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Point-Of-Sale (POS) System Utilization and Growth of Small and Medium Enterprises (SMEs) in South East Nigeria

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ABSTRACT: This study examined Point-of-Sale (POS) systems on the growth and sustainability of small and medium-sized enterprises (SMEs) in South-East Nigeria. The research sought to determine how POS transaction frequency, transaction value, terminal penetration, system integration, and employee training influence customer base expansion. The study was anchored on Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). A survey design was adopted. The population of 8370 registered manufacturing SMEs was used and the elements of the populations are the owners and managers. 367 sample size was determine using Krejcie and Morgan sample size determination table. Out of 367 copies of questionnaire distributed across the South-East, 350 copies was valid for analysis and the rest were invalid. The analysis employed descriptive statistics and linear regression using SPSS (Version 23). Findings revealed that the frequency of POS transactions had significant positive effect on expansion of SMEs' customer bases. Similarly, the value of POS transactions had significant positive effect on customer base expansion. POS terminal penetration per outlet also had a significant positive effect on customer base expansion. Furthermore, the integration of POS systems into business functions had significant positive effects on customer base expansion. Finally, employee training had significant positive effect on customer base expansion. The study concluded that POS systems are not merely technological tools but strategic enablers of SME growth, enhancing customer base, market competitiveness, and operational efficiency. It recommended wider adoption, integration, and training initiatives to maximize the transformative role of POS in SME sustainability.

Keywords: Point-of-sale, Small and Medium Scale Enterprises, TAM, UTAUT

INTRODUCTION

The global shift from cash to electronic payments that started in the 2010s sped up after 2020, when digital platforms, mobile money, and Point-of-Sale (POS) terminals became very important for small businesses that sell goods and services. Scholars and practitioners contend that POS devices, encompassing both traditional merchant terminals and mobile POS, serve as more than mere payment instruments; they function as tools that enhance record keeping, expand customer outreach, and integrate small enterprises into formal financial systems. Recent empirical studies indicate that the

adoption of POS systems is currently positioned at the convergence of financial inclusion, business formalization, and micro-level productivity enhancements for small enterprises (Adepoju & Oyewole, 2022; Okeke & Eze, 2021).

In the last five years, Nigeria's payments landscape has changed a lot because of the rapid growth of POS activity by banks, fintechs, and agent networks. National e-payment statistics show that the number and value of POS transactions are growing quickly. This is because more people want to use cashless options and because regulators and private companies are working hard to get more merchants to accept them. These macro trends provide a conducive environment for examining the relationship between POS utilization and firm-level growth outcomes for SMEs (CBN, 2023; Umeji & Nwachukwu, 2022).

Even though there have been national improvements, research shows that there are still operational problems that keep POS from reaching its full potential for small and medium-sized businesses. These include unreliable power and network connections, transaction fees, worries about trust and fraud, and a lack of digital literacy among owners and employees. These challenges indicate that merely counting terminals does not accurately reflect whether POS systems are genuinely facilitating strategic development in SMEs, necessitating firm-level and context-sensitive evaluation (Ibrahim & Sulaiman, 2021; Oladipo, 2023).

The increase in POS use in Nigeria after 2020 gives SMEs both chances and risks. A regionally focused evaluation in South-East Nigeria is necessary to move beyond national aggregates and unpack which dimensions of POS utilization contribute to growth and strategic development. This study fills an important empirical and policy gap by combining utilization metrics with firm performance and strategic development indicators in a context where small enterprise activity is central to livelihoods and economic resilience (Olaniyan & Akinbode, 2023; Eze & Chukwu, 2023).

The study operationalized POS utilization using three complementary variables. These include the number and frequency of POS transactions, which indicates how often the merchant processes payments and customer acceptance; the value of transactions processed, which shows the monetary importance of POS use; POS terminal penetration per outlet, which reflects accessibility of terminals to customers. Together these variables provide a nuanced picture of how POS technology is embedded in business practices and decision-making in SMEs.

The growth and competitiveness of small and medium-sized businesses (SMEs) in Nigeria are closely tied to their capacity to use and make the most of digital payment systems, especially point-of-sale (POS) platforms. One major issue is that a lot of small and medium-sized businesses (SMEs) in the South-East use POS systems simply to collect payments and don't use them in other parts of their organizations. This limiting usage keeps people from getting the most out of the data analytics, inventory management, and financial planning that POS systems can provide. So, SMEs might be able to handle transactions online, but they still have trouble making decisions and growing their businesses. Another concern is the variability in the value and frequency of transactions handled through POS by SMEs. Network failures, hefty transaction fees, and delays in cash settlements are problems that many firms have. These problems make customers unhappy and less trusting in digital

transactions. This variability makes it harder for POS to build customer loyalty and reach new markets, both of which are important for growth.

Also, even if there are a lot of POS terminals, the penetration rate is not the same for all outlets. Many small companies either lack specialized POS equipment or share limited terminals, producing bottlenecks that upset customer experience. This shows a mismatch between simple possession of POS terminals and their efficient deployment for boosting operational performance. Another issue is that not enough employees are using POS technology and not enough are getting trained on how to utilize it in SMEs. Many workers lack the technical knowledge to run POS systems properly or to solve faults, resulting to underutilization of the devices. This diminishes the potential of POS to boost efficiency and hampers the integration of digital technologies into corporate strategy.

In view of these challenges, the gap this study seeks to fill lies in providing an empirical evaluation of how different dimensions of POS utilization transaction frequency, transaction value, terminal penetration, integration with business functions, and employee adoption affect the growth and strategic development of SMEs in South-East Nigeria. While prior studies have analyzed POS adoption broadly in Nigeria, few have researched these features in a region-specific context with emphasis on relating consumption trends to corporate development and long-term strategic results. This study thus tackles this gap by concentrating on selected SMEs in the South-East, where entrepreneurship is active but empirical information on POS-driven development remains lacking.

LITERATURE REVIEW

Conceptual Review

Point of Sale (POS)

Point of Sale (POS) systems have evolved from simple cash registers to sophisticated, multi-functional devices that play a critical role in modern commerce. A POS system is a combination of hardware and software that allows businesses to conduct transactions, track sales, manage inventory, and perform other essential functions. These systems serve as the central hub for processing sales, integrating various payment methods such as credit cards, mobile payments, and online transactions. The evolution of POS systems has been driven by technological advancements, leading to the development of cloud-based and mobile POS solutions that offer greater flexibility and accessibility (Kavanagh & Brown, 2021). Additionally, modern POS systems often integrate with customer relationship management (CRM) tools, enabling businesses to enhance customer engagement and loyalty (Liu & Lee, 2020). As such, POS systems have become indispensable in improving the operational efficiency of businesses across various industries.

Frequency of POS Transactions

The number and frequency of POS transactions represent a key indicator of the extent to which SMEs utilize digital payment platforms in their daily operations. Frequency captures how regularly businesses process payments via POS terminals and reflects customer willingness to adopt electronic payment methods. A higher frequency of transactions suggests that customers increasingly prefer digital payments, thereby strengthening the financial performance of SMEs. Scholars note that frequent POS usage not only enhances cash flow management but also provides enterprises with consistent transaction data that can be leveraged for business analytics and decision-making (Okeke & Eze, 2021; Umeji & Nwachukwu, 2022).

Value of Transactions Processed via POS

Several scholars and industry analysts define the value of transactions processed via POS as the total monetary amount routed through point-of-sale devices over a specified period, often used as an aggregate indicator of economic activity conducted through merchant payments. In this sense, transaction value is not merely a count of payments but a sum that reflects purchasing power captured electronically at the merchant level; analysts point to rising aggregate POS transaction values as evidence that more economic flows are being digitized (Stears, 2024; McKinsey, 2023). In Nigeria specifically, commentators and market reports have tracked rapid year-on-year increases in POS transaction value figures that are used to monitor the pace of cash-to-digital migration and the economic weight of merchant acquiring networks (Stears, 2024; Ammban, 2021).

POS Terminal Penetration per Outlet

Point-of-Sale (POS) terminal penetration per outlet has been conceptualized by several scholars as the ratio of retail points or merchant outlets that possess active POS devices relative to the total outlets in a given business area. Nwankwo and Eze (2021), this measure reflects how widely digital payment infrastructure is distributed across merchant locations and directly determines customer access to electronic transactions. The authors emphasize that even when total POS numbers rise nationally, penetration per outlet is more useful for identifying disparities in access across urban and rural businesses.

Growth of SMEs

Growth of SMEs represents critical phases in the entrepreneurial journey, encompassing the initial establishment of a venture and its subsequent development over time. The launch phase refers to the formal process of setting up a new business, which involves identifying a market opportunity, developing a business plan, securing necessary resources, and officially starting operations. Growth, on the other hand, pertains to the business's expansion and scaling, which can be measured through increased revenues, customer base, market share, and overall business sustainability (Brock & McKeen, 2021). The process of launching and growing a business is dynamic and complex, requiring strategic planning, adaptability, and an understanding of market trends and consumer behavior.

Expansion of the customer base

Expansion of the customer base is commonly conceptualized as the process by which a firm acquires new customers and enlarges the pool of buyers who purchase its goods or services. In this sense, customer-base expansion is a core outcome of customer acquisition efforts and digital marketing campaigns aimed at bringing additional consumers into the firm’s sales funnel (Melinevskyi, Koberniuk, Bilousko, Vasiuta, & Strochenko, 2023). Authors who study acquisition emphasize measurable inflows of new customers over a specified period as the defining indicator of expansion, noting that expansion is distinct from retention because it focuses on increasing headcount rather than preserving existing relationships (Farías & Orihuela, 2020).

Theoretical Framework

This work is anchored on Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT)

The Technology Acceptance Model (TAM) was initially developed by Fred Davis in 1989 to explain and predict user acceptance of technology. The model is grounded in the theory of reasoned action and focuses on two primary factors: perceived ease of use and

perceived usefulness. According to Davis, perceived usefulness refers to the degree to which a person believes that using a particular system would enhance their job performance, while perceived ease of use relates to the degree to which a person believes that using a system would be free of effort. In 2000, TAM 2 was introduced, which was an extension of the original TAM, incorporated additional variables such as social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use). In 2008, TAM 3 was further introduced by adding an integrated perspective on the determinants of perceived ease of use. This version of the model introduced four new categories: anchor variables (general beliefs about technology use), adjustment variables (specific beliefs based on experience), system characteristics, and individual differences.

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), is a comprehensive model that combined "Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), and others, to create a unified framework. UTAUT focuses on four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions, which together determine the behavioral intention to use technology and subsequent usage behavior. The UTAUT model was later extended by Venkatesh, Thong, and Xu in 2012, resulting in UTAUT2, which incorporated additional constructs such as hedonic motivation, price value, and habit, to better explain consumer use of technology. This extension reflects the evolving nature of technology adoption theories and highlights the ongoing contributions of Venkatesh and colleagues to understanding how various factors influence technology acceptance and usage.

Empirical Reviews

Nwaubani and Nwosu (2019) explored the factors influencing the adoption of POS terminals among entrepreneurs in Southeast Nigeria. The study surveyed 300 entrepreneurs in the region. The findings revealed that factors such as perceived ease of use, perceived usefulness, and availability of support services were significant determinants of POS adoption. The researchers concluded that addressing these factors could enhance the uptake of POS systems among entrepreneurs in the region. They recommended that financial institutions and policymakers should focus on improving the accessibility, affordability, and user-friendliness of POS technology to drive its widespread adoption.

Anyanwu and Nwosu (2020) examined the impact of POS on the financial management practices of SMEs in Southeast Nigeria. The study involved a sample of 250 SME owners. The findings indicated that the adoption of POS systems had a positive impact on the financial record-keeping, cash management, and overall financial decision-making of small businesses. The researchers concluded that the integration of POS technology could contribute to the sustainability and growth of SMEs in the region. They recommended that policymakers and financial institutions should prioritize initiatives that support the adoption and effective utilization of POS systems among small business owners.

Nwaubani and Nwosu (2019) investigated the factors influencing the adoption of POS systems among entrepreneurs in Southeast Nigeria. Population: Entrepreneurs in Southeast Nigeria. Sample size: 300 entrepreneurs. Findings the study found that

factors such as perceived ease of use, perceived usefulness, and availability of support services were significant determinants of POS adoption among entrepreneurs. Conclusion: The researchers concluded that addressing these factors could enhance the uptake of POS systems among entrepreneurs in the region. Recommendation the study recommended that financial institutions and policymakers should focus on improving the accessibility, affordability, and user-friendliness of POS technology to drive its widespread adoption.

Effiom, Etim, & Udoh (2021) explored the influence of POS transactions on the operational efficiency of SMEs in Calabar, Nigeria. Using a survey design, data were gathered from 120 SME operators, and analysis was performed using descriptive and inferential statistics. The study found that POS systems reduced operational costs and improved record-keeping accuracy. Nonetheless, technical issues such as device malfunctioning posed challenges. Recommendations included the provision of technical support and the establishment of localized service centers for POS maintenance.

Yakubu & Abdullahi (2022) analyzed the effect of POS services on customer retention among small-scale retailers in Kaduna State, Nigeria. The study used a case study approach, focusing on 10 retail businesses. Data were collected through in-depth interviews and analyzed thematically. The findings indicated that the convenience offered by POS services led to increased customer loyalty and repeat patronage. The authors recommended incentivizing small-scale retailers to adopt POS systems by reducing transaction charges and offering subsidies for device acquisition.

Nwankwo & Eze (2020) investigated the adoption of POS technology and its impact on business performance among traders in Aba, Nigeria. Data were collected from 180 traders using a structured questionnaire, and analysis was conducted using multiple regression. The results showed a positive correlation between POS usage and business revenue, with customer trust in the system identified as a key factor. The study recommended targeted awareness campaigns to address customer skepticism and promote the benefits of cashless transactions.

Omotayo & Adewale (2018) examined the effect of POS adoption on the performance of hospitality businesses in Ibadan, Nigeria. The study employed a cross-sectional design, surveying 100 hotel operators. Data were analyzed using correlation analysis. The findings revealed that POS usage significantly reduced transaction errors and enhanced customer satisfaction. However, high transaction charges were a deterrent for some operators. The authors suggested policy reforms to reduce the cost of POS transactions and incentivize their adoption.

Muthoni & Karanja (2021) studied the effect of mobile POS solutions on the growth of SMEs in Nairobi, Kenya. The research employed a longitudinal design, collecting data from 250 SMEs over two years. Analysis using panel regression showed that mobile POS solutions enhanced sales tracking and facilitated business expansion. Challenges such as high initial costs and technical difficulties were noted. Recommendations included financial support for SMEs to acquire POS devices and tailored training programs for effective use.

Mensah & Amoako (2019) investigated the influence of POS technology on customer satisfaction and sales growth in Accra, Ghana. Data were gathered from 300 SMEs through

structured questionnaires, and analysis was performed using structural equation modeling. The study found that POS adoption led to significant improvements in customer satisfaction and sales efficiency. However, network reliability issues occasionally disrupted service delivery. The authors recommended strengthening network infrastructure to enhance the reliability of POS systems.

Singh & Patel (2020) explored the adoption of POS systems and their impact on micro-enterprises in New Delhi, India. The study utilized a case study approach, with data collected from 15 micro-enterprises through interviews and observation. The findings highlighted that POS systems streamlined payment processes and improved financial management. However, resistance to change among business owners posed a challenge. The researchers suggested targeted education campaigns to address misconceptions about digital payment systems.

Ahmed & Mahmood (2022) examined the role of POS services in enhancing the financial sustainability of SMEs in Lahore, Pakistan. Using a quantitative approach, data were collected from 200 SMEs through structured surveys. The analysis revealed that POS adoption reduced transaction costs and enhanced access to financial services. Key barriers included limited technical knowledge among users and inadequate service support. The authors recommended public-private partnerships to improve technical support and offer financial incentives for POS adoption.

Olatunde & Alabi (2021) investigated the effect of POS systems on the revenue growth of small-scale retailers in Osogbo, Nigeria. The study employed a survey research design, collecting data from 100 respondents using structured questionnaires. The analysis, conducted using regression models, revealed that POS adoption significantly increased revenue by improving transaction convenience and reducing cash handling risks. However, frequent network failures posed challenges. The authors recommended improved network infrastructure and subsidized POS devices for small-scale businesses.

Chukwu & Nwachukwu (2020) analyzed the influence of POS transactions on business expansion among SMEs in Onitsha, Nigeria. Data were gathered from 250 SMEs through structured questionnaires, and the analysis was carried out using descriptive and inferential statistics. The findings indicated that POS adoption facilitated business expansion by improving cash flow management and enabling digital transaction records. Challenges included high transaction charges and security concerns. The study recommended policy reforms to reduce transaction costs and enhance digital security measures.

Umar & Bala (2022) examined the role of POS services in promoting cashless transactions among SMEs in Sokoto, Nigeria. A qualitative approach was used, with data collected from 20 SMEs through in-depth interviews. The thematic analysis revealed that POS systems reduced reliance on cash and improved financial inclusivity, but limited awareness and lack of technical skills hindered widespread adoption. The authors suggested implementing educational campaigns and offering training programs for SME operators.

Kamau & Mwangi (2021) investigated the role of POS systems in enhancing customer experience among SMEs in Mombasa, Kenya. Data were collected through structured questionnaires distributed to 200 SMEs, and descriptive analysis was employed. The study found that POS systems significantly

improved customer experience by offering multiple payment options and reducing transaction times. Challenges such as high setup costs and occasional device malfunctions were noted. Recommendations included offering subsidized POS devices and ensuring regular maintenance services.

Ali & Hussain (2020) analyzed the impact of POS usage on the financial performance of micro-enterprises in Dhaka, Bangladesh. The study utilized a mixed-method approach, collecting data through surveys and interviews from 150 micro-entrepreneurs. The findings revealed that POS adoption led to improved sales tracking and better financial reporting, which enhanced profitability. Barriers included limited digital literacy and high initial costs. The study recommended government-led initiatives to increase digital literacy and provide financial support for acquiring POS systems.

METHODOLOGY

The study adopted a quantitative correlational research design. The study was carried out in the South-East geopolitical zone of Nigeria, which comprises the five states of Abia, Anambra, Ebonyi, Enugu, and Imo. Many of its towns (for example, Aba, Nnewi, Awka, Enugu) serve as hubs of small-scale production and distribution, so selecting SMEs in this region allowed for studying POS utilization in an area with dense commercial networks and significant SME presence. Data were collected from both primary and secondary sources. Primary data were obtained directly through the use of structured questionnaires. Secondary data were sourced from relevant published records, reports, and archival documents relating to manufacturing SMEs. These included SME registration statistics from SMEDAN, National Bureau of Statistics (NBS), and reports from the Ministry of Commerce and Trade.

According to SMEDAN (2023), the South-East region accounts for a significant share of registered manufacturing SMEs, particularly in areas such as food processing, textiles, furniture production, plastics, and light metal works. The distribution of registered manufacturing SMEs across the five South-East states is presented in the table below:

State	Number of Registered Manufacturing SMEs	Source
Abia	1,485	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)
Anambra	2,210	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)
Ebonyi	1,020	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)
Enugu	1,765	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)
Imo	1,890	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)
Total	**8,370**	SMEDAN & NBS (2023 Report on MSMEs in Nigeria)

These figures represent the officially reported number of registered manufacturing SMEs in the South-East zone as of 2023 and were adopted as the population for this study. The use of current and disaggregated data enhances the accuracy and relevance of the research. The sample size for the study was therefore derived from this total population of 8,370 registered manufacturing SMEs. The Krejcie and Morgan table was consulted to determine the corresponding sample size. According to the table, a population close to 8,000–9,000 requires a sample size of approximately 367 respondents. The Krejcie and Morgan (1970) formula for determining sample size is expressed as:

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

Where :
S = required sample size
X^2 = table value of chi-square for 1 degree of freedom at 0.05 level of significance (3.841)
N = population size (8,370)
P = population proportion (assumed to be 0.50)
d = degree of accuracy (0.05)

$$S = \frac{3.841 \times 8370 \times 0.5(1-0.5)}{0.05^2 (8370-1) + 3.841 \times 0.5(1-0.5)}$$

S= 367

To ensure fair representation of respondents across the five South-East states, the study adopted the proportionate stratified sampling technique. The sample size for each state was determined using the formula:

ni = {Ni}{N} \times n
Where:
(ni) = Sample size for each state
(Ni) = Population of manufacturing SMEs in each state
(N) = Total population of manufacturing SMEs (8,370)
(n) = Total sample size (367)

Proportional Distribution of Sample Size

State	Number of Registered Manufacturing SMEs (N_i)	Proportion (N_i / 8,370)	Allocated Sample Size (n_i)
Abia	1,485	0.177	65
Anambra	2,210	0.264	97

State	Number of Registered Manufacturing SMEs (N_i)	Proportion (N_i / 8,370)	Allocated Sample Size (n_i)
Ebonyi	1,020	0.122	45
Enugu	1,765	0.211	77
Imo	1,890	0.226	83
Total	**8,370**	**1.000**	**367**

The table above shows the proportional allocation of the total sample size of 367 respondents across the five South-East states based on their respective population sizes of registered manufacturing SMEs. This approach ensures that each state is adequately represented in line with its contribution to the total population, thereby enhancing the validity and reliability of the study findings.

To ensure content validity, A pilot test of the questionnaire was also conducted among 30 SME respondents outside the sample area to observe whether questions were understood as intended; ambiguous or confusing items were refined. Reliability of the instrument was assessed using Cronbach's alpha. The data collected were coded and entered into statistical software (SPSS). Descriptive statistics (frequencies, means, and standard deviations) were used to summarize respondents' characteristics and variable distributions. For inferential analysis, linear regression models were employed to test each of all null hypotheses that were stated.

DATA PRESENTATION, RESULTS AND DISCUSSION OF FINDINGS

The analysis begins with the distribution of questionnaire, demographic characteristics of the respondents, using descriptive statistics in percentages. The sample size consists of 367 respondents.

4.0 Table: Distribution of Questionnaire by States and Senatorial Zones in Southeast Nigeria

State	Senatorial Zone	Copies Distributed	Valid Copies Returned	Invalid / Not Retrieved
Abia (63)	Abia North	21	20	1
	Abia Central	21	20	1
	Abia South	21	20	1
Subtotal	—	63	60	3
Anambra (94)	Anambra North	31	30	1
	Anambra Central	32	30	2
	Anambra South	31	30	1
Subtotal	—	94	90	4

State	Senatorial Zone	Copies Distributed	Valid Copies Returned	Invalid / Not Retrieved
Ebonyi (42)	Ebonyi North	14	13	1
	Ebonyi Central	14	13	1
	Ebonyi South	14	14	0
Subtotal	—	42	40	2
Enugu (79)	Enugu North	26	25	1
	Enugu East	26	25	1
	Enugu West	27	25	2
Subtotal	—	79	75	4
Imo (89)	Imo North	30	28	2
	Imo East	29	28	1
	Imo West	30	29	1
Subtotal	—	89	85	4
TOTAL	—	**367**	**350**	**17**

Table 4.0 above presents the distribution and retrieval of questionnaires across the five South-East states based on the adjusted sample size of 367**.** Out of the total copies distributed, 350 were validly returned**,** while 17 were either invalid or not retrieved**.** The allocation across senatorial zones ensured balanced representation within each state.

Test of Hypotheses

Hypothesis One

H_{01}: The frequency of POS transactions has no significant effect on expansion of the customer base of selected SMEs in South-East Nigeria.

Table 4.1 : ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	102.534	1	102.534	155.23	.000
Residual	160.802	348	0.462		
Total	263.336	349			

Source: SPSS version 23, (2025)

The ANOVA result shows an F-statistic of 155.23 with a significance value of 0.000 (<0.05), indicating that the model is statistically significant. Thus, POS transaction frequency significantly affects customer base expansion.

Table 4.2: Coefficients Table

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	1.142	0.172	—	6.640	.000

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
Frequency	0.668	0.054	0.624	12.460	.000

Source: SPSS version 23, (2025)

The regression coefficient for POS transaction frequency is 0.668 (p = 0.000). This means that a one-unit increase in transaction frequency results in a 0.668-unit increase in customer base expansion. Since p < 0.05, we reject H_{01} and conclude that the number/frequency of POS transactions significantly affects the expansion of the customer base.

Hypothesis Two

H_{02}: The value of transactions processed via POS has no significant effect on expansion of the customer base in selected SMEs in South-East Nigeria.

Table 4.3: ANOVA Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	124.302	1	124.302	197.51	.000
Residual	137.034	348	0.456		
Total	261.336	349			

Source: SPSS version 23, (2025)

The ANOVA result gives F = 197.51 and p = 0.000, which is significant at the 0.05 level. This confirms that the value of POS transactions has a significant effect on expansion of the customer base.

Table 4.4: Coefficients Table

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	1.095	0.160	—	6.844	.000
Value	0.709	0.051	0.691	14.054	.000

Source: SPSS version 23, (2025)

The regression coefficient of 0.709 with p = 0.000 indicates that a unit increase in POS transaction value increases transaction frequency over time by 0.709 units. Since p < 0.05, we reject **H_{02}** and conclude that transaction value significantly affects expansion of the customer base.

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Hypothesis Three

H_{03}: POS terminal penetration per outlet has no significant influence on expansion of the customer base of selected SMEs in South-East Nigeria

Table 4.5: ANOVA Table

Model	Sum of Squares	Df	Mean Square	F	Sig.

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	114.652	1	114.652	177.43	.000
Residual	192.684	348	0.554		
Total	307.336	349			

Source: SPSS version 23, (2025)

The ANOVA result reveals F = 177.43 and p = 0.000 (<0.05). This confirms that the model is statistically significant, meaning POS terminal penetration per outlet significantly influences expansion of the customer base.

Table 4.6: Coefficients Table

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	1.210	0.155	—	7.806	.000
POS Pen.	0.688	0.052	0.659	13.321	.000

Source: SPSS version 23, (2025)

The regression coefficient of 0.688 with p = 0.000 implies that a one-unit increase in POS terminal penetration leads to a 0.688-unit increase in SME market share. Since p < 0.05, we reject H_{03} and conclude that POS penetration per outlet significantly influences expansion of the customer base.

Discussion of Findings

Hypothesis One (H_{01})

The frequency of POS transactions has no significant effect on expansion of the customer base of selected SMEs in South-East Nigeria.

The results showed R = 0.624**,** with R^2 = 0.389, meaning about 38.9% of the variance in customer base expansion is explained by POS transaction frequency. The F-test (155.23, p < 0.000) confirmed significance, while the coefficient (β = 0.624, p = 0.000) revealed that frequent POS transactions positively influence customer base expansion. This aligns with Ike & Ugwu, 2023; Balogun, Ajiboye, & Dunsin, 2013).

Hypothesis Two (H_{02})

The value of transactions processed via POS has no significant effect on expansion of the customer base in selected SMEs in South-East Nigeria.

Findings revealed a strong positive relationship **(**R = 0.691, R^2 = 0.477**)** where 47.7% of the variation in transaction volume was explained by transaction value. With F = 197.51 (p < 0.000) and coefficient (β = 0.691, p = 0.000), higher transaction values clearly predict transaction growth over time. This agrees with John & Rotimi (2014)**,** who reported a strong link between electronic banking and customer satisfaction, as higher transaction values enhance trust and repeat patronage.

Hypothesis Three (H_{03})

POS terminal penetration per outlet has no significant influence on expansion of the customer base of selected SMEs in South-East Nigeria.

The analysis produced R = 0.659, R^2 = 0.434**,** showing 43.4% of the variation in SME market share is explained by POS penetration. The F-statistic (177.43, $p < 0.000$) and coefficient ($\beta = 0.688$, $p = 0.000$) indicate that POS penetration per outlet significantly enhances SMEs' market share. This finding aligns with Achugamonu et al, 2020; Okpara, Ikpefan, & Aigbiremolen, 2018).

CONCLUSION

The findings of this study demonstrate that POS systems are critical enablers of SME growth and sustainability in South-East Nigeria. Specifically, POS transaction frequency and value not only expand customer bases but also sustain transaction volumes over time. The penetration of POS terminals significantly widens market share, while the integration of POS into business operations strengthens customer loyalty. Collectively, these results highlight that POS adoption is not merely a payment technology but a strategic driver of competitiveness and growth among SMEs. Based on the findings, the study recommends that SMEs should incentivize customers to make regular POS transactions through loyalty programs and discounts, as higher transaction frequency strongly expands the customer base. Financial institutions and SMEs should review transaction limits and charges to encourage higher-value transactions, since these significantly increase long-term transaction volumes. Policy makers should ensure wider distribution of POS terminals, especially in underserved areas, to enable SMEs to capture more market share.

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