# FINANCIAL INCLUSION AND PERFORMANCE OF SMALL AND MEDIUM SCALE INDUSTRIES IN FCT, ABUJA.

**Ndaman Abdullahi**
Department of Business Administration
University of Abuja
Email: ndaman.abdullahi@uniabuja.edu.ng

&

**ANOSIKE, Jane Amaka**
Department of Business Administration
University of Abuja

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## ABSTRACT

*The inadequate access to financial services continues to pose a significant challenge to the growth and sustainability of small and medium-sized enterprises (SMEs) in Nigeria, particularly within the Federal Capital Territory (FCT), Abuja. This study aimed to investigate the impact of financial inclusion specifically through the use of mobile banking, electronic wallets (e-wallets), and point-of-sale (POS) technologies on the performance of SMEs in the FCT, focusing on revenue generation, enterprise expansion, and operational efficiency. A descriptive survey research design was adopted. The study targeted a total population of 613,492 SMEs registered in the FCT, as reported by the National Bureau of Statistics (2021). Using Krejcie and Morgan's sampling formula, a sample size of 384 SMEs was determined. Stratified random sampling was employed to ensure proportional representation across all six area councils within the FCT. Data collection was carried out using a structured questionnaire designed with a 5-point Likert scale. The data were analysed using both descriptive and inferential statistics, with regression analysis conducted via SPSS version 25. The findings revealed that mobile banking has a significant positive impact on revenue performance. Additionally, the use of e-wallets was shown to substantially support business growth, while POS systems were found to significantly improve operational efficiency. Based on these findings, the study concludes that digital financial inclusion is a key driver of improved SME performance in Abuja. Consequently, the study recommends that SMEs embrace these digital financial tools. Furthermore, it urges policymakers and financial service providers to invest in strengthening fintech infrastructure, implementing digital literacy initiatives, and introducing supportive incentives to foster wider adoption and utilization of these technologies.*

***Keywords:*** Financial Inclusion, Small and Medium-Sized Enterprises (SMEs), Revenue generation, Enterprise expansion, and Operational efficiency.

## INTRODUCTION

Financial inclusion refers to the availability and accessibility of affordable and appropriate financial services for individuals and businesses. It has gained considerable global importance as a driver of economic growth and a tool for alleviating poverty. According to the World Bank, financial inclusion helps individuals manage everyday expenses, prepare for emergencies, and invest in areas such as education, health, and business development thereby enhancing economic resilience and promoting growth.

In the African context, financial exclusion has historically hindered economic progress, particularly for micro, small, and medium-sized

enterprises (MSMEs). These enterprises often face difficulties integrating into the formal financial system due to infrastructural deficits, high operational costs, and stringent banking regulations. However, the advent of digital financial innovations such as mobile banking, electronic wallets, and point-of-sale (POS) terminals has begun to address these barriers. These technologies are transforming the financial landscape by offering cost-effective, user-centric solutions that support greater inclusion. Umar et al. (2025) argue that digital finance considerably improves access to financial services for SMEs across Africa, advocating for supportive policies to expand these services as a means of reducing unemployment and fostering economic growth.

In Nigeria, several government-led initiatives have aimed at extending financial services to underserved populations, particularly the unbanked. Despite these efforts, a significant portion of the population including numerous SMEs continues to lack access to formal financial services due to the limited reach of conventional banking and socio-economic challenges. The increasing use of digital financial platforms has been instrumental in overcoming these issues. Mobile banking, digital wallets, and POS terminals have emerged as vital tools for improving financial accessibility, thereby enabling broader economic engagement. Ibor et al. (2017) report that financial inclusion positively influences the operations and growth of MSMEs in Nigeria, reinforcing the need for strategic expansion of service points and infrastructure development.

Specifically, in Abuja's Federal Capital Territory (FCT), the proliferation of digital financial services has significantly influenced small and medium-sized enterprises. Mobile banking enables remote financial transactions, streamlined account management, and improved access to credit—all of which enhance business income. E-wallets offer secure and convenient financial management, facilitating seamless interactions with suppliers and customers, and contributing to enterprise development. Likewise, POS systems have improved payment processes by minimizing cash dependency and improving operational workflow. These tools not only improve business efficiency but also strengthen customer confidence, driving increased patronage and profitability. Ouncho et al. (2023) found a strong correlation between mobile banking and financial inclusion among SMEs in Kenya's Kakamega County, suggesting comparable dynamics may exist within Abuja's SME sector.

Between 2016 and 2025, Abuja's SME landscape has seen a remarkable evolution in financial service access. Initially, limited access to traditional banking services restricted business development and efficiency. However, the gradual integration of digital financial tools has helped mitigate these challenges. Enterprises that adopted mobile banking report enhanced financial control and improved access to funding. Similarly, digital wallets have facilitated better financial documentation and simplified transaction processes, while POS systems have diversified payment options and attracted broader customer bases. These advancements underscore the crucial role of financial inclusion in enhancing SME performance and sustainability in Abuja. This is consistent with Ibor et al.'s (2017) findings on the positive effects of financial inclusion on MSME development in Nigeria.

In conclusion, there is a well-established link between financial inclusion and SME performance in Abuja. The use of digital financial services such as mobile banking, e-wallets, and POS systems has contributed to increased revenue, business growth, and improved operational effectiveness. Continued investment in financial inclusion efforts is essential to maintain this momentum, with broader implications for economic development and poverty alleviation in the region.

Small and Medium Enterprises (SMEs) play a vital role in the economic development of emerging markets like Nigeria. In Abuja, the capital city, SMEs contribute significantly to job creation and economic diversification. However, limited access to financial services continues to constrain their capacity to grow revenue, expand operations, and enhance efficiency. The

emergence of digital financial platforms such as mobile banking, e-wallets, and POS systems presents potential solutions to these limitations. Nevertheless, the extent to which these technologies impact SME performance in Abuja remains insufficiently explored.

Empirical evidence supports the transformative impact of digital payment systems on SME operations. Areghan et al. (2025), for example, found that SMEs in Lagos experienced increased profitability, customer base expansion, and better accountability after adopting e-payment platforms. Likewise, Umoh et al. (2024) observed that digital tools such as bank mobile applications, POS machines, and digital wallets significantly improved customer engagement in Akwa Ibom State. Despite these benefits, ongoing challenges—including technical issues, poor infrastructure, and cybersecurity threats—continue to hinder the broad adoption and effective use of these technologies.

In Abuja, Margaret (2021) conducted research on financial barriers affecting SME performance, focusing primarily on access to finance and collateral demands. While the study shed light on financing constraints, it did not delve into the specific contributions of digital financial services in overcoming these issues. Furthermore, previous studies, including those by Areghan et al. (2025) and Umoh et al. (2024), have primarily concentrated on regions outside Abuja, thus leaving a gap in understanding the local impact of digital financial platforms on SMEs.

This study seeks to bridge that gap by assessing the influence of digital financial services on the performance of SMEs in Abuja, with particular attention to revenue growth, business expansion, and operational efficiency. It also explores practical challenges SMEs face in implementing these digital tools such as infrastructure deficits, cybersecurity risks, and the need for improved financial literacy offering region-specific insights currently lacking in the academic literature.

**Research Questions**

The study was guided by the following research questions:

i. To what extent does mobile banking influence revenue growth of small and medium industries in FCT, Abuja?

ii. How does the adoption of e-wallet services affect business expansion of small and medium industries in FCT, Abuja?

iii. In what way does Point-of-Sale (POS) transactions impact operational efficiency of small and medium industries in FCT, Abuja?

**Research Objectives**

The broad objective of this study is to evaluates financial inclusion and performance of small and medium scale industries in FCT, Abuja. Specific objectives include:

i. To examine the extent to which mobile banking influenced revenue growth of small and medium industries in FCT, Abuja.

ii. To assess how the adoption of e-wallet services affected business expansion of small and medium industries in FCT, Abuja.

iii. To determine the impact of Point-of-Sale (POS) transactions on operational efficiency of small and medium industries in FCT, Abuja.

**Research Hypotheses**

The study tested the following null hypotheses:

**$H_{01}$:** Mobile banking did not have any significant influence on revenue growth of small and medium industries in FCT, Abuja.

**$H_{02}$:** Adoption of e-wallet services did not have any significant effect on business expansion of small and medium industries in FCT, Abuja.

**$H_{03}$:** Point-of-Sale (POS) transactions did not have any significant impact on operational efficiency of small and medium industries in FCT, Abuja.

## LITERATURE REVIEW

### Concept of Financial Inclusion

Financial inclusion involves providing individuals and businesses with timely, affordable, and suitable access to a wide range of financial products and services such as savings, credit, insurance, banking, and digital payments in a responsible and sustainable manner (Demirgüç-Kunt et al., 2018). The principal centres on extending financial services to underserved and marginalized populations, particularly in low-income regions where access to formal financial institutions is limited. The primary objective is to bring the unbanked and underbanked into the formal financial ecosystem, thereby reducing dependency on informal mechanisms that typically involve high costs and increased financial risk (Allen et al., 2021). According to the World Bank (2022), financial inclusion contributes significantly to economic development by promoting entrepreneurship, financial stability, and equitable growth.

### Mobile Banking

Mobile banking refers to the use of mobile devices such as smartphones and tablets to perform financial operations remotely. This digital service enables users to access banking functions including balance inquiries, fund transfers, bill payments, loan applications, and mobile money transactions without needing to visit physical bank branches (Ozili, 2023). The increasing accessibility of mobile technology, alongside innovations in financial technology (fintech), has accelerated the growth of mobile banking, driven by demand for fast, secure, and convenient services (Bongomin et al., 2022). Particularly in developing countries, mobile banking plays a pivotal role in extending financial services to populations previously excluded from the traditional banking sector (World Bank, 2022).

### E-Wallets

E-wallets, or electronic wallets, are digital tools that store users' payment credentials and allow them to perform financial transactions electronically. These platforms connect to bank accounts or credit/debit cards and enable users to manage funds, make payments, and conduct online or in-person purchases using internet-enabled devices such as smartphones or computers. The main goal of e-wallets is to offer a more secure, efficient, and convenient payment option compared to cash, improving the overall user experience in financial transactions.

### Point-of-Sale (POS) System

A Point-of-Sale (POS) system refers to a technology-based setup that supports real-time transactions between businesses and their customers. Traditionally linked to physical checkout locations, modern POS systems now integrate advanced software and hardware solutions that support payment processing, sales reporting, and inventory control (Mohammed et al., 2022). Today, POS systems go beyond traditional retail counters and are used across a variety of industries including hospitality, healthcare, and services to facilitate seamless financial transactions (Kumar & Ravi, 2021).

### Concept of Performance

In the context of organizational management, performance is defined as the measurable output of a company's activities in relation to its strategic targets (Neely, Gregory, & Platts, 1995). It serves as a benchmark for assessing the extent to which an organization effectively and efficiently meets its goals across multiple areas such as financial returns, customer engagement, internal operations, and innovation (Kaplan & Norton, 2001). While historically measured by financial indicators like profit and return on investment, recent approaches recognize the importance of non-financial metrics, including employee morale, innovation outcomes, and sustainability performance (Melnyk, Stewart, & Swink, 2004). This comprehensive view allows firms to better assess their long-term progress and competitiveness.

### Revenue Growth

Revenue growth represents the increase in a company's income over a specified time period and serves as a key indicator of top-line performance prior to accounting for expenses and taxes (Brigham & Ehrhardt, 2016). This growth may result from expanding markets, new product development, strategic pricing, or customer acquisition initiatives. According to Damodaran (2012), steady growth in revenue reflects strong market demand and effective business positioning. However, it must be assessed in tandem with profitability indicators to ensure that rising revenues do not compromise the organization's financial health. Analysts and investors often examine revenue trends to assess a firm's growth potential and market competitiveness.

### Operational Efficiency

Operational efficiency describes a firm's capacity to optimize its resources and processes to achieve maximum productivity and output quality with minimal waste (Christopher, 2016). Achieving this often involves improving workflows, reducing inefficiencies, and making better use of organizational assets. Methodologies like Lean and Six Sigma are commonly applied to streamline processes and eliminate unnecessary activities (Womack & Jones, 2003). In highly competitive industries, operational efficiency supports cost reduction strategies and enhances responsiveness to customer needs (Slack, Brandon-Jones, & Burgess, 2016). Nevertheless, as Porter (1985) noted, operational efficiency alone is not sufficient for lasting competitive advantage unless it is aligned with strategic goals.

### Business Growth

Business growth refers to the expansion of a company's operations and capabilities, often seen in terms of higher revenue, increased market share, greater profitability, or workforce enlargement (Storey, 2016). This growth can be achieved through internal improvements such as product innovation or brand strengthening or through external efforts like mergers, acquisitions, or global market entry (Hitt, Ireland, & Hoskisson, 2001). Sustainable growth requires a balance between immediate gains and long-term strategic investments, including effective risk management (Jones & Tilley, 2007). Zahra and Covin (1995) emphasize the importance of entrepreneurial orientation in fostering business growth, particularly for SMEs navigating rapidly changing environments.

## Theoretical Review

### Dynamic Capabilities Theory

Dynamic Capabilities Theory (DCT), developed by Teece, Pisano, and Shuen (1997), serves as a strategic management model that explains how firms evolve, adapt, and reconfigure both internal resources and external competencies in response to rapidly changing environments. The theory underscores the significance of agility, innovation, and continuous learning in building a sustainable competitive edge, particularly in unpredictable and technologically evolving markets. Unlike operational capabilities, which support a firm's day-to-day activities, dynamic capabilities enable organizations to respond to changes and drive innovation (Teece, 2018).

In recent years, scholars have expanded the application of DCT to modern business settings marked by digital transformation, technological disruption, and high competition. Wang and Ahmed (2020), for example, highlight that dynamic capabilities such as sensing environmental shifts, capturing emerging opportunities, and realigning resources are vital for businesses striving to maintain relevance in the digital economy. These capabilities help organizations adapt to changes in technology, customer behaviour, and market structure. Additionally, dynamic capabilities are multi-layered, encompassing individual, group, and organizational levels, including aspects like adaptive leadership, skill development, and collaborative processes that promote ongoing innovation (Ambrosini & Bowman, 2022).

Within the context of small and medium-sized enterprises (SMEs), especially in developing economies like Nigeria, dynamic capabilities are essential in addressing external challenges and embracing emerging digital financial solutions.

SMEs that effectively incorporate technologies such as mobile banking, e-wallets, and point-of-sale (POS) systems into their operations can enhance performance through increased efficiency, broader customer engagement, and improved revenue generation. Ukko, Saunila, and Rantanen (2019) emphasize that dynamic capabilities support technology integration by promoting organizational learning, aligning strategy with technological shifts, and reshaping business models for digital transformation. As such, DCT offers a relevant framework for analysing how the adoption of financial technologies contributes to SME performance through strategic adaptation and resource realignment.

A fundamental premise of Dynamic Capabilities Theory is that the business environment is inherently unstable, competitive, and unpredictable. As a result, firms must cultivate adaptive capabilities and transformation-oriented practices. The theory posits that organizations can purposefully develop routines to detect external changes, capture arising opportunities, and reallocate resources to maintain competitiveness (Teece, 2020). In the case of SMEs in Abuja, this assumption suggests that sustained business success relies not just on existing capabilities, but also on the ability to continually adjust to technological and financial shifts. Enterprises that can strategically adapt to incorporate mobile and digital financial technologies are more likely to achieve improvements in efficiency, revenue, and growth.

Nevertheless, DCT has been subject to critique, particularly regarding its conceptual abstraction and challenges in empirical measurement. Critics contend that the theory lacks standardized tools to assess dynamic capabilities and does not always clearly distinguish them from routine operational skills (Arndt & Bach, 2020). Furthermore, DCT's original focus on large, well-resourced firms raises concerns about its suitability for SMEs, which often operate with fewer resources and informal structures. The theory's reliance on managerial interpretation and firm-specific history also limits its broad applicability across varying organizational contexts (Peteraf, Di Stefano, & Verona, 2017).

To address these concerns, recent empirical efforts have aimed at refining the theory's practical application. Scholars have proposed combining DCT with other models, such as the Resource-Based View (RBV) and the Technology Acceptance Model (TAM), to better explain how firms adopt new technologies and improve performance (Kindström, Kowalkowski, & Sandberg, 2021). In SME-focused research, proxies such as product or process innovation, agility in decision-making, responsiveness to environmental changes, and successful adoption of digital tools have been used to evaluate dynamic capabilities. In this study, DCT is employed to explore how SMEs in Abuja utilize digital financial technologies as strategic assets to improve outcomes such as revenue growth, business expansion, and operational efficiency.

In conclusion, Dynamic Capabilities Theory offers a strong theoretical basis for understanding how SMEs adapt to technological advancements and digital financial tools to enhance their performance. Its focus on continuous adaptation, learning, and resource reconfiguration aligns closely with this study's examination of mobile banking, e-wallets, and POS systems in the development of SMEs in Abuja. While the theory is not without its limitations, it remains a valuable analytical framework when contextualized and supported by observable strategic practices and outcomes within SMEs.

**Empirical Review**

Adeniran et al. (2024) examined the global perspectives on FinTech's role in empowering SMEs and women in emerging markets for financial inclusion. This review paper synthesized existing literature to explore the transformative potential of FinTech, the role of emerging technologies, successful applications in various regions, and the impact of regulatory environments. The population of interest was SMEs and women in emerging markets, but the study did not involve primary data collection from a specific sample. Instead, the sources of

data collection were prior research articles, reports, and case studies on FinTech and financial inclusion. The method of data collection was a literature review, and the method of data analysis was qualitative and thematic synthesis of the reviewed materials to identify key trends, benefits, challenges, and policy recommendations. The findings highlighted FinTech's crucial role in advancing financial inclusion through innovations like mobile banking and digital payments, providing SMEs with improved access to credit and efficient payment systems, and empowering women through financial independence and access to loans. A potential limitation of this review is its broad scope across all emerging markets, which might not capture the specific nuances and contextual variations within individual countries or regions. A possible recommended solution based on this study would be for future research to conduct more focused reviews on specific emerging market regions or individual countries to provide deeper insights into the localized impact and challenges of FinTech for SMEs and women. The current study intends to cover the gap by providing a comprehensive global overview of the landscape, identifying key areas of impact and setting the foundation for more targeted investigations into specific contexts.

This study by Ali et al. (2023) investigated the connections between the perceived usefulness and risks of e-wallets, their adoption, and impulsive buying behaviour. It specifically tested whether low distribution charges moderated these relationships in the post-Covid-19 era within the Pakistani context. A quantitative approach was utilised, employing survey questionnaires. The study focused on Pakistani customers familiar with digital money, collecting 310 valid responses from 650 distributed surveys. Data were gathered via questionnaires from individuals who had used e-wallets for online transactions. Analysis involved Partial Least Squares (PLS) computations, including validity assessments (convergent and discriminant) and PLS-Structural Equation Modelling (SEM) for hypothesis testing, supported by bootstrapping. Results indicated strong positive links between e-wallet usefulness and adoption, and between e-wallet risk and adoption. A significant correlation was found between adoption and impulsive buying. Furthermore, low distribution charges were found to significantly moderate the relationships linking e-wallet use to impulsive purchases, and e-wallet adoption to impulsive buying. A limitation is the exclusive focus on Pakistan, potentially restricting the generalizability of the findings to other emerging markets with different cultural, economic, or technological environments. Future research is recommended to broaden the geographical scope to include other emerging markets for comparative analysis. This study contributes by offering specific insights into these relationships within the Pakistani emerging market, providing a basis for future comparative studies.

Areghan et al. (2025) explored how electronic payment systems drive business growth, focusing on the role of e-payments in enhancing Small and Medium Enterprises (SMEs) in Lagos State, Nigeria. The objective was to determine the impact of these systems on SME growth and development. A descriptive survey design was used, targeting registered SMEs in key commercial areas of Lagos. A stratified sampling technique yielded a sample of 250 SMEs. Data were primarily collected through structured questionnaires administered to business owners and managers, supplemented by secondary data from financial institutions and SME development agencies. Self-administered questionnaires ensured consistency. Multiple regression and descriptive statistics were used to analyse the influence of e-payment systems (POS, mobile banking, internet transfers) on business growth indicators (revenue, customer base, transaction efficiency). Findings showed that e-payment systems significantly enhance SME performance by increasing efficiency, enabling real-time transactions, and improving customer satisfaction. Limitations include the geographical concentration in Lagos State, which may not represent other Nigerian regions with varying technological infrastructure and digital literacy, and the cross-sectional design, limiting long-term outcome tracking. Addressing this, the current study focuses on SMEs in Abuja, Nigeria's Federal Capital Territory, for

comparative insights and broader applicability. It also adopts a wider analytical framework incorporating financial inclusion and business sustainability, using longitudinal data to observe longer-term impacts.

Effendy et al. (2021) investigated the factors influencing the intention to use e-wallets among students in Kota Karawang, Indonesia, using an explanatory research design. The study population was 160 students in the information systems programme at STMIK Rosma Karawang (2019-2020), with a sample of 137 respondents selected via non-probability purposive sampling. Survey data were collected using questionnaires with a semantic differential scale. Analysis employed multiple linear regression using SPSS V23, including validity/reliability tests, classical assumption tests, and F-tests/t-tests for hypothesis testing. Results demonstrated that perceived usefulness and perceived ease of use positively and significantly influenced the intention to use e-wallets, whereas social influence was not significant. A limitation is the focus on a specific student group in one location, potentially limiting generalizability. Future research is advised to use more diverse samples across Indonesia. This study contributes by providing empirical evidence on the relationships between perceived usefulness, perceived ease of use, and social influence on e-wallet adoption intention within this specific Indonesian demographic, forming a basis for future comparative research.

Gill (2022) explored the potential of a Point of Sale (POS) swipe-up feature to improve restaurant worker efficiency in the USA, through a conceptual review of the SpotOn POS system's design and functionalities. The analysis did not involve a traditional empirical population or sample; instead, it discussed anticipated benefits for restaurant workers and customers generally. Data collection and analysis methods were not empirically based; the analysis was descriptive, outlining the key attributes of the swipe-up functionality and its expected effects on tab management, payment processing, UI design, order/inventory integration, payment compatibility, error prevention, scalability, and adaptability. Findings suggest the swipe-up feature could enhance worker efficiency (time savings, fewer bottlenecks), improve customer satisfaction (faster service, smoother transactions), and benefit managers (higher turnover, real-time data). A significant limitation is the lack of empirical validation; the analysis is based on anticipated outcomes without real-world usage data. Future research should conduct empirical studies in actual restaurants, collecting quantitative data on transaction times, errors, satisfaction, and employee feedback. This study contributes by presenting the innovative swipe-up feature and articulating its potential benefits based on its design, providing a rationale for future empirical investigations.

Harish et al. (2024) investigated the role of financial technology (fintech) in transforming informal sector retailers towards formalisation, focusing on Hirekerur, Karnataka, India. A descriptive research design was employed, focusing on informal sector retailers using secondary data. Sources included academic journals, industry publications, government reports, case studies, and credible online resources, gathered through a literature review. Analysis involved comprehensive literature review, thematic analysis, and comparative analysis. Findings highlighted that fintech innovations (mobile payments, digital wallets, online banking, microfinancing platforms, POS systems, digital bookkeeping) significantly facilitate formalisation by enhancing finance access, improving record-keeping/efficiency, reducing costs, and ensuring compliance, thus contributing to economic growth. A limitation is the reliance on secondary data, lacking original, context-specific insights into diverse informal retailer experiences. Future research should incorporate primary data collection (surveys, case studies) for firsthand perspectives. This study contributes by providing a broad understanding of the existing literature on fintech's influence on formalisation, laying the groundwork for targeted primary research.

Haritsyah and Dhewanto (2025) investigated a proposed pivot strategy for a Point-of-Sale (POS) system using the Business Model Canvas (BMC) through a case study of UR POS (PT.

RTL) in Indonesia. A qualitative research design was used, focusing on UR POS, a unit of PT. Rahmat Tuhan Lestari. The sample included company internals and industry experts, without a specific numerical size. Data were collected via structured interviews and a review of internal documents/literature. Analysis involved analysing UR POS's current BMC and conducting a SWOT analysis, mapped onto a SPACE Matrix. Findings suggested UR POS should pivot by focusing on evolving customer needs, acquiring new customers, and enhancing its value proposition with advanced features and e-commerce integration. A limitation is the single case study and qualitative methodology, potentially limiting generalizability to other POS systems or businesses. Future research should conduct quantitative studies across a larger, more diverse sample of POS companies to validate the broader applicability of such strategies. This study contributes by providing an in-depth, context-specific analysis of UR POS's challenges and a theoretically grounded proposed pivot strategy, offering insights for this particular case in the Indonesian market.

Hitlar et al. (2025) investigated the relationship between the electronic payment system and the growth of small and medium scale enterprises (SMEs) in the Idah Federal Constituency of Kogi State, Nigeria. A survey research design was employed, targeting owners and operators of SMEs in the area. A sample of 300 respondents was selected using a multi-stage cluster sampling technique. Data were collected via questionnaires and structured interviews. Analysis involved descriptive statistics and t-tests. Findings revealed that the e-payment system significantly increases SME growth in Idah, that these SMEs possess the necessary facilities and skills for e-payment transactions, and that electronic payment is an effective system for their activities. A key limitation is the geographical focus on Idah, potentially restricting generalizability to other regions or the entire Nigerian SME sector. Future research should conduct similar studies in other constituencies or states across Nigeria to validate findings and provide a broader understanding. This study contributes by using primary data for analysis, extending the scope to 2023, and specifically focusing on the role of e-payment in SME growth.

Ibor et al. (2017) investigated Financial Inclusion and the Growth of Small and Medium Scale Enterprises in Cross River State, Nigeria. A descriptive survey design was used, targeting owners and managers of SMEs. The population comprised registered SMEs, from which a sample of 300 respondents was selected using simple random sampling. Primary data were collected via structured questionnaires, and analysed using multiple regression techniques. Findings revealed that access to financial services (savings, credit, electronic banking) significantly impacts SME growth and sustainability by improving capital formation, financial literacy, and business expansion. Limitations included the geographic scope, potentially not representing Nigeria's diverse economic realities, and a focus on traditional financial inclusion indicators without exploring recent digital technologies like mobile banking, e-wallets, and POS systems. The current study addresses these by expanding the geographical focus to Abuja's FCT, adopting a broader conceptualization of financial inclusion that includes digital platforms, and using more contemporary variables and techniques to reflect the evolving financial landscape, aiming for a more comprehensive understanding of financial inclusion's impact on SME performance in Nigeria.

Islam and Sivanantham (2022) investigated the selection of the best E-Wallet in the Klang Valley, Malaysia, applying the Analytic Hierarchy Process (AHP). The study focused on identifying assessment criteria and ranking E-Wallets using AHP. The population consisted of experts in electronic commerce and banking in the Klang Valley, from which a sample of 30 individuals (12 IT managers, 18 specialists) was selected. Data sources included previous research and expert interviews to determine criteria, followed by questionnaires. Data collection involved personally administering AHP 1-9 scale questionnaires to the 30 experts. Analysis used the Analytic Hierarchy Process (AHP), with data synthesised using Superdecisions® software to rank the top five E-

Wallets. Findings revealed Samsung Pay as the most preferred E-Wallet in the Klang Valley, followed by Lazada Wallet and Boost, based on criteria like user experience, selection, and promotion. A key limitation is the population being restricted to managers and specialists, potentially offering a biased perspective not reflecting the general E-Wallet user base (non-working group). Future research should include a more representative sample encompassing both working and non-working individuals from various Malaysian regions. This study contributes by providing an analysis of E-Wallet selection in the Klang Valley using a structured AHP methodology based on expert opinions, offering initial insights into preferences within this specific professional group in the Malaysian prime marketplace.

Margaret (2021) investigated the Effect of Financial Factors on the Performance of Small Medium Enterprises in Abuja, Nigeria, assessing how access to credit, interest rates, and capital structure influence SME operational success. Conducted in Abuja, it adopted a descriptive survey design to evaluate the financial dynamics facing SMEs. The population comprised registered SMEs within the six area councils of the Federal Capital Territory, from which a sample of 200 businesses was purposively selected. Primary data were collected via structured questionnaires targeting business owners and finance managers, supplemented by secondary data from financial records and industry reports. Descriptive statistics and multiple regression analysis were used to determine the influence of each financial factor on SME performance indicators (profitability, growth rate, sustainability). Findings revealed that access to credit significantly enhances SME performance, whereas high interest rates and weak capital structures pose substantial constraints. Limitations included reliance on cross-sectional data, preventing temporal assessment, and use of self-reported measures, potentially subject to bias. Addressing these, the current study incorporates a longitudinal approach and expands the analytical scope to include digital financial inclusion variables (mobile banking, e-payment adoption), offering a more dynamic and comprehensive understanding of financial influences on SME performance.

Mwakio et al. (2024) conducted an empirical study titled "Impact of Accessibility of Digital Financial Services on Financial Inclusion Among SMEs in Taita Taveta County, Kenya". Employing a quantitative approach with a correlational design, the study focused on SMEs in Taita Taveta County. A sample of 125 SMEs was selected using purposive sampling, and primary data were collected through structured questionnaires. Data were analysed using descriptive, correlation, and regression analysis with SPSS Version 27. Findings revealed that digital financial services, particularly mobile money platforms (e.g., M-Pesa) and digital lending services, substantially enhanced SMEs' access to financial resources. Accessibility, cost, technological literacy, and credit access through DFS were found to positively and significantly contribute to SME financial inclusion. A potential limitation is the use of purposive sampling and a sample size of 125 SMEs within a single geographical area, potentially limiting generalizability to the wider SME population in Kenya. Future research could employ probability-based sampling and expand to include SMEs from a broader range of counties to enhance representativeness. This study contributes by examining the impact of DFS accessibility on financial inclusion among SMEs in the limited literature focusing on remote counties like Taita Taveta.

Nasri et al. (2024) investigated the impact of technology adoption and digital marketing strategies on the efficiency and financial success of pharmacies. The aim was to understand how implementing technologies (pharmacy management systems, mobile apps, POS systems) and digital marketing strategies (social media, SEO, email marketing) affect pharmacy operations and turnover. Conducted as a systematic literature review focusing on the pharmaceutical industry, the population consisted of published research relevant to technology and digital marketing in pharmacy management. As a systematic review, there was no specific human sample size, but rather a selection of relevant articles from databases like

Google Scholar, PubMed, and Scopus. Data sources were these academic databases and publicly accessible information. Data collection involved systematic literature searching and selection based on predefined inclusion (reputable source, recent, relevant, transparent methodology) and exclusion criteria. Analysis used descriptive qualitative methods with thematic synthesis to identify key themes related to operational efficiency and increased turnover. Findings indicated that technology adoption enhances operational performance and customer satisfaction, while digital marketing expands market reach and strengthens customer loyalty, although small pharmacies face implementation challenges. A potential limitation is the reliance on secondary literature, which may lack depth and specific contextual insights from primary data on real-world experiences. Future studies could incorporate primary research (case studies, surveys) to gather firsthand data on implementation processes, challenges, and direct impacts. This study contributes by providing a comprehensive synthesis of the existing literature, offering a broad understanding of potential and challenges at an aggregate level, thus laying the groundwork for more targeted primary investigations.

Obi (2023) conducted an empirical study titled "E-payment Administration and the Growth of Small and Medium Enterprises (SMEs) in Southeast Nigeria: An Evaluation of Cashless Policy". Utilising a descriptive survey design, the research examined the impact of the government's cashless policy on the performance of small-scale enterprises in Southeast Nigeria. The population consisted of SMEs in the region, from which a sample of 500 adult respondents was randomly selected from five states. Primary data were collected using a researcher-designed questionnaire with Likert-like options, complemented by secondary data. Data were analysed using percentages and SPSS tools. Findings revealed an inadequate supply of e-payment facilities, a lack of IT skills among respondents, and the ineffectiveness of the e-payment system in managing SMEs, resulting in a significant negative impact on their performance. A potential limitation lies in the cross-sectional design, providing a snapshot and limiting the ability to establish causal relationships between e-payment administration and SME growth. Future research could employ a longitudinal design to track the policy's impact over time. This study contributes by specifically investigating the effect of e-payment administration and the cashless policy on SME performance in Southeast Nigeria, an area receiving less attention compared to the banking sector and national economic growth.

Ouncho et al. (2023) investigated Mobile Banking and Financial Inclusion among SMEs in Kakamega County, Kenya, focusing on mobile banking's role in enhancing access to financial services. A descriptive survey research design was adopted in Kakamega County. The target population comprised registered SMEs, from which a sample of 150 respondents was drawn using stratified random sampling. Primary data were sourced through structured questionnaires, collected via self-administered surveys to SME owners and managers. Data were analysed using descriptive statistics and regression analysis to determine the relationship between mobile banking usage and financial inclusion outcomes (accessibility, convenience, business growth). Findings revealed that mobile banking positively influences financial inclusion by improving access to credit, enhancing transactional efficiency, and reducing operational costs, thereby fostering SME performance. Limitations included the narrow geographic coverage and exclusive focus on mobile banking, excluding other digital financial instruments like e-wallets and POS systems, and the sample size potentially not representing the broader Kenyan SME ecosystem. This study addresses these by expanding the research scope to Abuja, Nigeria, incorporating a wider array of financial inclusion tools (e-wallets, POS), and increasing the sample size to enhance generalizability and provide a more holistic understanding of the relationship between digital finance and SME performance.

Rozali et al. (2024) investigated the trends and characteristics of mobile payment and e-wallet research through a bibliometric analysis, focusing on publications indexed in the Scopus database from 1984 to 2021. Conducted by

authors from Universiti Malaysia Perlis and Universiti Teknologi MARA Perlis Branch, the study employed a bibliometric analysis design on a population of 1348 published articles identified via keyword searches ("mobile payment", "e-wallet"). Data were automatically collected from the Scopus database using specified keywords. Analysis involved bibliometric indicators analysis techniques using tools like Harzing Publish or Perish and Microsoft Excel to assess research productivity, publication sources, authorship, citations, and keyword usage. Findings indicated an increasing trend in publications, especially post-2019, mostly in journals or conference papers in English, predominantly in Computer Science and Business, Management & Accounting, with China leading in publication contribution and "Mobile Payment", "Global System for Mobile Communications", and "Electronic Money" being the most frequent keywords. A limitation identified is the methodology focusing solely on the Scopus database and specific keywords. A possible solution is to expand the analysis to include other databases and incorporate additional keywords like "e-money" for a more comprehensive overview. This study contributes by utilising bibliometric analysis to map the intellectual structure of mobile payment and e-wallet research using the Scopus database, presenting the latest trends and providing a foundational understanding for future, more expansive bibliometric studies.

Umar et al. (2025) investigated The Role of Digital Financial Services in Promoting SME Financial Inclusion in Africa, focusing on how digital tools like mobile money, online banking, and fintech platforms enhance financial service accessibility and utilisation among SMEs in Nigeria, Kenya, and Ghana. Conducted in urban centres across these countries, it adopted a mixed-method research design combining quantitative and qualitative approaches. The population comprised registered SMEs, with a stratified random sampling technique selecting a representative sample of 400 SMEs. Data were collected from primary (structured questionnaires, in-depth interviews) and secondary (regulatory reports, financial records) sources. Quantitative data were analysed using regression analysis and SEM, while qualitative data were thematically analysed. Findings indicated that digital financial services significantly improve SME financial inclusion by reducing transaction costs, improving credit access, and enabling real-time financial management. Limitations included the cross-national scope, introducing potential contextual disparities in digital infrastructure, regulations, and SME development levels, affecting result uniformity. Furthermore, the study did not isolate the individual impact of specific tools like e-wallets, POS, and mobile banking on SME performance. Addressing this, the current study focuses on a single geographical context—Abuja, Nigeria—for contextual uniformity and disaggregates digital financial services into mobile banking, e-wallets, and POS systems to examine their distinct effects on revenue growth, operational efficiency, and business expansion of SMEs.

**Literature Gaps**

A thorough review of the existing literature on digital financial inclusion and its impact on SME performance reveals several key gaps that this study aims to address. Many prior studies have been geographically limited, focusing on specific regions within Nigeria such as Idah Federal Constituency (Hitlar et al., 2025), Southeast Nigeria (Obi, 2023), and Enugu Metropolis (Umar et al., 2024) as well as other African countries like Kenya (Mwakio et al., 2024) and Ghana (Umar et al., 2025), with no in-depth exploration of the Federal Capital Territory (FCT), Abuja. Given Abuja's distinct role as a political and economic hub, its SME environment may differ significantly in terms of digital infrastructure, regulatory support, and policy implementation, necessitating a focused investigation to enhance contextual relevance. Methodologically, much of the existing research relies on cross-sectional designs using descriptive statistics or basic regression analyses (e.g., Margaret, 2021; Komba & Razak, 2021), which often fail to capture causal relationships between specific digital tools such as mobile banking, e-wallets, and POS systems and SME performance outcomes. Additionally, some studies employ conceptual frameworks without

empirical validation (Harish et al., 2024; Nasri et al., 2024), limiting their practical applicability. This study addresses these limitations by adopting a theory-driven approach grounded in Dynamic Capabilities Theory, enabling a more rigorous analysis of how digital financial inclusion influences business sustainability and growth. Furthermore, many previous works treat digital financial services as a single construct (Mwakio et al., 2024; Umar et al., 2025), neglecting to distinguish the unique impacts of individual technologies. Similarly, SME performance has often been assessed using broad indicators such as "business growth" or "financial inclusion," overlooking critical dimensions like revenue growth, operational efficiency, and business expansion. This study remedies that by disaggregating both independent and dependent variables to evaluate the specific influence of mobile banking, e-wallets, and POS systems on three clearly defined performance metrics. Lastly, sampling biases are evident in several studies, such as Effendy et al. (2021), which focused solely on students in Indonesia, and Islam and Sivanantham (2022), which sampled only IT professionals in Malaysia both limiting generalizability. To improve external validity, this study employs a stratified random sampling technique targeting a broader and more representative sample of SMEs operating in the FCT, Abuja. By addressing these gaps through a location-specific focus, methodological rigor, variable disaggregation, and improved sampling techniques, this research contributes a more nuanced and empirically robust understanding of the relationship between digital financial inclusion and SME performance in the Nigerian context.

## METHODOLOGY

This study focused on determining the influence of financial inclusion on the operational success of small and medium enterprises located in the Federal Capital Territory, Abuja. The sample size was calculated using Taro Yamane's formula at a 95% confidence level and 5% margin of error, ensuring statistical accuracy and generalizability of results to the broader SME population in the FCT. A stratified sampling technique was employed, where strata were defined based on the contribution of each area council to the total SME population. Within each stratum, simple random sampling was used to select respondents, ensuring equal opportunity for inclusion and minimizing bias. Data were collected primarily through a structured questionnaire administered in person across selected area councils to maximize response rates and clarity. The questionnaire was divided into two sections: Section A gathered demographic information such as age, gender, business type, and years of operation, while Section B assessed the study variables financial inclusion, measured through mobile banking, e-wallet usage, and point-of-sale (POS) systems, and SME performance, evaluated using indicators like revenue growth, business expansion, and operational efficiency. To analyze the data, multiple regression models were applied, including separate equations for each independent variable (mobile banking, e-wallet, and POS) against different dimensions of SME performance, alongside a combined model: $OP = \beta_0 + \beta_1 MOB + \beta_2 EWA + \beta_3 POS + \varepsilon$, where OP represents overall SME performance; $\beta_0$ is the constant term; $\beta_1$, $\beta_2$, $\beta_3$ are regression coefficients indicating the impact of mobile banking (MOB), e-wallet (EWA), and POS on performance; and $\varepsilon$ accounts for unexplained variations. This methodological approach ensured a robust and reliable analysis of how financial inclusion tools contribute to SME success in the region.

## RESULT AND DISCUSSION

The questionnaire response rate is displayed in Table 4.1. A total of 397 of the 461 questionnaires that were given to chosen small and medium-sized businesses (SMEs) in the Federal Capital Territory (FCT), Abuja, were

properly filled out and returned, yielding an impressive 86% response rate. The remaining 64 questionnaires, or 14% of the total, were not returned. The high response rate suggests that the intended respondents participated actively, which improves the validity, reliability, and generalisability of the study's conclusions. Additionally, it suggests that the information gathered is reliable and adequately representative of the research population, offering a solid foundation for deriving significant conclusions and policy suggestions about how financial inclusion affects the performance of SMEs in the FCT.

**Test of Hypotheses**

**Hypothesis One**

**$H_{01}$:** Mobile banking did not have any significant influence on revenue growth of small and medium industries in FCT, Abuja.

$RG=\beta_0+\beta_1 M_{OB}+\varepsilon i$……3.2

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .760[a] | .578 | .577 | .34542 |

a. Predictors: (Constant), MOB

Source: SPSS Output Version 27.0

Table displays the model summary for the regression analysis evaluating Hypothesis One, which investigated the significant influence of mobile banking on the revenue growth of small and medium enterprises in Abuja. The model demonstrates a substantial correlation coefficient (R) of 0.760, suggesting a strong positive association between mobile banking and revenue growth. The R Square value of 0.578 indicates that mobile banking alone accounts for approximately 57.8% of the variance in revenue growth, while the Adjusted R Square of 0.577 validates the model's reliability after accounting for the number of predictors. The standard error of the estimate (0.34542) remains relatively small, confirming the model's adequate fit. These findings suggest that mobile banking serves as a significant predictor of revenue growth among SMEs in the FCT, Abuja. Therefore, the null hypothesis proposing that mobile banking does not significantly affect revenue growth is likely to be rejected, highlighting the crucial contribution of digital financial instruments in improving business income and financial outcomes.

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 64.528 | 1 | 64.528 | 540.809 | .000[b] |
| | Residual | 47.130 | 395 | .119 | | |
| | Total | 111.658 | 396 | | | |

a. Dependent Variable: RG

b. Predictors: (Constant), MOB

Source: SPSS Output Version 27.0

Table displays the ANOVA (Analysis of Variance) results for the regression model examining the impact of mobile banking on revenue growth among small and medium enterprises in Abuja. The F-statistic of 540.809 with a significance value (p-value) of 0.000 demonstrates that the model achieves statistical significance at the 0.05 level. Given that the p-value is below 0.05, the null hypothesis ($H_{01}$), which posits that mobile banking does not significantly influence revenue growth, is

rejected. This validates that the regression model fits appropriately and that mobile banking exerts a statistically significant impact on SME revenue growth in Abuja. The implication of this finding is that mobile banking serves a vital function in enhancing the financial performance of small and medium enterprises, thereby supporting the importance of digital financial inclusion in fostering SME sustainability and growth within the FCT.

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 1.182 | .129 | | 9.137 | .000 |
| | MOB | .736 | .032 | .760 | 23.255 | .000 |

a. Dependent Variable: RG

Source: SPSS Output Version 27.0

Table displays the regression coefficients evaluating the impact of mobile banking (MOB) on revenue growth (RG) among small and medium enterprises in the Federal Capital Territory, Abuja. The unstandardized coefficient (B = 0.736) demonstrates that a one-unit increase in mobile banking usage corresponds to a 0.736 unit increase in revenue growth, assuming other variables remain constant. The t-value of 23.255 is substantial, and the corresponding p-value of 0.000 falls well below the 0.05 significance level, verifying that mobile banking exerts a statistically significant influence on revenue growth. Based on the t-test results, we reject the null hypothesis ($H_{01}$) which stated that mobile banking does not significantly affect revenue growth. This finding suggests that mobile banking serves as a robust predictor of enhanced revenue among SMEs in the FCT-Abuja, reinforcing the proposition that digital financial services improve business financial outcomes and should be emphasized in SME financial planning and policy formulation.

**Hypothesis Two**

**$H_{02}$:** Adoption of e-wallet services did not have any substantial impact on the growth of small and medium-sized businesses in the Federal Capital Territory, Abuja.

$BE=\beta_0+\beta_1 E_{WA}+\varepsilon i$……3.3

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .589[a] | .347 | .345 | .43244 |

a. Predictors: (Constant), EWA

Source: SPSS Output Version 27.0

The regression analysis evaluating Hypothesis Two, which investigated whether the use of e-wallet services (EWA) had a substantial impact on the business expansion (BE) of small and

medium-sized companies in Abuja, is summarised in the table. A somewhat good association between e-wallet usage and business expansion is indicated by the model's correlation coefficient (R) of 0.589. The Adjusted R Square of 0.345 validates the stability of the model after controlling for the predictor, while the R Square value of 0.347 indicates that the use of e-wallet services accounts for 34.7% of the variation in business expansion. Given that the estimate's standard error (0.43244) falls within a reasonable range, the model appears to be fairly accurate. These results suggest that SMEs in Abuja benefit greatly from the implementation of e-wallets in terms of company expansion and outreach. Thus, the null hypothesis ($H_{02}$) will be rejected if other statistical tests (ANOVA and coefficients) demonstrate significance, supporting the idea that e-wallet services are essential for fostering SME growth through easily accessible, cashless, and effective financial transactions.

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 39.220 | 1 | 39.220 | 209.734 | .000[b] |
| | Residual | 73.865 | 395 | .187 | | |
| | Total | 113.086 | 396 | | | |

a. Dependent Variable: BE

b. Predictors: (Constant), EWA

Table displays the ANOVA results for the regression analysis evaluating whether the adoption of e-wallet services (EWA) significantly influences the business expansion (BE) of small and medium enterprises in the Federal Capital Territory, Abuja. The model produces an F-statistic of 209.734 and a p-value of 0.000, which falls below the 0.05 significance level, demonstrating that the overall model achieves statistical significance. Based on this p-value, we reject the null hypothesis ($H_{02}$) which proposed that e-wallet adoption does not significantly influence business expansion. This validates that the adoption of e-wallet services exerts a significant positive impact on SMEs' capacity to expand their operations, access new markets, and diversify service offerings in Abuja. The implication of this finding is that financial inclusion through e-wallet platforms enhances SMEs' operational capabilities and scalability, thereby serving a crucial function in enabling business expansion within the digital economy.

**Coefficients[a]**

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 2.046 | .157 | | 12.996 | .000 |
| | EWA | .552 | .038 | .589 | 14.482 | .000 |

a. Dependent Variable: BE

Source: SPSS Output Version 27.0

Table displays the regression coefficients evaluating the impact of e-wallet adoption (EWA) on business expansion (BE) among small and medium enterprises in the Federal Capital Territory, Abuja. The unstandardized coefficient (B = 0.552) demonstrates that a one-unit increase in e-wallet service utilization corresponds to an anticipated 0.552 unit increase in business expansion, assuming other variables remain unchanged. The model also reveals a t-value of 14.482 with a p-value of 0.000, which falls substantially below the 0.05 threshold. Based on this t-value, we reject the null hypothesis ($H_{02}$) which proposed that e-wallet adoption does not significantly influence business expansion. This finding confirms that e-wallet service utilization exerts a statistically significant and positive influence on SME expansion in Abuja. The implication is that e-wallet technology facilitates SMEs in broadening their market presence, diversifying offerings, and scaling operations more effectively, thereby enhancing their overall business development and sustainability within the digital financial environment.

**Hypothesis Three**

**$H_{03}$:** Point-of-Sale (POS) transactions did not have any significant impact on operational efficiency of small and medium industries in FCT, Abuja.

$OE=\beta_0+\beta_1 P_{OS}+\varepsilon i$……3.4

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .807[a] | .651 | .650 | .31002 |

a. Predictors: (Constant), POS

Source: SPSS Output Version 27.0

Table displays the model summary for the regression analysis evaluating Hypothesis Three, which investigated the significant impact of Point-of-Sale (POS) transactions on the operational efficiency (OE) of small and medium enterprises in the Federal Capital Territory, Abuja. The correlation coefficient (R) of 0.807 demonstrates a strong positive association between POS usage and operational efficiency. The R Square value of 0.651 reveals that POS transactions account for 65.1% of the variance in operational efficiency, while the Adjusted R Square of 0.650 validates the model's reliability after accounting for the predictor. The relatively small standard error of the estimate (0.31002) confirms that the model adequately fits the data. These findings indicate that POS transactions possess considerable explanatory strength regarding operational efficiency. If corroborated by a significant p-value in the ANOVA table, this would result in rejecting the null hypothesis ($H_{03}$) and affirming that POS usage plays a crucial role in enhancing efficiency within SME operations in Abuja.

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 70.884 | 1 | 70.884 | 737.504 | .000[b] |
| | Residual | 37.965 | 395 | .096 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 108.848 | 396 | | | |

a. Dependent Variable: OE

b. Predictors: (Constant), POS

Table displays the ANOVA results for the regression analysis evaluating whether Point-of-Sale (POS) transactions significantly affect the operational efficiency (OE) of small and medium enterprises in the Federal Capital Territory, Abuja. The model yields an F-statistic of 737.504 with a p-value of 0.000, which falls well below the 0.05 significance level. This demonstrates that the regression model achieves statistical significance, and the variance in operational efficiency is substantially accounted for by POS system utilization. Given the p-value, we reject the null hypothesis ($H_{03}$), which stated that POS transactions do not significantly influence operational efficiency. The implication is that POS technology serves a crucial function in improving operational processes, including accelerated customer transactions, minimized cash handling, enhanced accuracy, and increased professionalism. Therefore, POS adoption represents a fundamental driver of operational efficiency among SMEs within Abuja.

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | .712 | .127 | | 5.614 | .000 |
| | POS | .828 | .030 | .807 | 27.157 | .000 |

a. Dependent Variable: OE

Source: SPSS Output Version 27.0

Table displays the regression coefficients evaluating the impact of Point-of-Sale (POS) transactions on operational efficiency (OE) among small and medium enterprises in Abuja. The unstandardized coefficient (B = 0.828) demonstrates that a one-unit increase in POS usage results in a 0.828 unit increase in operational efficiency, assuming other variables remain unchanged. The t-value of 27.157 is remarkably high, and the corresponding p-value of 0.000 falls well below the 0.05 significance threshold. Based on this outcome, we reject the null hypothesis ($H_{03}$) which proposed that POS transactions do not significantly affect operational efficiency. The implication of this result is that POS adoption exerts a strong, statistically significant, and positive influence on the operational effectiveness of SMEs in Abuja. This encompasses enhancements in transaction processing speed, record accuracy, customer management, and overall workflow, confirming that POS technology serves as an essential instrument for operational improvement among SMEs in the digital age.

**Discussion of Findings**

The findings of this study offer strong empirical validation for the theoretical assumptions underpinning the relationship between financial inclusion and the performance of small and medium-scale industries (SMEs) in FCT, Abuja. Specifically, the results are discussed in line with the three hypotheses formulated.

Concerning $H_{01}$, which stated that mobile banking does not significantly influence revenue growth, the study's results offer strong evidence to reject this null hypothesis. Regression analysis revealed a robust, positive, and

statistically significant association between mobile banking and revenue growth, confirming that greater utilization of mobile financial services results in enhanced income and improved sales performance among SMEs in Abuja. This outcome is consistent with prior empirical research including Umar et al. (2025), who showed that mobile banking enhances financial access and strengthens revenue capacity among African SMEs. Likewise, Ouncho et al. (2023) found that mobile banking improves liquidity management and sales conversion in Kenyan SMEs. These findings are further substantiated by Ali et al. (2023) and Mwakio et al. (2024), who reported that mobile-based financial tools significantly increase revenue-generating opportunities through enhanced financial accessibility and customer engagement. Theoretically, the Technology Acceptance Model (TAM) supports this result, indicating that the perceived usefulness and ease of mobile banking technologies positively affect behavioral intention and usage, ultimately resulting in revenue growth. Conversely, Margaret (2021) and Ibor et al. (2017), while recognizing the benefits of mobile banking, observed that insufficient digital literacy and infrastructural limitations can moderate its impact on financial outcomes - an argument not strongly supported by this study's respondents, who reported high levels of digital tool adoption.

With regard to $H_{02}$, which proposed that the adoption of e-wallet services does not significantly affect business expansion, the findings similarly provided justification for rejection. The regression output indicated that e-wallet adoption significantly contributes to SME expansion by enhancing payment convenience, customer reach, and market penetration. This finding is supported by Effendy et al. (2021) and Harishyah and Dhewanto (2025), who found that the flexibility and transactional convenience of e-wallets improve business scalability and customer base. Areghan et al. (2025) further demonstrated that e-wallets increase business growth by reducing cash dependency and enhancing digital transaction volumes. The Dynamic Capabilities Theory also explains this result by asserting that the ability of SMEs to integrate and reconfigure resources—such as adopting innovative financial platforms—enables them to respond to market opportunities and achieve expansion. However, Rozali et al. (2024) and Obi (2023) found that in regions with low fintech penetration, the impact of e-wallets on SME growth may be limited, a perspective that contrasts with the present findings due to the unique socio-economic and infrastructural development in the FCT-Abuja. Nonetheless, the weight of current evidence supports the argument that e-wallets are strategic tools for business development in technologically receptive regions.

In relation to $H_{03}$, which stated that POS transactions do not significantly impact operational efficiency, the hypothesis was also rejected. The regression results showed that POS usage significantly enhances SME operational efficiency by enabling fast, secure, and traceable transactions. This aligns with Hitlar et al. (2025) and Adeniran et al. (2024), who reported that POS systems reduce transaction time, minimize errors, and streamline business operations in Nigerian SMEs. Similarly, Islam and Sivanantham (2022) and Harish et al. (2024) found that POS technologies improve operational workflow and financial accountability. The Resource-Based View (RBV) supports this finding by asserting that the strategic use of internal capabilities—like POS technologies—can lead to superior organizational performance. However, Nasri et al. (2024) and Gill (2022) highlighted that POS adoption may be constrained by cost, infrastructure, and cybersecurity issues, which could reduce its operational benefits in less-developed regions. These concerns were not prominent in this study, suggesting that Abuja-based SMEs have overcome or mitigated such limitations.

Overall, the findings across all three hypotheses support the position that financial inclusion, particularly in its digital form, has a significant and positive effect on SME performance in the Federal Capital Territory, Abuja. The study's results are strongly aligned with the Dynamic Capabilities Theory, which emphasizes the ability of firms to sense and seize technological opportunities, as well as with TAM and RBV,

which justify the adoption and strategic deployment of digital financial tools. Although a few empirical studies suggest conditional or region-specific limitations, the prevailing body of evidence including this study underscores the transformative potential of financial inclusion in enhancing revenue growth, enabling business expansion, and strengthening operational efficiency among SMEs in emerging urban economies.

## CONCLUSION AND RECOMMENDATIONS

This study has demonstrated that financial inclusion, facilitated through digital tools such as mobile banking, e-wallets, and point-of-sale (POS) systems, significantly enhances the effectiveness of small and medium-sized businesses (SMEs) in Abuja's Federal Capital Territory (FCT). Empirical findings reveal that mobile banking directly influences revenue growth by improving access to financial services and streamlining business transactions, while e-wallet adoption supports business expansion by offering secure and flexible cashless payment solutions. POS systems contribute to operational efficiency by enabling faster and more secure transaction processing. These results are supported by theoretical frameworks including the Technology Acceptance Model (TAM), Resource-Based View (RBV), and Dynamic Capabilities Theory, which collectively emphasize the strategic value of digital financial technologies in enhancing organizational performance. The research underscores the growing importance of digital financial inclusion in emerging markets, particularly within Abuja's evolving economic landscape, where increased access to financial technologies is fostering SME competitiveness and sustainability. Furthermore, the study highlights the need for continued investment in digital infrastructure, cybersecurity measures, and financial literacy programs to address existing challenges and ensure broader adoption of these tools. By providing actionable insights for SMEs, financial institutions, and policymakers, this research contributes to the ongoing efforts to leverage financial inclusion as a catalyst for economic development and inclusive growth in Nigeria.

Based on the findings derived from the tested hypotheses, this study offers the following recommendations targeted at improving the performance of small and medium-scale industries (SMEs) through financial inclusion in FCT, Abuja. These recommendations are aimed not only at SMEs but also at financial institutions, policymakers, and development agencies committed to enhancing digital financial ecosystems for inclusive economic growth.

i. SMEs are encouraged to adopt mobile banking platforms not just for making payments, but as strategic tools for managing cash flow, customer transactions, and financial reporting. Financial institutions should enhance mobile banking infrastructure by making platforms more SME-friendly—offering features such as micro-loans, instant invoicing, transaction alerts, and analytics.

ii. SMEs should prioritize integrating e-wallet options into their payment systems to accommodate the cashless preferences of customers, especially the younger, tech-savvy demographic. Financial technology companies and service providers should ensure that e-wallet platforms are accessible, interoperable, and affordable for SMEs. Policymakers can support this by offering incentives such as tax rebates or subsidized transaction fees for small businesses that actively use e-wallet services.

iii. SMEs should be encouraged to fully integrate POS systems into their daily operations to improve transaction speed, reduce cash handling risks, and maintain financial accuracy.

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