

IMPACT OF FINANCIAL TECHNOLOGY ON SMALL AND MEDIUM ENTERPRISES FINANCIAL INCLUSION IN ABUJA, NIGERIA

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<https://doi.org/10.7118/ajbam-01-2025-96>

Abstract

Despite recent advancements in mobile banking, SMEs still face numerous challenges in account opening. Traditional banking systems are often inaccessible due to high costs, bureaucratic processes, and limited physical infrastructure. This study investigates the impact of financial inclusion tools mobile banking on SMEs' financial inclusion in Abuja, Nigeria. The main objective was to assess how these financial technologies enhance SMEs' access to, usage of, and quality of financial services. Employing a descriptive survey research design, the study targeted a population of 10,265 SMEs, from which a sample size of 385 was determined using the Yamane formula. Respondents were selected through a cluster sampling technique to ensure representativeness. Primary data was collected through structured questionnaire, and the hypotheses were analyzed using linear regression with the aid of Statistical Package for the Social Sciences (SPSS) output version 27.0. The findings revealed that financial technology significantly influences SMEs' financial inclusion, with mobile banking having positive impacts. The study concluded that financial inclusion tools significantly enhance the financial accessibility and performance of SMEs in Abuja, Nigeria. Mobile banking emerged as a critical driver for facilitating account opening, underscoring its role in bringing SMEs into the formal financial system. Based on these finding, the study recommends that Policymakers, and financial institutions should invest in mobile banking platforms that are user-friendly, accessible, and tailored to the specific needs of SMEs. Efforts should include robust customer education initiatives to improve digital literacy and encourage the adoption of mobile banking as a primary channel for opening and managing accounts. Mobile network providers should collaborate with financial institutions to expand network coverage and ensure uninterrupted service.

Keywords: Financial Technology, Small and Medium Enterprises Financial Inclusion

INTRODUCTION

Financial technology (FinTech) has revolutionized global financial systems by bridging gaps in traditional banking and fostering financial inclusion. The adoption of mobile banking is a significant driver of this transformation, enabling underserved populations to access financial services conveniently. In emerging economies, mobile banking solutions have supported individuals and businesses by reducing barriers to account opening and financial access. For instance, global initiatives like M-Pesa in Kenya have demonstrated the potential of mobile banking to integrate unbanked communities into formal financial systems, a strategy that could be

extended to support SMEs globally (Khera et al., 2021).

In Africa, financial inclusion remains a priority for economic growth, with mobile banking serving as a critical enabler. Across sub-Saharan Africa, SMEs face limited access to traditional financial services due to infrastructural and bureaucratic challenges. Mobile banking platforms like MTN MoMo and Airtel Money have provided alternatives, promoting financial account ownership among SMEs. Recent studies highlight how these platforms have mitigated challenges related to opening and maintaining financial accounts for SMEs, increasing their ability to access credit

and transact securely (IMF, 2021; UNCTAD, 2022).

Nigeria, as Africa's largest economy, exhibits a dichotomy of significant FinTech growth and pervasive financial exclusion. The Central Bank of Nigeria's policies have supported mobile banking expansion, but the inclusion of SMEs into the financial ecosystem remains a challenge. As SMEs contribute significantly to Nigeria's GDP, enhancing their financial access through mobile banking is vital. Mobile banking platforms like Paga and Opay have increased access to financial services, but account penetration among SMEs is still evolving due to issues such as digital literacy and network reliability (Adedeji et al., 2022).

The integration of mobile banking solutions into SMEs' operations directly influences their ability to open and manage financial accounts. Mobile banking reduces the need for physical banking infrastructure, offering SMEs the flexibility to transact and maintain accounts remotely. This functionality is crucial for SMEs in Abuja, where infrastructural gaps hinder traditional banking activities. Studies suggest that increased mobile banking adoption correlates positively with higher financial inclusion rates, enabling SMEs to leverage formal financial accounts for loans, savings, and investments (CBN, 2023; UNCTAD, 2022).

Leveraging mobile banking technology is essential for enhancing the financial inclusion of SMEs in Abuja. Policymakers and FinTech developers must address existing challenges to ensure that mobile banking platforms are accessible, secure, and tailored to the needs of small businesses. This approach will help foster economic growth by empowering SMEs with robust financial tools.

The emergence of financial technology (FinTech), particularly mobile banking, represents a transformative opportunity to address the financial exclusion of Small and Medium Enterprises (SMEs) in Abuja, Nigeria. This study investigates the impact of mobile banking on SMEs' financial inclusion, focusing on account opening a critical aspect for accessing broader financial services. SMEs contribute significantly to Nigeria's economy, accounting for 48% of GDP and over 80% of employment (SMEDAN, 2023). However, a

significant proportion of SMEs in Abuja remain financially excluded due to the limitations of traditional banking systems. The study seeks to explore how mobile banking can bridge this gap, enabling SMEs to gain formal financial access. Understanding this relationship is essential as financial inclusion underpins economic empowerment, job creation, and poverty reduction (World Bank, 2022).

Despite recent advancements in mobile banking, SMEs still face numerous challenges in account opening. Traditional banking systems are often inaccessible due to high costs, bureaucratic processes, and limited physical infrastructure. Mobile banking platforms have emerged as a solution, but issues such as inconsistent internet access, digital illiteracy, and security concerns impede their widespread adoption. Addressing these challenges is critical for fostering a more inclusive financial ecosystem that supports SMEs' growth and sustainability (Adedeji et al., 2022).

Mobile banking offers a promising solution to the financial exclusion of SMEs by reducing dependency on physical banking infrastructure and simplifying the account opening process. Digital platforms enable SMEs to perform financial transactions, access credit, and manage savings remotely. Policies like the Central Bank of Nigeria's (CBN) financial inclusion strategy have encouraged FinTech innovations, yet their potential remains underutilized due to operational barriers (CBN, 2023). This study aims to uncover how mobile banking can be optimized to address these limitations and enhance SMEs' financial inclusion in Abuja.

Existing literature highlights the potential of mobile banking in driving financial inclusion. M-Pesa in Kenya is often cited as a successful model, demonstrating how mobile platforms can connect previously unbanked individuals and businesses to formal financial systems (Suri & Jack, 2020). In Nigeria, platforms like Paga and Opay have attempted to replicate this success by offering accessible mobile financial services. However, these platforms have struggled with low adoption rates among SMEs due to infrastructural, cultural, and regulatory barriers. A comparative analysis of these platforms provides insight into best practices and existing gaps.

Although mobile banking reduces access barriers, it is not without its challenges. Security vulnerabilities, high transaction fees, and limited digital literacy among SMEs hinder the full potential of these platforms. Furthermore, inconsistencies in internet and mobile network services disproportionately affect SMEs in rural and semi-urban areas, including parts of Abuja (UNCTAD, 2022). These limitations highlight the need for a robust, context-specific approach to enhancing the usability and accessibility of mobile banking solutions.

To overcome these challenges, the study proposes targeted strategies, including the development of user-friendly mobile banking platforms, capacity-building programs to enhance digital literacy among SMEs, and regulatory frameworks to reduce transaction fees and improve security (Lawal & Abdullahi, 2024). Leveraging public-private partnerships can also strengthen mobile network infrastructure, ensuring reliable service delivery. By addressing these gaps, mobile banking can serve as a transformative tool for achieving financial inclusion among SMEs in Abuja. The main objective of the study was to evaluate the impact of financial technology on SMEs Financial Inclusion in Abuja, Nigeria. The specific objectives are to:

- i. assess the effect of mobile banking on account opening for SMEs in Abuja.

LITERATURE REVIEW

Conceptual Framework

Concept of Financial Technology

Financial technology, commonly referred to as FinTech, is a broad term that encompasses innovative technologies used to enhance or automate financial services and processes. It represents a convergence of technology and financial services aimed at improving, modernizing, and democratizing the financial sector. At its core, FinTech leverages software, algorithms, and digital platforms to create new solutions for financial transactions, lending, insurance, and wealth management, among other financial services. The rapid growth of the digital economy has positioned FinTech as a

transformative force in financial markets, offering improved accessibility, efficiency, and affordability compared to traditional financial systems. Technologies like blockchain, digital currencies, mobile payment systems, peer-to-peer lending platforms, and robo-advisors exemplify the range of FinTech applications, all working to bridge the gap between consumers and financial institutions (Hua & Huang, 2020).

In particular, mobile banking has emerged as one of the most impactful aspects of FinTech, providing consumers with easy access to banking services through their smartphones. This has revolutionized how people manage their finances, especially in developing regions where traditional banking infrastructure is limited. As mobile networks expand, mobile banking has been credited with increasing financial inclusion by enabling unbanked individuals to open accounts, make payments, transfer money, and access loans without needing a physical bank branch (Rahadjeng et al., 2023). Similarly, web-based payment platforms and Point of Sale (POS) systems have also become key players in FinTech by allowing businesses and consumers to engage in secure and convenient financial transactions. These innovations have proven crucial in improving access to financial services and fostering economic activities, particularly for small and medium-sized enterprises (SMEs) (Nugraha et al., 2022).

Furthermore, the introduction of Automated Teller Machines (ATMs) has also transformed how individuals interact with their banks. ATMs provide customers with 24/7 access to financial services such as cash withdrawals, deposits, and account management without having to visit a bank branch. This has significantly reduced the cost and time associated with banking transactions, thus contributing to a more efficient financial system (Aisha & Abdullahi, 2024). In addition, FinTech's ability to integrate these tools into one ecosystem has made it possible for businesses to offer more tailored and user-friendly services, which has ultimately led to improved customer experiences and satisfaction (Zhang et al., 2023; Nnajiofor et al., 2024).

The rise of FinTech has not only increased access to financial services but has also

contributed to the quality of these services. By utilizing digital platforms, customers now expect faster, more transparent, and personalized experiences. The ability to access services online, at any time and from anywhere, has led to a shift in customer expectations, with a growing demand for real-time transactions and lower transaction costs. As such, FinTech continues to drive improvements in the quality of financial services offered to consumers, ensuring that financial inclusion is not just about access, but also about delivering high-quality services that meet the diverse needs of users (Coffie et al., 2020).

Financial technology encompasses a wide range of innovative solutions that aim to improve financial systems, particularly in areas such as access, convenience, and quality of service. By revolutionizing traditional banking practices, FinTech has the potential to increase financial inclusion, particularly in underserved regions, thereby empowering individuals and businesses to participate more fully in the economy. As mobile banking, POS systems, ATMs, and web payment platforms continue to evolve, they will further shape the landscape of financial services, offering a myriad of opportunities for enhancing financial access and improving the overall quality of financial service delivery.

Mobile Banking

Mobile banking refers to the use of mobile devices such as smartphones and tablets to access and manage banking services, facilitating a wide range of financial transactions without the need to visit a physical bank branch. This digital banking platform allows users to perform various functions such as transferring funds, checking account balances, paying bills, and accessing loans, all through a mobile app or mobile-optimized website. The advent of mobile banking has dramatically altered the financial landscape by providing customers with greater convenience and accessibility, particularly in regions where traditional banking infrastructure may be limited (Sanchez et al., 2021). Mobile banking's convenience has been a key driver in enhancing financial inclusion, enabling individuals who were previously excluded from formal financial systems to access essential banking services.

In developing countries, mobile banking has proven to be an essential tool in expanding financial inclusion by overcoming geographical barriers. It offers a viable alternative to conventional banking methods, especially in rural areas where physical banks may be scarce or non-existent (Kwachu & Mathe, 2022). Mobile banking's ability to bypass traditional banking infrastructure and provide services directly through mobile networks makes it a powerful enabler of financial access. According to a study by Mwakaje and Nsubuga (2023), mobile banking has facilitated increased access to financial services for SMEs by allowing them to manage cash flow, make payments, and receive payments from customers efficiently. Furthermore, mobile banking platforms have fostered more secure and reliable financial transactions, enhancing consumer trust in the financial system (Murithi & Gikandi, 2021).

The accessibility and affordability of mobile banking make it an attractive financial tool for businesses and individuals alike, particularly in markets with low banking penetration. It has also supported the growth of digital payment ecosystems, helping SMEs reduce operational costs and improve business efficiency (Okafor et al., 2022). As a result, mobile banking contributes significantly to improving the overall quality of financial services by providing real-time processing, faster transactions, and reducing the need for physical cash handling (Chia, 2021).

Mobile banking has reshaped the way people access and use financial services, offering unprecedented levels of convenience and financial inclusion. By enabling users to perform financial transactions anytime and anywhere, it has bridged the gap between underserved populations and essential banking services, playing a critical role in fostering a more inclusive financial system.

Concept of Small and Medium Enterprise (SMEs)

Small and Medium Enterprises (SMEs) are vital to the economic growth and development of many countries, particularly in emerging markets. SMEs are generally defined based on the size of the business, which is often categorized by the number of employees, annual turnover, or total assets. These enterprises are typically privately owned and

operate in a variety of sectors, including manufacturing, services, agriculture, and retail (Akinwale et al., 2020). SMEs play an essential role in job creation, innovation, and the development of a competitive economy. They contribute significantly to the national GDP in many countries and are recognized as the backbone of the economy, providing a substantial portion of employment opportunities (Ogundele & Akinlabi, 2021).

The characteristics that define SMEs vary from one country to another, but they often share common traits such as limited resources, lower capital base, and a high degree of entrepreneurial flexibility. The size of SMEs in terms of employee count typically ranges from small businesses with fewer than 50 employees to medium-sized businesses employing up to 250 people (Bawua, 2021). Despite their smaller size compared to large corporations, SMEs are often more agile and adaptable to changes in the market environment, which allows them to innovate quickly and serve niche markets effectively (Vittal, 2020). Moreover, SMEs often focus on providing specialized products or services and build closer relationships with customers, allowing them to respond to consumer demands with greater responsiveness than larger firms (Aziz & Behera, 2022).

One of the defining features of SMEs is their contribution to poverty reduction and economic inclusion, particularly in developing economies. In many African countries, such as Nigeria, SMEs serve as a key avenue for promoting entrepreneurship and reducing unemployment. They offer opportunities for individuals to create businesses and generate income, which helps alleviate poverty and raise the standard of living (Ejere & Olise, 2022). Furthermore, SMEs are often more focused on local markets and provide critical goods and services that contribute to the socio-economic development of local communities (Abubakar & Bello, 2021). They also facilitate the growth of other related sectors by creating demand for raw materials, services, and labor, contributing to the overall industrial development of a nation.

Despite their importance, SMEs face numerous challenges that hinder their growth and sustainability. One of the major obstacles is

limited access to finance, as SMEs often struggle to obtain credit from financial institutions due to their lack of collateral and a formal financial history (Fashola et al., 2020). In many developing countries, the financing gap for SMEs remains significant, making it difficult for them to scale operations, invest in technology, or innovate. Moreover, SMEs also face challenges in the areas of infrastructure, regulatory frameworks, and market access, which can impede their ability to grow and compete effectively in the global market (Duru et al., 2021).

The financial exclusion of SMEs has been a key concern for policymakers and researchers, as it limits their potential to contribute fully to the economy. However, with the advent of financial technologies (FinTech), SMEs are gaining new opportunities for access to financial services, including loans, payment processing, and financial management tools. The integration of FinTech solutions, such as mobile banking, online payment systems, and digital lending platforms, is helping to bridge the financial inclusion gap for SMEs, particularly in regions where traditional banking infrastructure is limited (Ogundele & Akinlabi, 2021). These technologies allow SMEs to access financial services quickly, securely, and at lower costs, facilitating their participation in the digital economy and enhancing their competitiveness (Ganiyu et al., 2020).

SMEs are essential contributors to economic development, employment, and innovation, particularly in developing economies. They face numerous challenges, including limited access to finance, inadequate infrastructure, and regulatory hurdles. However, the rise of financial technologies has opened up new avenues for financial inclusion and growth, enabling SMEs to access critical financial services and enhance their productivity and profitability. As such, SMEs are increasingly seen as pivotal to achieving sustainable economic development, and understanding the role of financial technology in this context is crucial for fostering their growth and integration into the digital economy.

Financial Inclusion

Financial inclusion refers to the availability and accessibility of financial services to all individuals and businesses, regardless of their

income, geographic location, or economic standing. It is a crucial concept for fostering economic growth and reducing inequality, as it allows people to access essential financial products such as savings accounts, credit, insurance, and payment services (Sarma, 2020). The notion of financial inclusion is grounded in the idea that access to financial services enables individuals and small businesses to improve their financial well-being, invest in opportunities, and protect themselves against risks. It is particularly vital in emerging economies where a significant proportion of the population remains excluded from formal financial systems due to various barriers, including geographic remoteness, illiteracy, and lack of trust in financial institutions (Kiptum & Ngunjiri, 2021).

The importance of financial inclusion goes beyond providing basic financial services; it is essential for promoting economic empowerment, particularly for marginalized groups such as low-income individuals, rural dwellers, women, and small businesses. By increasing access to credit, savings, and insurance products, financial inclusion helps to reduce poverty, stimulate entrepreneurship, and facilitate the accumulation of assets (Andrianova & Naydenova, 2022). It also enables individuals to better manage their finances, cope with financial shocks, and invest in long-term projects such as education, health, and housing (Zhang et al., 2023). In the case of small and medium-sized enterprises (SMEs), financial inclusion allows for better access to capital, which is often a major constraint to growth. SMEs that can access financial products are more likely to expand, create jobs, and contribute to the overall economic development of their communities (Olaniran et al., 2020).

In recent years, the rise of financial technologies (FinTech) has significantly transformed the landscape of financial inclusion, particularly in developing countries. Digital platforms, mobile banking, point-of-sale (POS) systems, and other electronic payment solutions have made financial services more accessible to previously underserved populations. These technologies have reduced the reliance on physical bank branches, making it easier for people in remote or rural areas to engage with financial institutions. They have

also introduced more affordable and efficient methods of delivering financial services, which has made it possible for low-income households and small businesses to participate in the formal financial system (Hua & Huang, 2020). Furthermore, FinTech has enabled the development of alternative credit scoring models, which allow financial institutions to assess the creditworthiness of individuals and businesses without requiring traditional forms of collateral or financial history (Rahadjeng et al., 2023).

Despite significant advancements, several challenges to achieving full financial inclusion remain, particularly in developing economies. Barriers such as digital literacy, lack of trust in digital platforms, and inadequate regulatory frameworks continue to hinder the widespread adoption of financial services. Moreover, many financial services remain expensive or inaccessible to the poorest populations, and the digital divide means that not everyone can benefit from FinTech solutions (Nugraha et al., 2022). Additionally, there are concerns regarding the protection of users' privacy and data security, which could discourage individuals from engaging with digital financial services (Kiptum & Ngunjiri, 2021).

Financial inclusion is an essential driver of economic development and poverty alleviation, enabling individuals and businesses to access the tools necessary for financial security and growth. The evolution of financial technologies has played a critical role in expanding access to financial services, particularly for underserved groups. However, challenges remain, and addressing these obstacles is crucial for achieving comprehensive financial inclusion, particularly in developing regions like Africa. By enhancing accessibility, affordability, and security, financial inclusion can contribute significantly to the sustainable development of individuals and businesses, ultimately fostering greater economic equality and resilience in the global economy.

Account Opening

Account opening is the process through which individuals or businesses establish a relationship with a financial institution, enabling them to access a range of banking services. This process typically involves submitting personal information, verifying

identity, and agreeing to the terms and conditions set by the financial institution. Account opening is a critical first step in financial inclusion, as it marks an individual's or enterprise's entry into the formal financial system, allowing them to utilize various financial services such as savings accounts, loans, insurance, and payment systems (Andrianova & Naydenova, 2022). The ease with which accounts can be opened has significant implications for financial inclusion, as it determines whether previously unbanked individuals or businesses can access essential financial products.

The digitalization of banking has revolutionized account opening processes, making it more convenient and accessible, particularly in underserved regions. Mobile banking, for example, has allowed individuals in remote areas to open accounts without having to visit a physical branch. This has been a crucial step in expanding financial inclusion, as mobile banking enables customers to provide identification, complete forms, and access their accounts from virtually anywhere (Kiptum & Ngunjiri, 2021). The introduction of digital know-your-customer (KYC) processes has further streamlined account opening, allowing financial institutions to verify identities remotely using digital tools, which reduces barriers related to geographic location and access to physical infrastructure (Zhang et al., 2023).

For small and medium-sized enterprises (SMEs), account opening is a gateway to accessing formal financial services such as credit and transaction facilities. It allows SMEs to establish a financial history, which is crucial for building trust with financial institutions and gaining access to funding (Rahadjeng et al., 2023). In the context of SMEs, having an operational account is often a prerequisite for business expansion and sustainability, as it facilitates business transactions, payment processing, and access to working capital. However, SMEs often face challenges in opening accounts, including the need for high levels of documentation and the cost of maintaining accounts, which may deter many from formalizing their operations (Olaniran et al., 2020).

A significant barrier to account opening remains the lack of trust in financial institutions, particularly in developing regions where individuals may have had limited exposure to formal banking systems. People may be wary of the security of their funds or may not fully understand the benefits of having a bank account (Hua & Huang, 2020). Additionally, regulatory challenges, including stringent KYC and anti-money laundering requirements, can make the account opening process cumbersome for both individuals and businesses, particularly SMEs that may not have the necessary documentation or resources to comply with these regulations (Coffie et al., 2020). Financial institutions must balance regulatory requirements with efforts to make the process more inclusive and accessible.

Account opening plays a pivotal role in integrating individuals and businesses into the formal financial sector. With the advent of digital technologies, the process has become more accessible and efficient, facilitating financial inclusion, particularly for underserved populations. However, despite these advancements, challenges related to trust, security, and regulatory frameworks still limit the full potential of account opening processes, especially for SMEs in developing economies. Addressing these challenges is essential for ensuring that financial services are available to all, thus supporting broader economic development and reducing financial exclusion.

Theoretical Review

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis in 1989, is one of the most influential models for predicting user acceptance and adoption of technology. According to TAM, two key variables perceived usefulness (PU) and perceived ease of use (PEOU) significantly influence an individual's decision to adopt and use a particular technology. Perceived usefulness refers to the extent to which an individual believes that using a specific technology will enhance their job performance, while perceived ease of use represents the degree to which an individual perceives the technology as free from effort (Davis, 1989; Lee et al., 2003). These perceptions ultimately affect users' attitudes toward using the technology, which in

turn determines their behavioral intention to adopt it (Venkatesh & Davis, 2000). Over time, TAM has been expanded and adapted for diverse contexts, establishing a solid foundation for understanding the adoption of various digital tools and technologies, particularly in business, education, and healthcare (Surendran, 2012; Zhang et al., 2021).

In the context of financial technology (fintech) adoption among SMEs in Abuja, Nigeria, TAM provides a framework for assessing how small business owners perceive and adopt technologies like mobile banking, Point of Sale (POS) systems, Automated Teller Machines (ATM), and web payments. Specifically, perceived usefulness can be evaluated in terms of how these fintech tools help SMEs enhance operational efficiency, reduce transaction costs, and improve customer accessibility to financial services. For instance, mobile banking may be perceived as useful for its convenience and ability to facilitate quick, remote transactions, while POS systems can directly improve the customer experience by enabling cashless payments (Coffie et al., 2020; Mustapha & Musa, 2022). Similarly, perceived ease of use is critical, as SMEs with limited resources and technological literacy may struggle to adopt complex or difficult-to-use systems (Yuen et al., 2020). When fintech solutions are perceived as user-friendly and beneficial, SMEs are more likely to integrate them into their operations, which in turn promotes financial inclusion by improving access to, usage, and quality of financial services available to these businesses (Okoye et al., 2023).

By applying TAM, this study investigates how SMEs in Abuja perceive and adopt various fintech innovations in relation to financial inclusion. It also considers how perceived usefulness and ease of use shape SME owners' attitudes and intentions toward using fintech services like ATMs and web payments, and ultimately their adoption rates. This approach aligns with previous studies that utilized TAM to explore technology adoption in financial sectors (Rahadjeng et al., 2023; Zhang et al., 2023), but it diverges by focusing specifically on the SME sector and examining how fintech solutions can enhance key aspects of financial inclusion—account opening, access to services, frequency of use, and service quality (Agboola

& Yusuf, 2021; Hua & Huang, 2020). Given that financial inclusion is vital for economic growth, understanding these adoption dynamics through TAM provides insights into strategies that may foster broader inclusion for SMEs, addressing a crucial gap in financial accessibility for small businesses in Nigeria.

Criticism of TAM includes its focus primarily on individual-level factors while neglecting organizational and environmental influences that can also affect technology adoption (Venkatesh et al., 2003). Some researchers argue that TAM oversimplifies the adoption process by not accounting for external variables such as social influence or facilitating conditions (Bagozzi, 2007). Additionally, while TAM has been widely validated in various contexts, its applicability may vary across different technologies and user groups.

Empirical Review

Agboola and Yusuf (2021) conducted a study examining the role of mobile banking in enhancing financial service usage among small and medium enterprises (SMEs) in Nigeria, utilizing a quantitative research design. The research was situated in Nigeria, focusing on SMEs across various sectors. The population included SMEs that utilize mobile banking services, with a sample size of 250 respondents selected through stratified random sampling techniques. Data were collected from primary sources using structured questionnaires designed to assess the impact of mobile banking on the usage of financial services. The method of data analysis involved descriptive statistics and regression analysis to evaluate the relationships between mobile banking adoption and financial service usage. The findings revealed that mobile banking significantly increases the usage of financial services among SMEs by providing convenient access to banking products and facilitating transactions. However, the study faced limitations related to its reliance on self-reported data, which may introduce bias in responses, as well as the cross-sectional nature of the study that limits insights into long-term effects. To address these limitations, future research could adopt a longitudinal approach and incorporate qualitative methods to gain deeper insights into the ongoing impact of mobile banking on SMEs over time.

Andrianova and Naydenova (2022) conducted a study examining the role of account opening in financial inclusion, specifically focusing on access to banking services for individuals and small and medium enterprises (SMEs). The research was situated in various regions, targeting both individual users and SMEs seeking banking services. The population included individuals and SMEs that had attempted to open bank accounts, with a sample size of 300 respondents selected through stratified random sampling techniques. Data were collected from primary sources using structured questionnaires designed to assess the experiences and challenges faced during the account opening process. The method of data analysis involved descriptive statistics and regression analysis to evaluate the relationships between account opening experiences and financial inclusion outcomes. The findings indicated that the ease of account opening significantly influences financial inclusion by improving access to banking services for both individuals and SMEs. However, the study faced limitations related to its reliance on self-reported data, which may introduce bias in responses, as well as the cross-sectional nature of the study that restricts understanding of changes over time. To address these limitations, future research could adopt a longitudinal approach and include qualitative methods to provide deeper insights into the ongoing challenges and improvements in the account opening process.

Chia (2021) conducted a study examining the impact of mobile banking on financial inclusion through a comprehensive review of the existing literature. The research focused on various geographical locations, emphasizing the role of mobile banking in enhancing access to financial services for underserved populations. The research design was qualitative, utilizing a systematic literature review approach to synthesize findings from multiple studies. The population included academic articles and empirical studies related to mobile banking and financial inclusion, with no specific sample size as the review encompassed a wide range of literature. Data were collected from secondary sources, including peer-reviewed journals, conference papers, and reports from financial institutions. The method of data analysis involved thematic analysis to identify key themes and trends regarding the effects of

mobile banking on financial inclusion. The findings indicated that mobile banking significantly enhances financial inclusion by improving access to banking services, reducing transaction costs, and promoting savings among low-income individuals. However, the study faced limitations related to the variability in research methodologies across the reviewed studies, which may affect the comparability of results. Additionally, the reliance on existing literature may overlook emerging trends in mobile banking. To address these limitations, future research could conduct primary empirical studies that explore specific contexts and user experiences in mobile banking to provide more nuanced insights into its impact on financial inclusion.

Das and Rathi (2023) conducted a study examining the integration of web payments with mobile banking and its implications for financial accessibility. The research was situated in India, focusing on users of mobile banking and web payment systems across various demographics. The research design employed a mixed-methods approach, combining quantitative surveys and qualitative interviews. The population included individuals and small businesses that utilize both mobile banking and web payment services, with a sample size of 350 respondents selected through stratified random sampling techniques. Data were collected from primary sources using structured questionnaires for the quantitative aspect and semi-structured interviews for the qualitative insights. The method of data analysis involved descriptive statistics for the quantitative data and thematic analysis for the qualitative data to identify key themes regarding user experiences and perceptions of financial accessibility. The findings indicated that the integration of web payments with mobile banking significantly enhances financial accessibility by providing users with convenient, efficient, and secure transaction methods. However, the study faced limitations related to potential biases in self-reported data and the limited geographic scope, which may not fully capture the diverse experiences of users in different regions. To address these limitations, future research could expand the geographic scope to include a broader range of locations and employ longitudinal studies to assess changes in financial accessibility over time.

Ibrahim and Ibrahim (2021) conducted a study examining the role of mobile banking in promoting financial inclusion in developing economies, with a specific focus on various regions within these economies. The research utilized a quantitative research design targeting individuals and small businesses that utilize mobile banking services. The population included users of mobile banking in developing countries, with a sample size of 400 respondents selected through random sampling techniques. Data were collected from primary sources using structured questionnaires designed to assess the impact of mobile banking on financial inclusion. The method of data analysis involved descriptive statistics and regression analysis to evaluate the relationships between mobile banking usage and financial inclusion outcomes. The findings revealed that mobile banking significantly enhances financial inclusion by improving access to financial services, reducing transaction costs, and increasing overall financial literacy among users. However, the study faced limitations related to its reliance on self-reported data, which may introduce bias in responses, as well as the cross-sectional nature of the study that restricts understanding of long-term effects. To address these limitations, future research could adopt a longitudinal approach and incorporate qualitative methods to provide deeper insights into the ongoing impact of mobile banking on financial inclusion in developing economies.

Johnson and Kwame (2020) conducted a study examining the relationship between service quality and customer satisfaction in mobile banking, focusing on small and medium enterprises (SMEs) in Nigeria. The research was situated in Nigeria, targeting SME owners and employees who utilize mobile banking services. The research design employed a quantitative approach, with a population consisting of SMEs across various sectors. The sample size included 350 respondents selected through stratified random sampling techniques. Data were collected from primary sources using structured questionnaires designed to assess service quality dimensions and customer satisfaction levels. The method of data analysis involved descriptive statistics and regression analysis to evaluate the impact of service quality on customer satisfaction. The findings revealed that dimensions of service quality, such as reliability, responsiveness, and

assurance, significantly influence customer satisfaction in mobile banking among SMEs. However, the study faced limitations related to its reliance on self-reported data, which may introduce bias in responses, and the cross-sectional nature of the study that restricts understanding of changes over time. To address these limitations, future research could incorporate a longitudinal design and mixed methods to provide deeper insights into the evolving relationship between service quality and customer satisfaction in mobile banking.

Literature Gaps

The reviewed studies reveal several gaps in the literature on mobile banking and financial inclusion. Many studies, such as those by Agboola and Yusuf (2021) and Ibrahim and Ibrahim (2021), rely heavily on self-reported data, which may introduce biases, and adopt cross-sectional designs, limiting insights into long-term effects. Additionally, while Andrianova and Naydenova (2022) and Das and Rathi (2023) provide valuable findings on account opening processes and the integration of web payments with mobile banking, they are geographically constrained, failing to capture diverse user experiences across different regions. Chia (2021), though comprehensive in synthesizing existing literature, does not address emerging trends or offer primary data to substantiate findings. Furthermore, the majority of the studies focus on quantitative methods, leaving a gap in qualitative insights that could provide a deeper understanding of user experiences and perceptions. Lastly, there is limited exploration of the dynamic interaction between mobile banking adoption and broader socio-economic factors, underscoring the need for longitudinal and mixed-methods studies to provide more holistic perspectives.

METHODOLOGY

The study investigates the impact of financial technology (fintech) on the financial inclusion of Small and Medium-sized Enterprises (SMEs) in the Federal Capital Territory (FCT), Abuja, Nigeria. It employs a descriptive survey design to collect quantitative data through structured questionnaires distributed among a sample of 462 SMEs, selected using cluster

sampling from a population of 10,265 registered SMEs. The research focuses on various fintech tools such as mobile banking analysing effects on account opening rates. Data analysis incorporates both descriptive and inferential statistics, including Ordinary Least Squares regression to assess the relationships between fintech services and financial inclusion metrics. The study aims to provide insights into how fintech innovations can enhance financial access for SMEs in Abuja, contributing to broader economic development goals in Nigeria

RESULTS AND DISCUSSIONS

This section presents the analysis and interpretation of the data collected in the study. It includes descriptive statistics that provide an overview of the sample's demographic characteristics, followed by inferential statistics to assess the impact of financial technology (independent variables: mobile banking,) on financial inclusion outcomes for SMEs in Abuja (dependent variables: account opening).

Test of Hypotheses

Hypothesis One

H0₁: Mobile banking has no significant effect on account opening for SMEs in Abuja.

$$AOP_i = \beta_0 + \beta_1 MBK_i + \epsilon_i \dots\dots\dots 3.2$$

The data analysis is structured according to the research objectives, using Ordinary Least Squares (OLS) to test the formulated hypotheses. The findings are presented with relevant tables, and their implications are discussed in alignment with previous literature to provide a comprehensive understanding of the impact of financial technology on SMEs' financial inclusion in the region.

Out of 462 distributed copies of questionnaire, 398 were successfully returned, yielding a response rate of 86%. Conversely, 64 copies of questionnaire were unreturned, accounting for 14% of the total. The high response rate of 86% suggests a robust level of participation from the respondents, which enhances the reliability and generalizability of the data collected. This strong response rate provides a solid foundation for data analysis, as it reflects a broad range of views and experiences regarding the impact of financial technology on SMEs' financial inclusion in Abuja. Additionally, the low non-response rate minimizes the likelihood of non-response bias, thereby supporting the validity of the study's findings.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780a	.609	.608	.32795

Predictors: (Constant), MBK

Source: SPSS Output Version 27.0

Table 1 presents the model summary for the effect of mobile banking on account opening for SMEs in Abuja. The R-value of 0.780 indicates a strong positive correlation between mobile banking and account opening. The R-Square value of 0.609 signifies that approximately 60.9% of the variation in account opening for SMEs is explained by mobile banking. The

Adjusted R-Square value of 0.608 further confirms the model's reliability in generalizing its findings. The standard error of the estimate (0.32795) indicates a moderate level of prediction accuracy. Given the strength of the relationship, the null hypothesis (H0₁) stating that mobile banking has no significant effect on account opening is rejected. This suggests that

mobile banking significantly influences SMEs' ability to open accounts, highlighting its critical role in promoting financial inclusion.

Table 2 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.370	1	66.370	617.098	.000b
	Residual	42.591	396	.108		
	Total	108.961	397			

a. Dependent Variable: AOP

b. Predictors: (Constant), MBK

Source: SPSS Output Version 27.0

Table 2 presents the ANOVA results examining the effect of mobile banking (MBK) on account opening (AOP) for SMEs in Abuja. The F-statistic is 617.098 with a p-value of 0.000, which is statistically significant at the 0.05 level. This indicates that the regression model significantly explains the variability in account opening due to mobile banking. The regression sum of squares (66.370) is substantially higher than the residual sum of squares (42.591),

demonstrating that a large proportion of the variation in account opening is accounted for by mobile banking. Consequently, the null hypothesis (H_{0i}), which states that mobile banking has no significant effect on account opening for SMEs in Abuja, is rejected. This result highlights mobile banking's significant positive influence on facilitating account opening for SMEs.

Table 3 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.242	.113		11.011	.000
	MBK	.716	.029	.780	24.841	.000

a. Dependent Variable: AOP

Source: SPSS Output Version 27.0

Table 3 displays the regression coefficients evaluating the effect of mobile banking (MBK) on account opening (AOP) for SMEs in Abuja. The unstandardized coefficient (B) for mobile banking is 0.716 with a standard error of 0.029, and the standardized beta coefficient is 0.780, indicating a strong positive relationship

between mobile banking and account opening. The t-value for MBK is 24.841, with a significance level (p-value) of 0.000, which is statistically significant at the 0.05 level. This implies that for every unit increase in mobile banking usage, account opening improves by 0.716 units. Additionally, the constant term

(1.242) indicates the baseline level of account opening when mobile banking usage is zero. These findings provide robust evidence to reject the null hypothesis (H_{01}) and conclude that mobile banking significantly and positively influences account opening for SMEs in Abuja, underscoring its role as a key financial inclusion tool.

Discussion of Findings

This section discusses the findings of the study in relation to the hypothesis, supported by empirical and theoretical perspectives. The study's findings are interpreted in the context of existing literature and theoretical frameworks, emphasizing the significance of financial technology in driving financial inclusion for SMEs in Abuja.

The study revealed a significant positive relationship between mobile banking and account opening for SMEs, as indicated by the R^2 value of 0.609 and a high regression coefficient. This supports the assertion that mobile banking is pivotal in facilitating financial inclusion by simplifying the process of account opening. These findings align with Coffie et al. (2020), who emphasized that mobile banking eliminates traditional banking barriers, enabling SMEs to access formal financial systems. Similarly, Cheng and Liu (2021) found that mobile banking increases the financial engagement of underserved populations.

The results are further supported by the Technology Acceptance Model (TAM), which posits that the perceived ease of use and usefulness of mobile banking drive its adoption among SMEs. However, Das and Rath (2023) argue that the lack of technological literacy among SMEs in some regions reduces mobile banking's effectiveness, which partially antagonizes the findings. Despite these limitations, mobile banking had a substantial impact, highlighting its role as a critical driver of account opening for SMEs.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that financial inclusion tools significantly enhance the financial

accessibility and performance of SMEs in Abuja, Nigeria. Mobile banking emerged as a critical driver for facilitating account opening, underscoring its role in bringing SMEs into the formal financial system. This finding highlights the importance of mobile technology in overcoming traditional barriers to banking access, such as physical infrastructure limitations. Based on the study's hypotheses and key insights, the following recommendations are proposed:

- i. Policymakers and financial institutions should invest in mobile banking platforms that are user-friendly, accessible, and tailored to the specific needs of SMEs. Efforts should include robust customer education initiatives to improve digital literacy and encourage the adoption of mobile banking as a primary channel for opening and managing accounts. Mobile network providers should collaborate with financial institutions to expand network coverage and ensure uninterrupted service.

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