analysis organizes the evidence into three principal themes: mobile banking adoption, accessibility and inclusion, and outcomes of mobile banking. Within these

themes, recurring factors such as trust, perceived usefulness, digital literacy, affordability, infrastructure, security, gender disparities, rural–urban differences, and regulatory conditions are examined. The analysis also considers how these factors interact rather than treating them as independent influences (Tanvir et al., 2024; Hossain et al., 2024). For example, access to mobile banking infrastructure may not automatically result in meaningful financial inclusion if users lack digital skills, trust in financial institutions, or sufficient income to use available services. This thematic approach therefore enables the study to move beyond simply summarizing individual studies and instead develop an integrated understanding of the mechanisms through which mobile banking can promote or constrain financial inclusion.

2.7 Comparative and Contextual Analysis

The reviewed evidence is compared across geographical, economic, and demographic contexts to identify differences in mobile banking adoption and financial inclusion outcomes. Particular consideration is given to differences between developed and developing economies, urban and rural populations, and formally banked and financially underserved groups. The review recognizes that the contribution of mobile banking is shaped by institutional and infrastructural conditions, including telecommunications coverage, digital identification systems, financial regulations, consumer protection, interoperability, and the availability of affordable mobile devices. Contextual comparison is therefore used to explain why similar mobile banking technologies may generate different outcomes across countries and population groups.

2.8 Assessment of Evidence and Research Gaps

The methodological quality and consistency of findings across the reviewed literature are considered when interpreting the evidence. Greater emphasis is placed on studies with clearly defined research designs, appropriate samples, transparent analytical procedures, and findings that are supported by empirical evidence. Where studies report conflicting findings, possible explanations are considered in relation to differences in country context, population characteristics, technology adoption levels, regulatory environments, and measurement approaches. The review also identifies gaps in existing research, including insufficient longitudinal evidence on the sustainability of financial inclusion gains, limited attention to marginalized populations, uneven evidence from rural areas, and the need for greater examination of digital risks such as fraud, privacy concerns, cybersecurity threats, and exclusion resulting from unequal digital capabilities.

2.9 Synthesis and Presentation of Findings

The final synthesis integrates evidence from the reviewed literature to explain the broader relationship between mobile banking and financial inclusion. Findings are presented thematically rather than study-by-study, enabling the review to identify dominant patterns, areas of agreement, contradictory evidence, and emerging research directions. The methodology therefore supports a comprehensive assessment of mobile banking not only as a technological innovation but also as a mechanism for expanding financial access and participation. The resulting synthesis provides a foundation for discussing the conditions under which mobile banking can produce meaningful and sustainable financial inclusion outcomes and for identifying implications for financial institutions, policymakers, technology providers, and future researchers.

3. Findings and discussion

3.1 Mobile Banking Adoption and Usage Patterns

The reviewed literature indicates that mobile banking has become an important mechanism for expanding access to financial services, particularly in developing and emerging economies. However, adoption is not determined by the availability of mobile banking technology alone. Rather, it reflects the interaction of perceived usefulness, convenience, trust, security, affordability, digital capabilities, and the availability of reliable telecommunications infrastructure. The evidence further suggests that initial adoption and sustained use are distinct outcomes. While many individuals are willing to register for or experiment with mobile banking services, continued usage depends on whether the services are reliable, affordable, easy to understand, and relevant to users' everyday financial needs. These findings are broadly consistent with technology-adoption research, which emphasizes perceived usefulness and ease of use, while also demonstrating that financial technologies require additional considerations such as trust, perceived risk, and institutional confidence.

3.1.1 Determinants of Mobile Banking Adoption

Perceived usefulness emerges as one of the strongest determinants of mobile banking adoption. Users are more likely to adopt mobile banking when they perceive that it saves time, reduces the need to visit physical bank branches, facilitates rapid transfers, and provides convenient access to financial information. For example, a customer who can transfer money, pay utility bills, receive payments, or check an account balance through a mobile phone has a clear practical incentive to use mobile banking (Aniwa, 2021). This finding supports previous technology-adoption studies that identify perceived usefulness as a central factor in explaining users' willingness to adopt digital financial technologies. Convenience is particularly important in environments where bank branches are geographically distant or where users have demanding work and household responsibilities.

Ease of use is another important determinant. Mobile banking platforms that provide simple menus, clear instructions, familiar interfaces, and transactions that can be completed with relatively few steps tend to encourage adoption (Saha et al., 2025a,b; Tanvir et al., 2020). Conversely, complicated registration procedures, difficult authentication processes, unfamiliar terminology, and poor interface design can discourage potential users. This relationship is especially significant among individuals with limited digital literacy. The reviewed evidence therefore suggests that technological sophistication does not necessarily produce greater financial inclusion if users cannot easily understand or operate the service (Hossain & Alasa, 2024a,b; Alam et al., 2025).

Trust and perceived security represent particularly important conditions for adoption because mobile banking involves sensitive financial information and monetary transactions. Users may be reluctant to adopt mobile banking when they fear fraud, unauthorized transactions, identity theft, loss of funds, or misuse of personal information. Concerns about scams and fraudulent mobile transactions can therefore undermine otherwise strong demand for digital financial services. Previous studies of digital banking similarly show that trust in financial institutions, data formation, mobile network providers, payment platforms, and security mechanisms influences users' willingness to conduct financial transactions electronically. Building trust requires effective consumer protection, transparent dispute-resolution mechanisms, secure authentication, and visible institutional responses to fraud (Hossain et al., 2026; Alam et al., 2026; Ayrin et al., 2025).

Cost also influences adoption. Although mobile banking can be considerably cheaper than conventional banking in some settings, transaction fees, data charges, account-related costs, and the cost of obtaining and maintaining an appropriate mobile device can still constitute barriers for low-income users. The evidence suggests that affordability becomes particularly important when users make small-value transactions, because even relatively modest charges can represent a meaningful proportion of their available income. Thus, the economic value of mobile banking depends not only on whether the service exists but also on whether users can afford to use it regularly with the real time data analytics (Yusuf et al., 2025; Sami et al., 2024; Alam et al., 2024; Habib et al., 2024).

Digital literacy and mobile infrastructure further shape adoption. Individuals who are familiar with smartphones, mobile applications, digital payments, and basic cybersecurity practices are generally better positioned to adopt mobile banking. By contrast, limited digital skills can generate uncertainty and dependence on family members, agents, or other intermediaries. Reliable network coverage, electricity availability, smartphone ownership, and access to mobile data also affect the feasibility of digital banking. Consequently, the findings support a multidimensional interpretation of mobile banking adoption in which technological, economic, psychological, and infrastructural factors operate simultaneously.

3.1.2 Demographic and Socioeconomic Differences in Adoption

The review identifies substantial demographic and socioeconomic variation in mobile banking adoption. Age is particularly important, with younger and middle-aged populations generally demonstrating greater familiarity with mobile technologies and a higher willingness to experiment with digital financial services. Older adults may face greater barriers because of limited digital experience, concerns about security, difficulties navigating applications, or preference for traditional banking channels (Rahman, 2024; Hemal et al., 2025). Nevertheless, age differences should not be interpreted as evidence that older people are inherently resistant to technology. Where appropriate training, simplified interfaces, and trusted assistance are available, older users can also benefit substantially from mobile banking.

Income is another significant differentiating factor. Higher-income individuals are generally better positioned to afford smartphones, mobile data, transaction charges, and other costs associated with digital financial services. They may also have greater exposure to formal financial institutions and therefore possess the knowledge required to use more advanced mobile banking functions. Low-income populations, by contrast, may primarily use mobile financial services for basic transfers and payments rather than savings, credit, insurance, or investment services. This creates an important distinction between basic digital access and deeper financial inclusion. Education and employment status similarly influence adoption. Individuals with higher levels of education are generally more likely to possess digital skills, understand financial products, and perceive the benefits of mobile banking. Formal employment can also facilitate adoption because salaried workers may regularly receive wages through bank accounts and require convenient mechanisms for managing those funds. Informal workers and individuals with irregular incomes may have different patterns of adoption, particularly where mobile money agents and person-to-person transfers are more relevant than conventional mobile banking applications.

Gender differences remain evident in several contexts. Women may face lower adoption rates because of differences in income, phone ownership, digital literacy, access to identification documents, mobility, and control over financial resources. Social and household norms can further affect women's ability to independently obtain and use digital financial services. However, the review also indicates that mobile banking can become a powerful tool for women's financial participation when barriers to device ownership, affordability, privacy, and digital skills are addressed.

Geographic location is another major source of variation. Urban populations typically benefit from better network coverage, greater smartphone availability, more financial institutions, higher digital literacy, and stronger digital-payment ecosystems. Rural populations may experience weaker connectivity, fewer agents, limited electricity access, lower incomes, and greater physical distances to service points. These differences demonstrate that mobile banking adoption is shaped by the broader socioeconomic environment rather than by individual preferences alone.

3.1.3 Behavioral Patterns and Frequency of Mobile Banking Use

The evidence shows that mobile banking users engage in a range of activities, although transaction patterns differ according to socioeconomic circumstances and the maturity of the local digital financial ecosystem. Person-to-person money transfers and payments are among the most common uses, particularly where mobile financial services have developed as alternatives to cash. Users also employ mobile banking for bill payments, airtime purchases, merchant payments, account balance inquiries, receiving salaries or remittances, and transferring funds between accounts. However, adoption does not automatically translate into intensive or meaningful usage. Some individuals register for mobile banking but continue to rely heavily on cash or physical branches. Others use digital services only for occasional transactions, particularly when transaction fees, network interruptions, security concerns, or insufficient knowledge restrict regular use. This finding is important because measures of financial inclusion based solely on account ownership or registration may overestimate the actual level of financial engagement.

The review also suggests that frequent use tends to emerge when mobile banking becomes integrated into routine economic activities. Individuals who regularly receive income digitally, pay bills electronically, transfer money to family members, or conduct mobile merchant payments have stronger incentives to remain active users. In this sense, mobile banking becomes more impactful when it forms part of a broader digital financial ecosystem involving merchants, employers, government services, banks, mobile network operators, and financial technology providers. Previous research on financial inclusion similarly emphasizes the importance of active and meaningful use rather than simple access to financial accounts.

3.2 Accessibility and Digital Financial Inclusion

The reviewed evidence demonstrates that mobile banking can substantially reduce several traditional barriers to financial inclusion. By allowing financial transactions through mobile devices, it can extend services beyond conventional bank branches and enable customers to interact with formal financial systems from their homes, workplaces, markets, or other locations. This is particularly significant in countries where formal banking infrastructure is concentrated in urban areas. Nevertheless, mobile banking should not be regarded as an automatic solution to financial exclusion. Its effectiveness depends on the availability of mobile networks, affordable devices, appropriate identification systems, financial literacy, consumer protection, and accessible agents or other support mechanisms.

3.2.1 Mobile Banking and Access to Formal Financial Services

One of the most important findings is that mobile banking can lower geographical and institutional barriers to formal financial services. Conventional banking frequently requires customers to travel to branches, complete paperwork, meet account-opening requirements, and maintain minimum balances. Mobile banking can simplify many of these processes and allow users to perform transactions remotely. This is particularly valuable for individuals living far from bank branches or in areas where transportation is expensive or unreliable.

Mobile banking also provides an entry point into the formal financial system for people who previously relied almost entirely on cash, informal savings groups, family networks, or other non-formal mechanisms. Once individuals begin using digital accounts for transfers and payments, they may become more familiar with formal financial institutions and subsequently gain access to additional services such as savings, credit, insurance, and digital investment products. The findings therefore support the argument that mobile banking can operate as a gateway to broader financial inclusion. The effect is particularly evident in economies where mobile financial services have developed rapidly alongside banking services. Mobile platforms can connect previously underserved customers with formal financial institutions without requiring the immediate construction of extensive physical branch networks. This represents an important structural advantage because expanding conventional branches across sparsely populated areas can be expensive and commercially difficult.

3.2.2 Inclusion of Rural and Underserved Populations

Mobile banking has demonstrated considerable potential for improving financial accessibility in rural and underserved communities. Rural residents often face long distances to bank branches, limited public transportation, and higher costs associated with accessing conventional financial services. Mobile banking can reduce these barriers by allowing basic financial transactions to occur remotely. The presence of local agents can further strengthen this effect by providing physical points for cash deposits, withdrawals, registration assistance, and customer support.

Mobile networks are therefore a critical component of rural financial inclusion. Where network coverage is reliable, mobile banking can reach communities that would otherwise have limited interaction with formal financial institutions (Kim, 2018). Mobile devices serve as the interface between users and financial systems, while agents and merchants provide important physical links between digital and cash-based economies. This combination is especially relevant in low-income communities where cash remains an important part of everyday economic activity.

The review nevertheless indicates that rural inclusion varies considerably between locations. Communities with reliable network coverage, active agents, affordable mobile devices, and strong local merchant networks tend to experience greater benefits. In contrast, areas characterized by weak connectivity, electricity shortages, limited agent liquidity, and low digital literacy may experience much lower levels of effective usage. Thus, successful rural mobile banking requires an ecosystem rather than a mobile application alone.

3.2.3 Digital, Gender, and Socioeconomic Inclusion Gaps

Despite its potential to reduce financial exclusion, mobile banking can also reproduce existing inequalities. The digital divide remains one of the most important challenges. Individuals without smartphones, reliable internet access, adequate digital skills, or sufficient financial resources may be unable to benefit fully from increasingly digital financial systems. Consequently, technological expansion can produce a paradox in which financial services become more accessible for digitally capable users while becoming relatively less accessible for those who lack digital resources.

Gender-related disparities are also significant. Where women have lower rates of phone ownership, less control over household financial resources, lower incomes, or restricted access to digital education, mobile banking may fail to eliminate financial exclusion. Privacy can be another concern, particularly when individuals share mobile devices with family members. Addressing these challenges requires more than simply increasing the number of mobile banking accounts; interventions must also address affordability, independent device access, digital literacy, consumer protection, and women's economic empowerment.

Income-related inequalities similarly influence the depth of mobile banking participation. Higher-income users are more capable of purchasing smartphones and maintaining mobile data connections, while lower-income users may depend on basic phones or shared devices. Transaction fees can also discourage frequent use among people making small-value transactions and data formation in different sectors like business, medical and even agriculture (Islam, 2025; Alasa et al., 2025a,b; Yusuf et al., 2024; Saha et al., 2026; Das et al., 2025). In such circumstances, mobile banking may improve access to basic payments without necessarily providing meaningful access to savings, credit, insurance, or other higher-value financial services.

Overall, the findings suggest that mobile banking can simultaneously reduce and reproduce financial exclusion, depending on the institutional and socioeconomic environment in which it is implemented. It reduces exclusion when it lowers geographical barriers, provides affordable services, supports rural agents, and offers simple and secure financial tools. Conversely, it can reproduce exclusion when access depends on expensive devices, advanced digital skills, reliable internet connectivity, or financial resources that disadvantaged groups do not possess. This finding extends earlier financial-inclusion research by demonstrating that digital access should be assessed not simply in terms of whether people can access a mobile banking service, but also in terms of who can use it, how frequently they use it, which services they can access, and whether that usage produces meaningful financial outcomes.

3.3 Outcomes of Mobile Banking for Individuals and Households

The review findings indicate that mobile banking has generated important financial and socioeconomic benefits for individuals and households, particularly in developing and emerging economies where conventional banking infrastructure remains limited. The most consistent benefits identified across the literature include easier access to financial services, lower transaction costs, faster money transfers, improved ability to save and receive payments, and greater convenience in managing household finances. These effects are particularly important for low-income and geographically remote populations because mobile banking reduces dependence on physical bank branches and allows users to conduct basic financial transactions through mobile devices (Akenzua, 2025). However, the evidence also shows that the magnitude of these benefits varies according to income, digital literacy, network availability, gender, location, and the affordability of mobile financial services.

3.3.1 Financial Access, Savings, and Transaction Efficiency

One of the strongest findings is that mobile banking improves access to basic financial services among populations that have traditionally been excluded from formal banking systems. Mobile money accounts and mobile banking applications enable users to deposit, transfer, receive, and withdraw funds without travelling long distances to a bank branch. This is particularly relevant in rural and underserved areas where conventional financial institutions are scarce. Previous studies on mobile money adoption in Africa and other developing regions similarly found that mobile financial services substantially reduced geographical barriers to

financial access and increased the frequency with which low-income users participated in formal and semi-formal financial transactions.

The evidence also suggests that mobile banking can reduce the monetary and opportunity costs associated with financial transactions. Users can transfer money within minutes rather than spending time and money travelling to financial institutions. For example, a rural household receiving money from a family member working in an urban area can access the funds through a mobile wallet instead of waiting for physical cash delivery. Faster payment systems also benefit households that regularly receive wages, remittances, government transfers, or payments from customers. Consequently, mobile banking increases transaction efficiency while allowing users to devote less time and resources to accessing financial services. Another important outcome concerns savings and financial management. Mobile accounts provide users with a relatively accessible mechanism for storing money and separating financial resources from immediate cash expenditure. Some mobile financial platforms also provide savings functions, transaction records, account notifications, and automated payment facilities, which can improve users' ability to monitor their finances. Earlier research has associated mobile money use with improved opportunities for precautionary savings and greater ability to respond to unexpected financial needs. Nevertheless, the evidence does not suggest that merely owning a mobile account automatically leads to higher savings. Savings outcomes depend on users' income levels, financial discipline, product design, transaction charges, and the availability of appropriate savings products.

Overall, the findings demonstrate that mobile banking's most immediate contribution is the reduction of barriers to routine financial transactions. Its value is particularly evident where conventional banking services are expensive, distant, or inconvenient. However, sustained financial inclusion requires moving beyond transaction access toward products that support long-term savings, credit, insurance, and financial planning.

3.3.2 Household Welfare and Economic Empowerment

The reviewed evidence indicates that mobile banking can contribute to household welfare by strengthening financial resilience and improving the ability of households to manage income fluctuations. One of the most significant mechanisms is consumption smoothing. When households experience temporary income shortages caused by illness, unemployment, crop failure, emergencies, or other unexpected events, mobile money can facilitate rapid transfers from relatives, friends, or other support networks (Ingale, 2024). Previous studies have shown that households with access to mobile financial services may be better able to cope with certain economic shocks because funds can be transferred quickly across geographical distances.

Mobile banking also facilitates access to economic opportunities. Individuals can receive payments for casual work, sell products remotely, pay suppliers, and participate in digital marketplaces without relying exclusively on cash. For rural households, this can expand the geographical reach of economic activity. Farmers and small traders, for example, may use mobile payments to receive customer payments or purchase inputs without travelling to financial institutions. These mechanisms can increase the efficiency of household economic activities and strengthen participation in local markets. The relationship between mobile banking and entrepreneurship is also positive but context-dependent. Access to convenient payment systems and mobile financial services can reduce some of the barriers faced by individuals seeking to establish or expand small income-generating activities. Mobile banking may allow entrepreneurs to receive customer payments, purchase inventory, transfer funds to suppliers, and maintain a basic record of transactions. However, mobile banking alone does not guarantee successful entrepreneurship. Business outcomes are also influenced by access to capital, market demand, managerial skills, infrastructure, education, and broader economic conditions.

The literature further highlights potential benefits for women's economic empowerment. Mobile accounts can provide women with greater control over personal financial transactions and can reduce dependence on intermediaries when receiving wages, remittances, or business payments. In some contexts, access to mobile financial services has increased women's ability to save privately, participate in economic activities, and manage household resources. Nevertheless, gender-related benefits remain uneven because women may face barriers including lower smartphone ownership, limited digital literacy, restricted access to identification documents, social norms, and concerns about control over mobile accounts (Islam, 2026). Therefore, mobile banking should be regarded as a potential mechanism for women's empowerment rather than an automatic source of empowerment.

3.3.3 Mobile Banking and Small Business Development

The findings show that mobile banking has become an important financial tool for microenterprises and small businesses, particularly where conventional business banking services are costly or difficult to access. Mobile payment systems allow businesses to receive customer payments electronically, transfer money to suppliers, pay workers, and maintain liquidity without depending entirely on physical cash. This can improve transaction speed and reduce the risks and administrative burdens associated with handling large amounts of cash.

Mobile banking also supports improved cash-flow management. Digital transaction records enable business owners to monitor incoming and outgoing payments and can provide a clearer picture of short-term liquidity. For small traders who previously relied heavily on informal cash transactions, the availability of digital payments can facilitate more organized financial management. Mobile payment acceptance may also expand the customer base because consumers can make payments even when they do not have sufficient physical cash.

Another important finding is the growing relationship between mobile financial services and access to additional financial products. Mobile savings and digital credit can provide microentrepreneurs with financial resources for inventory purchases, emergency expenses, and short-term business needs. Digital credit, in particular, has expanded access to small-value loans for individuals who may lack conventional collateral or formal credit histories. However, the benefits of digital credit are highly dependent on interest charges, repayment conditions, transparency, and responsible lending practices (Anitha, 2026). Easy access to credit can support business continuity when used productively, but excessive borrowing can also increase financial vulnerability.

The overall evidence therefore suggests that mobile banking can contribute to business development by improving payment efficiency, liquidity management, market participation, and access to financial services. However, the evidence for sustained business growth is less conclusive than the evidence for improved transaction efficiency. Long-term business performance depends on several complementary factors, including entrepreneurial capabilities, market access, infrastructure, credit conditions, taxation, and economic stability.

3.4 Challenges, Risks, and Barriers to Effective Adoption

Despite the substantial benefits associated with mobile banking, the review identifies significant challenges that can prevent digital financial services from producing fully inclusive outcomes. These challenges relate primarily to security and privacy risks, affordability, infrastructure limitations, digital literacy, and regulatory capacity. The findings demonstrate that access to a mobile financial platform does not necessarily translate into meaningful financial inclusion when users lack the resources, knowledge, trust, or institutional protection required to use the service safely and effectively (Bulbul et al., 2019; Das et al., 2025).

3.4.1 Security, Privacy, and Consumer Protection Concerns

Security and privacy concerns represent some of the most important barriers to sustained mobile banking adoption. Users may fear unauthorized transactions, account hacking, identity theft, scams, fraudulent messages, SIM-related fraud, or loss of funds. Even when actual financial losses are relatively limited, perceptions of insecurity can discourage individuals from using mobile financial services regularly. Trust is therefore a central component of mobile banking adoption and continued usage.

The findings indicate that consumer experiences strongly influence confidence in mobile financial systems. A user who experiences an unauthorized transaction or encounters difficulties recovering funds may become reluctant to use the service again. Similarly, unclear terms and conditions, hidden charges, aggressive digital lending practices, or inadequate complaint-resolution mechanisms can weaken trust. These findings are consistent with previous research emphasizing that perceived security and institutional trust are significant determinants of digital financial adoption (Kaur et al., 2025; Rahman et al., 2025).

Privacy represents another emerging concern as mobile financial services generate large volumes of transaction and personal data. Although such data can improve service delivery and enable financial institutions to develop customized products, inappropriate collection, sharing, or use of personal information can expose consumers to risks. Effective consumer protection therefore requires secure technological systems, transparent data practices, accessible complaint mechanisms, and clear responsibility when fraud or unauthorized transactions occur (Alam et al., 2023).

3.4.2 Affordability, Infrastructure, and Digital Literacy Barriers

The benefits of mobile banking remain constrained by affordability barriers. Transaction fees, account-related charges, mobile data costs, and the price of suitable mobile devices can discourage frequent use, especially among low-income populations. Even small transaction charges can become significant when users conduct numerous low-value transactions. Consequently, a service may be technically available but economically inaccessible to the poorest users (Hasan et al., 2026).

Infrastructure limitations constitute another major challenge. Poor network coverage, unreliable electricity, limited internet connectivity, and inadequate digital infrastructure can interrupt transactions and reduce confidence in mobile banking systems. These problems are particularly significant in remote and rural communities. A mobile banking system cannot deliver consistent financial inclusion when users regularly experience failed transactions, network interruptions, or difficulties accessing agents (Rahman et al., 2022).

Digital literacy is equally important. Some users may possess a mobile phone but lack the skills required to navigate applications, identify fraudulent messages, protect passwords, understand transaction procedures, or resolve technical problems. Older users, people with limited formal education, and populations in remote communities may therefore experience greater barriers to effective usage. The findings suggest that digital inclusion must accompany financial inclusion. Expanding mobile banking infrastructure without improving users' ability to operate and understand digital financial services may reproduce existing inequalities.

3.4.3 Regulatory and Institutional Challenges

Regulation plays a central role in determining whether mobile banking develops in an inclusive and sustainable manner. Appropriate identification requirements can help prevent fraud and money laundering, but excessively complicated registration procedures may exclude people who lack formal identification documents. The evidence therefore points toward the importance of proportionate customer-identification requirements that maintain financial integrity without creating unnecessary barriers for low-income and marginalized populations (Hossain et al., 2023).

Interoperability is another important institutional issue. When different mobile money providers and banking platforms operate in isolated systems, users may face additional costs and inconvenience when transferring funds between networks. Greater interoperability can improve competition, reduce transaction barriers, and expand the usefulness of digital financial services. At the same time, effective regulation is necessary to ensure that interoperability does not compromise security or consumer protection.

The review also indicates that regulatory capacity influences market outcomes. Strong consumer protection frameworks, transparent pricing requirements, competition policies, data-protection standards, and effective supervision can increase public confidence. Conversely, weak enforcement may allow unfair practices, excessive charges, inadequate disclosure, or irresponsible digital lending to develop. Regulatory institutions therefore need sufficient technical expertise and institutional capacity to supervise increasingly complex digital financial ecosystems.

3.5 Strategies and Future Directions for Inclusive Mobile Banking

The findings suggest that the future development of mobile banking should focus not simply on increasing the number of users but on improving the quality, affordability, security, and usefulness of financial services. Sustainable financial inclusion requires coordinated interventions involving governments, financial institutions, mobile network operators, technology companies, development organizations, and consumers.

3.5.1 Policies for Expanding Inclusive Mobile Banking

Several policy measures emerge from the reviewed evidence. First, policymakers should promote affordable mobile financial services by encouraging transparent pricing and competition while avoiding excessive transaction costs that disproportionately affect low-income users. Second, investment in telecommunications infrastructure, reliable electricity, and broadband connectivity is essential for extending mobile financial services to underserved rural communities.

Digital and financial literacy programs should also form an important component of inclusion strategies. Users need practical knowledge concerning account management, transaction procedures, fraud prevention, privacy protection, digital credit, and complaint mechanisms. Such programs should be adapted to different educational levels and delivered through accessible channels, including community organizations, schools, financial institutions, agents, and mobile platforms.

Expansion of agent networks is another important strategy. Agents provide a physical connection between digital financial systems and communities that may lack bank branches or advanced digital skills. Increasing the availability, reliability, and liquidity of agents can make deposits, withdrawals, and other services more accessible (Shahid, 2026). At the same time, strong consumer-protection mechanisms should accompany expansion to ensure that users have effective avenues for resolving disputes and recovering funds when problems occur.

3.5.2 Innovation and Integration of Mobile Financial Services

The review identifies considerable potential for innovation in mobile financial services. Mobile wallets have already transformed the way many individuals transfer and receive money, while mobile savings, digital credit, insurance products, merchant payments, and government-to-person transfers are expanding the range of financial activities that can be performed through mobile devices (Hossain, 2021, 2022).

Interoperability represents a particularly important direction for future development. Connecting mobile money platforms, banks, payment systems, and other financial institutions can create a more integrated digital financial ecosystem. This can make

transactions easier and potentially reduce fragmentation between providers. Similarly, digital and biometric identification systems may simplify account registration and strengthen identity verification, provided that they are implemented with appropriate privacy and data-protection safeguards.

The integration of mobile financial services with broader digital ecosystems also creates opportunities for small businesses. Digital payments can increasingly connect merchants with accounting tools, e-commerce platforms, savings products, credit services, and business-management systems. However, innovation should remain inclusive. New technologies should not primarily serve already digitally sophisticated and higher-income users while excluding people with basic phones, limited connectivity, or low digital literacy.

3.5.3 Future Research Directions and Implications

The review identifies several important gaps in the existing literature. First, much of the available evidence focuses on adoption, usage, or short-term financial outcomes, while fewer studies examine the long-term effects of mobile banking on household welfare, poverty reduction, business survival, and wealth accumulation. More longitudinal research is therefore needed to determine whether observed benefits persist over time. Second, findings vary considerably across countries and population groups, indicating that local institutional, cultural, economic, and technological conditions should receive greater attention in future research.

Measurement remains another challenge. Studies do not always use consistent definitions of mobile banking, financial inclusion, financial well-being, or economic empowerment. Greater standardization would improve the comparability of findings across countries and studies (Islam, 2026). Future research should also pay greater attention to differences by gender, age, income, education, rural and urban residence, disability, and business type.

For financial institutions, the findings imply the need to design affordable, accessible, secure, and user-friendly products rather than focusing exclusively on account acquisition. Technology providers should prioritize cybersecurity, usability, interoperability, and responsible data management. Policymakers should create regulatory environments that encourage innovation while protecting consumers from fraud, excessive costs, privacy violations, and irresponsible digital lending. Development organizations should complement technological expansion with digital literacy, infrastructure development, and programs targeting underserved populations.

In general, the evidence demonstrates that mobile banking can be a powerful instrument for financial inclusion, but its impact is not automatic. Its strongest and most consistently demonstrated effects concern improved financial access, transaction convenience, payment efficiency, and the ability to transfer and receive money. Broader outcomes such as household welfare, entrepreneurship, poverty reduction, and women's empowerment are promising but more context-dependent (Mishra, 2024). The future success of mobile banking will therefore depend on combining technological innovation with affordability, infrastructure, digital literacy, consumer protection, effective regulation, and inclusive institutional practices.

4. Conclusion

This comprehensive review concludes that mobile banking has become a significant driver of financial inclusion by expanding access to formal financial services, particularly among underserved individuals, households, and small businesses in low- and middle-income settings. The evidence indicates that the widespread availability of mobile phones, simplified digital account opening, mobile money services, agent networks, and convenient transaction platforms has reduced geographical, time, and cost barriers to financial participation. Mobile banking has also generated positive outcomes through improved savings, easier payments and transfers, greater access to credit and insurance, enhanced household financial management, and increased opportunities for entrepreneurial and income-generating activities. However, the benefits are not equally distributed, as digital literacy gaps, affordability constraints, limited network coverage, inadequate consumer protection, cybersecurity risks, fraud, and disparities in access to smartphones and reliable digital infrastructure continue to exclude vulnerable populations. The review therefore suggests that achieving inclusive and sustainable mobile banking requires coordinated efforts by governments, financial institutions, telecommunications providers, and other stakeholders to strengthen digital infrastructure, improve financial and digital literacy, protect consumers, enhance cybersecurity, promote affordable services, and develop inclusive regulatory frameworks. Overall, mobile banking represents an important pathway toward broader financial inclusion and improved socioeconomic outcomes, but its long-term impact depends on ensuring that digital financial services remain accessible, secure, affordable, and responsive to the needs of diverse and underserved populations.

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