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PERFORMANCE EFFECT OF MOBILE PAYMENT SYSTEMS ADOPTION: A STUDY OF SMALL AND MEDIUM ENTERPRISES

[1]Anagwu, Victoria Kenechukwu
vk.anagwu@pg.unizik.edu.ng

[2]Arachie, Augustine Ebuka
ae.arachie@unizik.edu.ng

[3]Ifeanyi, Titus Tochukwu
tt.ifeanyi@unizik.edu.ng

[1,2&3]Department of Business Administration, Nnamdi Azikiwe University, Awka

Abstract

Despite the potential of mobile payment systems to mitigate risks associated with cash and facilitate trade, Small and Medium Enterprises (SMEs) in Anambra State have been slow to fully adopt these innovations Hence, this study examined mobile payment systems and business performance of SMEs in Anambra State. The study was anchored on diffusion of innovation theory. The population of the study included unregistered SMEs in rural communities in Anambra State. The study adopted a descriptive research design. The population size was infinite and was determined using Cochran's formula and Taro yamane formula to arrive at a Sample Size of 236. The study used multi- stage sampling which included stratification, proportional probability sampling and Random selection. Data was collected qualitatively using a 5 point Likert scale questionnaire, analysed using correlation analysis, with the statistical package for Social Science (SPSS) version 20. Hypothesis was tested at 5% level of significance. Correlation results confirmed a positive

and statistically significant relationship between MPOS adoption and market expansion ($r=0.634$, $p<0.01$). The study concluded that mobile payment technologies are highly influential collective predictors of market expansion for rural SMEs. The study recommends prioritizing an aggressive strategy to intensify the strategic deployment and subsidy of mPOS devices across rural Anambra State

Key Words: Mobile Payment Systems, Business Performance, Mobile Point of Sale, Market Expansion, Small and Medium Enterprises

Introduction

Financial advancement has consistently influenced diverse business functions globally. It generates novel enterprises and provides improved methods for exchanging goods and services. Moreover, it spurs the creation of new financial technologies that boost capital productivity, reduce transaction costs, and consequently encourage economic expansion. These technologies have undoubtedly progressed business operations by enabling quicker, simpler, and more readily available transactions (Adesete, Mohammed, & Risikat, 2021).

The Coronavirus (Covid-19) outbreak rapidly underscored the significance of digital financial innovations like mobile payment systems in sustaining ties, delivering vital fiscal aid, and permitting secure, touchless payment options for necessities such as food and energy. With in-person contact restricted, banks needed to adjust their payment processing approaches to match the social distancing protocols that were put in place during that era (Mustafa, 2021).

In Nigeria, mobile payment systems have witnessed considerable expansion, propelled by advancements in digital financial offerings, increasing web accessibility, and the need for convenient and reachable monetary solutions (Ezeocha, 2024). In reality, the Nigerian FinTech sector, which designs these mobile payment apps, garnered over $600 million in 2021 alone, positioning the nation as one of the primary FinTech investment hubs in Africa (Martins, 2024). In Anambra State, SMEs hold a vital function in propelling economic furtherance, employment, and progress within the area. According to a work by Dim, Ezeanokwasa and Abdulwaris (2023), SMEs substantially fuel economic growth and

augment development in Anambra State by creating work prospects and nurturing enterprise. Likewise, Ezeanolue, Nnoje, Nwokoye and Osigbemeh, (2024), elaborated further by explaining that SMEs contribute considerably to Anambra's socioeconomic progress and also act as conduits for job creation and income generation. SMEs in Anambra State are mainly engaged in food vending, agriculture, hairdressing/barbing services, and various forms of manufacturing and commerce.

Mobile payment platforms such as mobile point of sale (MPOS), have surfaced as a potent driver for financial inclusion, reshaping how people access and manage their funds in developing markets, thereby improving the general business performance of these firms (Kitimbo, 2021). However, despite the considerable merits mobile payment systems, as a type of financial breakthrough, keep presenting in enhancing overall business performance, SMEs in Anambra State are yet to fully adopt these financial technologies (Utulu, Dzamar & Hammani, 2024). It is upon these backdrops that this study seeks to examine mobile payment systems and business performance of SMEs in Anambra State. The STUDY specifically seeks to:

1. Examine the relationship between MPOS adoption and market expansion of SMEs in Anambra State.

REVIEW OF RELATED LITERATURE

Mobile Payment System

Mobile payment systems, which enable consumers to make payments via mobile devices like smartphones and tablets, have become indispensable for modern financial transactions. Numerous scholars have offered comprehensive definitions of mobile payments, each focusing on a certain facet of these systems. According to Karnouskos (2004), mobile payments are any kind of payment that is initiated, activated, and/or confirmed using a mobile device. Mobile payments are defined by Hoernig and Bourreau (2023) as

transactions that make use of mobile money, a form of digital cash kept in accounts supplied by cell operators. This perspective focuses on the technology infrastructure that facilitates mobile payments, particularly the role that mobile network operators play in facilitating online transactions. It emphasizes how financial services and telecoms have merged to form the mobile payment ecosystem.

Mobile payment systems have evolved into diverse categories designed to meet varying user needs and technological environments. Wijaya, Turangan, and Ruslim (2022) identify multiple forms, including in-person proximity payments using NFC or Bluetooth; remote mobile payments conducted via apps or web platforms; peer-to-peer (P2P) transfers for quick personal transactions; mobile wallets that store payment credentials; QR code-based payments popular for their simplicity and low cost; direct carrier billing for digital purchases; mobile point-of-sale (mPOS) systems that turn smartphones into payment terminals; SMS-based payments useful where internet access is limited; contactless payments that rely on RFID or NFC; and biometric authentication payments that enhance security through fingerprints or facial recognition.

Business Performance

Business performance is a crucial measure of an organization's success and is described as "the ability of a business to implement a strategy to achieve organizational objectives." This definition highlights the strategic component of performance, concentrating on how successfully a business executes its plan to achieve its objectives (IGI Global, 2024). Business performance, according to Nguyen et al. (2024), is the extent to which a company accomplishes its goals, including market share, revenue growth, sales volume, profit, and strategic goal achievement. The study emphasizes that both financial and non-financial outcomes, such as customer happiness, employee relations, and product quality, are included in corporate performance.

According to Martín (2024), business performance may be defined as "the degree to which a company can efficiently and effectively perform its activities," which can be used to assess the sustainability and success of an organization. Efficiency and effectiveness are emphasized in this concept as fundamental aspects of performance. In their revised framework for strategy research, Venkatraman and Ramanujam (2024) divide business performance measurement into operational and financial criteria, highlighting the significance of utilizing both objective (financial) and more general operational (non-financial) indicators to obtain a complete picture of performance.

Mobile Point of Sale

Mobile points of sale are portable devices that make it easier for customers to make purchases by enabling businesses to conduct transactions wherever they are. Santos and Bacalhau (2023, a professional producer of smart POS terminals and handheld POS machines, outlines the essential elements of a mobile POS system that make it such a useful tool for business, accelerating market expansion and overall business performance.

The increasing need for operational agility and efficient traffic management, particularly in industries with strong consumer involvement and changeable demand, has led to a surge in the deployment of mPOS systems (Lewis, Harper, Poirier & Gittelsohn, 2022). One key feature that sets modern mPOS systems apart is the integration of artificial intelligence (AI). This technology increases transaction completion rates by providing personalized product recommendations and fostering client loyalty through real-time, data-driven promotions (Tsai, 2021).AI-powered mPOS solutions allow SMEs to track sales and inventory in real-time, improving operational efficiency and business success without requiring expensive infrastructure (Lewis et al. 2022).

Furthermore, mobile point-of-sale significantly improves inventory control. Businesses can prevent stockouts and overstocking by using real-time stock tracking to match inventory levels with actual demand. By employing mPOS systems, which evaluate past

sales data to guarantee that products are supplied adequately without exceeding budgetary limitations, retailers can more accurately estimate inventory demands (Tandel, Wagal, Singh, Chaudhari & Badgujar, 2020). Udayaprakash and Sujatha (2020) claim that integrating mPOS with ERP systems also improves cross-functional coordination, allowing companies to easily handle sales, inventory, and customer data across many channels. Melvin, Watirama, Sutomo, and Sanjaya (2023) state that this integration offers powerful tools for enhancing competitive positioning and decision-making. A key component of mPOS systems' success is customer happiness. System simplicity and ease of use have a major impact on user satisfaction and business retention, according to studies done within the S-O-R (Stimulus-Organism-Response) paradigm (Chopdar & Balakrishnan, 2020).

Nigerian companies are now able to extend their activities outside conventional geographic borders thanks to mobile payment services. Local and international payments are made easier by platforms like Paystack and Flutterwave, which enable startups and SMEs to grow faster and reach new clientele (David-West & Umukoro, 2019). According to a study by Adesete et al. (2021), companies that use mobile payment technology are more likely to diversify their clientele and grow into new geographical areas. Better financial planning and more structured business models have also been facilitated by the ease of payment collection and less reliance on cash transactions.

Market Expansion

Market expansion, sometimes referred to as market development, is a growth strategy in which a business seeks to reach new markets using its current goods and services. These new markets could be new distribution methods, different client categories, or various geographic regions. The objective is to grow the business's clientele, market share, and eventually earnings. One of the most important ideas in business and marketing is market expansion. The phrase encompasses a broad range of initiatives, from introducing new

goods to investigating foreign markets, all with the goal of growing the company's clientele and earnings. Expanding a market is a difficult task that needs to be carefully planned and carried out. It entails locating possible new markets, comprehending their requirements and preferences, and modifying the product offers to satisfy their demands. Additionally, it entails creating a marketing plan to connect with these new clients and persuade them to purchase the goods (Vation, 2024).

According to World Federation of Exchanges (WFE) survey results from 2024, the most popular advantages that SME platforms provide to issuers are exemptions from minimum profitability requirements (57%), less frequent reporting obligations (33%), no minimum free-float requirements (30%), and, less frequently, no requirement for historical financial statements (7%). Despite these advantages, SME markets typically have less liquidity than main markets, which makes it difficult to raise funds and attract investors, but there are few exceptions. Particularly following COVID-19, a significant link in return performance has been noted between SME and main markets. However, due in large part to the impact of retail investors and stimulus initiatives, post-COVID volatility in SME markets has also increased.

Theoretical Framework

This study, is anchored on the Diffusion of Innovation Theory (DOI).DOI was developed by Everett Rogers, a communication theorist and rural sociologist, in his seminal 1962 book Diffusion of Innovations. Over time, the DOI theory has been developed by scholars such as Dearing (2018), and Kerner, (2024). The diffusion of innovations theory explains how, why and at what rate new ideas, technologies or innovations spread through a population (Kerner, 2024). Dearing (2018) explained that over time through waves of innovations, diffusion changes societies. Sometimes these changes manifest as differences in knowledge, disproportionate access to government and commercial services, and worsening inequality because resource-rich communities tend to adopt innovations early

relative to poor communities. The four core elements DOI, which are innovation, communication channels, Time and social system, explain how new ideas spread. The Diffusion of Innovation (DOI) theory is linked to this research because it provides a framework for comprehending how mobile payment systems, as a financial innovation, spread and are adopted among SMEs in Anambra State. The theory's tenet such as relative advantage, compatibility, complexity, trialability, and observability, explain the perceptions and attitudes of SMEs toward mobile payment platforms. These constructs help to analyze the extent of awareness, the challenges faced in adoption, and the factors that facilitate or inhibit the acceptance of mobile payments.

Empirical Review

Israel (2025) evaluated the Effect of mobile banking on the performance of small and medium scale enterprises in Anambra State. The theory the study was anchored is he Task technology fit theory. As a survey research design, a structured instrument (questionnaire) developed by the researcher to source information from the target population. The population of interest therefore consists of all operational SMEs in the Anambra states with not less than 10 employees. Thus the population of this study is 1328 employees. The sample size for this study was determined using the Borg & Gall formular of (1973), which 256. Copies of questionnaires were duly completed and returned showing 93% response rate. Research hypotheses were tested using ANOVA method. Findings from the study show that. Instant payment has significant effect on the performance of small and medium scale enterprise in Anambra State. Fund transfer machine has significant effect on the performance of small and medium scale enterprise in Anambra State.Point of sales has significant effect on the performance of small and medium scale enterprise in Anambra State.

Mensah and Adukpo (2025) evaluated financial technology and its effects on small and medium-scale enterprises in Ghana. The study was grounded in the technology acceptance

model and resource-based view theory. An explanatory research design with a quantitative approach was employed, focusing on SMEs registered with the association of Ghana industries. Primary data was collected through structured questionnaires from 169 SMEs, examining fin-tech adoption and usage (12 items), financial literacy (15 items), and SME performance (10 items). Data analysis using pls-sem revealed high adoption rates for basic fin-tech solutions (m= 3.90) but lower rates for advanced technologies. A strong positive relationship was found between fin-tech adoption and SME performance (β= 0.910, p< 0.001).

Sawaria (2024) studied the influence of digital payment systems on financial performance, with maheshwari sales and services as a case study. Mixed-methods approach, was used, combining quantitative and qualitative data to provide a thorough analysis. To assess customer and employee satisfaction and operational changes in maheshwari sales and services, surveys and interviews were conduted. Preliminary data indicated that the use of digital payment systems has enhanced customer satisfaction due to the convenience and speed of transactions. Furthermore, these technologies have helped to improve cash flow management by eliminating the time lag between sales and fund availability. Additionally, operational efficiency has improved, with significant savings in transaction processing times and administrative overheads. The analysis reveals that maheshwari sales and services' financial and operational success is heavily reliant on digital payment methods.

Taiwo, Adesoba, and Kayode (2024) studied the digital technology adoption and performance of small and medium enterprises in food, drink and beverages industries in Ondo state, Nigeria. This study focused on digital technology adoption and performance of SMEs in food, drink and beverages industry in Ondo state, Nigeria. The study was carried out in most of the highly concentrated business areas in Ondo state using multi-stage sampling technique with a sample of four hundred (400) questionnaire administered and distributed to the workers and owner-manager of the selected food, drink and beverages SMEs. For the purpose of the study; three hundred and fifty (350) questionnaires

were found useful which represents 88% of the total questionnaire distributed. The data collected were coded and analysed by using frequency table, percentage and mean score while non- parametric statistic test (anova) to test the stated hypothesis. The study revealed that digital technology adoption has positive impact on the performance of selected food, drink and beverages SMEs in Ondo state, Nigeria and there is a significant relationship between digital technology adoption on performance of SMEs, food, drink and beverages in Ondo state.

Utulu, Dzamar, and Hammani (2024) studied the diffusion of mobile point of sales among small enterprises in a metropolis in Northeast Nigeria. The inductive reasoning and inferring approach, and subtle realist ontology were used to inform the study. The approach and ontology were combined with the methodological and epistemological assumptions postulated in the constructionist grounded theory. The small enterprises and the people studied, namely, small enterprise owners were selected using the purposive, convenience and snowball sampling techniques. The unstructured indepth interview and participatory observation were adopted as the data collection techniques. The thematic data analysis technique was used to analyze the data collected for the study. The study findings show how socio-technical factors influenced mpos diffusion among small enterprises and how the factors influenced the extent mpos served as a means and end to sustainable development in the research context.

METHODOLOGY

The study adopts a descriptive survey design. This method is particularly well-suited for this study as it closely aligns with the research objectives, target population, and quantitative data collection methods. The population of the study consisted of unregistered SMEs in rural communities of Anambra State, Nigeria. Due to the informal characteristics of unregistered SMEs in rural communities, it is challenging to ascertain the precise number of these enterprises in Anambra State, effectively rendering the population infinite.

The sample size was determined using Cochran's formula for large or infinite populations, to arrive at 576 as further streamlined to 236 using the Taro Yamane formula. The study utilised a multi-stage sampling technique, which involved, stratification by senatorial zones, application of proportional probability sampling (PPS), random selection. Fifteen rural communities in five local governments namely: Akaezi, Ukpomachi, Otoko Ekele, Umuosikpana, Ozala, Eziama, Umuabo and Umuohi, Ikenga, Umuoma, Umueziani And Eziora, Ubaha, Urueze were selected for the study. Data was collected through primary sources utilizing qualitative and data which included the use of both questionnaire items as research instrument.

The study utilized validated scales for the questionnaire items. The construct Mobile Point of Sale (MPOS) Adoption in the study was measured using an adapted version of the Mobile Payment Adoption scale developed by Lwoga and Lwoga (2017) in their study on user acceptance of mobile payment systems in Tanzania. The psychometric validity of the original scale was rigorously established by Lwoga and Lwoga (2017) using Confirmatory Factor Analysis (CFA). Convergent Validity reported that all factor loadings exceeded 0.60 and were statistically significant ($p < 0.01$). The Average Variance Extracted (AVE) for all constructs was greater than 0.50, confirming convergent validity. The square roots of the AVEs were higher than the inter-construct correlations, confirming the Fornell–Larcker criterion for discriminant validity. Confirmatory Factor Analysis reported $\chi^2/df = 1.96$, CFI = 0.94, TLI = 0.92, RMSEA = 0.048, indicating an acceptable model fit. Rliability test showed Cronbach's alpha coefficients for all constructs ranged between 0.82 and 0.91, exceeding the 0.70 benchmark.and composite Reliability (CR) scores were above 0.85, indicating high internal consistency.

The construct **Market Expansion** in this study was measured using an adapted version of the **Regional Expansion** scale developed by Zahoor, Donbesuur, Nwoba, and Khan (2023) in their research on SMEs from emerging markets. The scale consists of three items adapted originally from Zahra et al. (2000). **Convergent Validity reported that a**ll standardized

factor loadings were statistically significant ($p < 0.01$) and exceeded 0.60. **AVE of all constructs** were greater than 0.50, confirming sufficient convergent validity. The square root of the AVE was greater than the inter-construct correlations, thereby satisfying the Fornell–Larcker criterion. **Overall Model Fit Indicesreported**$\chi^2/df = 1.98$ (acceptable), CFI = 0.96, TLI = 0.95, RMSEA = 0.06, SRMR = 0.04. Reliability test showed **Cronbach's Alpha (α) for all constructs showed values** between 0.85 to 0.92 and **Composite Reliability values between 0.86 to 0.92**, confirming construct reliability.

Data Analysis

A total of 157 copies of questionnaire were successfully collected and analysed, out of 236 copies that were distributed.

Table 1 Distribution of Responses on MPOS adoption

S/N	QUESTIONNAIRE ITEMS	1 SD	2 D	3 N	4 A	5 SA	Mean	Decisio
	MOBILE POINT OF SALE							
1.	Using mPOS improves the efficiency of transactions in my business.	27	3	17	26	84	3.87	Accept
2	Using mPOS increases sales opportunities for my business.	4	4	42	44	63	4.01	Accept
3	Using mPOS improves the accuracy of my business records.	4	4	15	56	78	4.27	Accept
4	Using mPOS is useful for my everyday business operations.	5	3	17	39	93	4.35	Accept
5	Learning to operate the mPOS device/app is easy for me	6	3	16	86	45	4.03	Accept
6	I find it easy to become skilful at using the mPOS	5	40	1	45	66	3.81	Accept
7	Interacting with the mPOS is clear and understandable.	6	2	2	73	74	4.32	Accept
8	Using the mPOS does not require a lot of mental effort.	7	18	2	97	33	3.83	Accept

Source: Field Survey, 2025

Table 1 shows that respondents hold strongly positive perceptions of mPOS adoption, as all mean scores exceed the 3.0 benchmark. They believe mPOS improves transaction efficiency, increases sales opportunities, enhances record accuracy, and is highly useful for daily business operations. Respondents also find the technology easy to learn and use, with a clear and understandable interface that does not require excessive mental effort. Overall, SME operators view mPOS as a valuable and user-friendly tool that supports smoother and more efficient business activities.

Table 2 Distribution of Responses on Market Expansion

S/N	QUESTIONNAIRE ITEMS	1 SD	2 D	3 N	4 A	5 SA	Mean	Decision
	Market Expansion							
1.	We are entering new markets in Anambra State	5	3	1	90	58	4.23	Accept
2	We are expanding operations in Anambra State	5	3	2	123	24	4.01	Accept
3	We are supporting activities dedicated to Anambra state	47	60	36	11	3	2.13	Reject
4	We are financing business activities dedicated to Anambra state	71	50	23	-	13	1.94	Reject

Source: Field Survey, 2025

Table 2 reveals that SMEs in Anambra State perceive themselves as expanding into new markets and increasing their operational reach, with high mean scores of 4.23 and 4.01 respectively. However, respondents did not agree that they support or finance business activities dedicated to the state, as shown by low mean scores of 2.13 and 1.94. This suggests that while SMEs are growing in market reach and operations, their contribution to broader state-level business support or development initiatives remains limited.

Test of Hypothesis

H_{A1}: There is a significant relationship between MPOS and market expansion of SMEs in Anambra State.

Table 3: Correlations Analysis Two

		MPOS	ME
MPOS	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	157	157
ME	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	157	157

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Survey, 2025

Table 3 presents the correlation between MPOS adoption and market expansion. The correlation coefficient of r = 0.634, which is statistically significant at the 0.01 level ($p < 0.01$), indicates a strong positive association between the use of mPOS and the market expansion of SMEs. This suggests that SMEs that adopt mPOS systems are more likely to experience higher levels of market growth, likely due to the flexibility, reliability, and convenience that mPOS solutions provide in processing payments.

Discussion of Findings

The quantitative results of this study offer compelling empirical evidence that mobile payment technologies, like MPOS is essential to the market expansion of unregistered SMEs operating in Anambra State's rural communities.

Mobile Point of Sale demonstrated a strong correlation and significant contribution to market expansion (r = .634; β = .589). Respondents strongly agreed that mPOS improves

transaction efficiency, record accuracy, sales opportunities, and daily business operations. These results reinforce the arguments in Tandel et al. (2020), which noted that MPOS have become indispensable in retail sector across countries due to their reliability and ability to support customers who prefer card transactions. For unregistered SMEs in rural communities, MPOS devices provide a practical bridge between customers accustomed to cash and those willing to make electronic payments. The findings show that mPOS is easy to learn, easy to interact with, and requires little mental effort consistent with Santos and Bacalhau (2023), who observed that ease of use significantly influences digital payment adoption in SMEs. The strong positive association between MPOS and market expansion can also be attributed to customer trust. Unlike wallet and USSD payments, mPOS offers printed receipts and visible confirmations, which encourage adoption among customers who are skeptical about digital transactions an attitude previously documented by Anyaeneh (2021) in rural business contexts.

Summary of Findings

The quantitative analysis established a strong empirical link between the adoption of mobile payment technologies specifically MPOS and market expansion among unregistered rural SMEs. MPOS Adoption showed a strong positive and statistically significant relationship with market expansion ($r = 0.634, p < 0.01$). This strong correlation confirms MPOS as an influential mobile payment tool for driving market expansion, likely due to the flexibility, transactional efficiency, reliability, and improved customer satisfaction associated with POS solutions.

Conclusion

This study investigated the relationship between the adoption of MPOS and the market expansion of SMEs in rural Anambra State, affirming. By adopting a quantitative methodology, the study revealed that mobile payment technologies have a significant and

substantial relationship with business performance. Despite its robust findings, faces limitation such as adopting a cross-sectional design, which involves gathering data at a single point in which constrain the generalizability and depth of the conclusion.

Recommendation

Based on the findings from this study, the study recommended that financial institutions should prioritize an aggressive strategy to intensify the strategic deployment and subsidy of mPOS devices across rural Anambra State. This action leverages the most influential singular tool for accelerating market expansion.

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