

# Point of Sale Terminal Services and the Performance of Small and Medium-sized Enterprises in Nigeria

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## Abstract

*The adoption of Point of Sale (POS) Terminal by Small and Medium-sized Enterprises (SMEs) is expected to ease their means of financial transaction and improve their general performance. However, whether this has been achieved is yet to be discussed. The study therefore investigates the influence of POS terminal services on the performance of the SMEs in Lagos state, Nigeria. Employing a survey research design, the study population comprised of 69,865 registered merchants in Nigeria. 400 questionnaires were administered using a Taro Yamane formula. The data gathering tools were structured questionnaires designed by the researcher to gather data from the respondents on the influence of the POS terminal service on the performance of their businesses. Frequency distribution, percentages, and regression analysis were used for data analysis. The result indicates that POS terminal services has helped increase the sales volume, reduces queues for payment, and increase the income of the business owners.*

**Key words:** Merchants, Point of Sale Terminal, Performance, Small and Medium-sized Enterprises

## I. INTRODUCTION

Small and medium scale enterprises (SMEs) have been described by the Central Bank of Nigeria (CBN, 2013) as enterprises with an asset base (excluding land) of between N5million – N500million and labor force of between 11 and 300. SMEs are the engine of the economy – as they are essential sources of job creation, thereby creating entrepreneurial spirit and innovation. In fact, they are recognized as an integral component of economic development and a crucial element in lifting countries out of poverty (Wolfenson, 2001). Also, they have been the means through which accelerated economic growth and rapid industrialization have been achieved in nations across the world (Sauser, 2005).

Big organizations have become increasingly dependent on technologically based information to support and drive operational, tactical and strategic business activities, thereby making information technology intrinsic in today's business enterprise. The current system of high level of cash management with the attendant cost and hazard involved in moving large amount of cash, necessitates the introduction of POS. According to Business Information System in early 2000s, POS is widely regarded as safe and efficient retail payment system, which enhances the effectiveness of the financial systems, boosts consumer confidence and facilitates the functioning of commerce. Since Nigerian consumers hitherto, largely depended on the use of cash to conduct transactions, the introduction of POS by organizations in the country is expected to ease the carriage of large sums of money by consumers. Furthermore, the use of POS is also meant to enhance the effectiveness of organizations' operations and transactions by ensuring the security of monetary assets. In this regard, it has been observed

that funds that circulate outside the banking sectors are over 90%, reasons are attributable to inadequate awareness creations of the use of POS, and security especially from the bank to destinations and transactions generated from it. The importance of effective and efficient payment systems has been closely monitored and promoted by monetary authorities in all countries of the world because the development of a national economy relies on encouraging a payment system that is secure, convenient and affordable.

Proponents of electronic payment system for a developing nation like Nigeria envisioned a decrease in the load of cash management, safety and security of the populace and their hard earned money. They also envisaged drastic reduction in the incidence of money laundering, forestalling transaction losses owing to fraud and counterfeit among other challenges. This occurs especially when paying for services, making item purchases, subscribing for services, collecting from one or more payer and aggregating deductible funds. These benefits galvanized the design and execution of strategies geared towards entrenching the cashless policy in the country, with the pilot project launched in Lagos in April 2012 (Akano, 2012).

For years, analysts have predicted the transition of physical cash as a transaction medium to an electronic cash transaction medium referred to as a “cashless policy” (David, 2012). The basic product which is ‘point of sale’ (POS) terminal has a significant role to play in driving a cashless initiative owing to the fact that they are ubiquitous, easy to use and portable. POS are found in stores, restaurant, hospitals, schools, churches and other service centers. If the whole cashless scheme will be successful, the responsibilities of payment terminal service providers (PTSPs) in POS terminal management and support should be given maximum scrutiny. The responsibilities include purchase and replacement of spare parts, provision of connectivity, training, repairs, and development of value added services. This fact thus necessitates a periodic evaluation of the performance of the payment terminal service providers (Ifeakandu, 2011).

In Nigeria, the CBN in 2013 issued six payment terminal licenses (Unified payment services limited, ITEX, ETop, Easyfuel, Citiserve, Paymaster) and added eight more in 2015 (Netop, Cwg, Globasure, Interswitch, Brinq Africa, Transaction Payment Solutions, Global Accelerex, and Grandtowers) (Akhalmeh and Ohiokha, 2012). This is as a result of several complaints about the inadequacies on the part of the service providers to meet up with the deployment as well as the connectivity requirements of POS merchants. The NIBSS (2018) reported that only 109, 916 (representing 77 per cent) of the total registered POS machines have been successfully deployed and connected. Also, there were complaints about the connectivity even with The CBN directives to Nigerian Communication Satellite Limited on better connectivity platform (3G and 4G) for the POS. Other arguments for these additional licenses include inadequate enlightenment of merchants and consumers of these financial services, low capacity of PTSPs and merchant apathy.

## **II. LITERATURE REVIEW**

The Central Bank of Nigeria (CBN, 2011) noted that Nigeria’s aspiration to become one of the top twenty economies in the world could only come to fruition when all the enabling institutions and partners are fully functional. CBN also believe that the vision depends largely on the proposed e-payment system upon which the cashless policy will be established. This readily brings to mind a need to assess the institutions that will power the e-payment system among which are the acquirers, merchants, users, NIBSS, payment terminal service aggregators, payment terminal service providers (PTSPs) and other facilitators.

The statutory responsibilities of the PTSPs to acquirers cover all aspects relating to terminal management and support, including but not limited to purchase and replacement of spare parts, provision of connectivity, training, repairs, and development of value-added services,

amongst other things. These services rendered by the PTSPs are to increase access to cashless services by Nigerians. The hitches discovered in the cashless Lagos campaign such as poor communications network, limited POS deployed, interoperability of cards on the platforms, poor response time to customer complaints and user apathy, necessitates the probing of the statutory responsibilities of the PTSPs (Sanusi, 2011).

Previous studies have been done as regards the adoption of point of sales terminal in Lagos State and Nigeria respectively from the perspective of consumer level of satisfaction (Adeoti and Osotimehin, 2012; Omotayo and Dahunsi, 2015). Also there was a study about the empirical assessment of the operational efficiency of electronic banking in Nigerian banks (Ekwueme, Egbunike, and Okoye, 2012). Adeoti (2013) studied the challenges to the efficient use of point of sales terminals in Nigeria. However, none of the previous studies researched from the perspective of the payment terminal service providers (PTSPs) as regards the challenges faced by merchants in the use of the payment terminals provided by the PTSPs, and the influence on SMEs' business.

In view of this gap, this study centered on the general evaluation of the performance of PTSPs with respect to the challenges merchants face in the use of the terminals provided by the payment terminal service providers (PTSPs), as well as how the operations of this payment terminals influence the performance of SMEs in line with driving the CBN's cashless initiative in Nigeria. The statistics given by the NIBSS (2018) affirmed that only 109, 916 representing 77 percent of the total registered POS machines have been successfully deployed and connected. This leaves 23 per cent inactive. If the policy is to succeed, drastic measures should be taken to eradicate the flaws and systemic inadequacies being experienced, especially those accruing to PTSPs.

To this extent, the centrality of a cashless system to our economy amplifies the urgency of a scientific inquiry of this nature, into how efficient the licensed PTSPs in Nigeria have operated so far. This study could help examine the challenges faced by merchants in the use of point of sale terminals and further access the influence of point of sale terminal system on the performance of the SMEs' businesses in Lagos State.

Studies have shown that challenges emanating from cashless campaigns have proven the indispensability of payment terminal service providers (PTSPs) in the success of the exercise. Literature has however paid little attention to the influence of the point of sale terminal service on the performance of the SMEs. It is therefore necessary to undertake more investigation on the issue to solve these identified problems

The general objective of this study is therefore to examine the influence of the activities of payment terminal service providers on the performance of SMEs in Lagos State, Nigeria. Specifically, this paper aims to:

- determine the challenges faced by the SMEs in using Point of Sales terminals in Lagos State;
- analyze the effect of Point of Sales terminal services on the performance of the SMEs.

### **III. METHOD**

This research adopted the descriptive survey research design. This afforded an intensive detailed analysis and description of the context of the study. The location for this research was Lagos metropolis. This is the location in Nigeria where POS terminals is mostly being used. Lagos is Nigeria's financial, commercial and industrial nerve center. The headquarters of payment terminal service providers (PTSPs) are located in Lagos state, and furthermore, cashless policy was first implemented in Lagos state. Multistage sampling technique was adopted. The businesses were first stratified based on zonal area. Four zones in Lagos State

was purposively selected as target areas due to their high concentration of POS terminals (NIBSS, 2018). These include Ikeja, Yaba, Badagry and Lagos Island. The population of this study consisted of 69,865 merchants in Nigeria (NIBSS, 2018). Adopting the Taro Yamane's formula for sample size determination, a sample size of 400 POS merchants was arrived at. One hundred respondents were selected from each of the four zones. Thereafter, convenience sampling was used to select one hundred (100) POS merchants in each zone. The organizations considered include supermarkets, hotels, gas stations, restaurants, schools, companies and pharmaceutical stores, among others.

The primary data was collected through the use of a structured questionnaire designed for that purpose. This was adjusted based on a Likert scale ranging from 1 to 5. The questionnaire was structured into 3 sections: (a) Demographic Characteristics (b) Challenges faced by merchants in using payment terminal systems in Lagos state (c) influence of the payment terminals system on the performance of the merchants' businesses. Face and content validity were also carried out in conjunction with some researchers. A pre-test was carried out in order to validate the items under each variable. The pre-test was carried out using conveniently sampled 20 businesses in Osun State, Nigeria. Cronbach's alpha test was used to obtain an indication of the reliability of the 28 questions in the questionnaire. The results indicated an acceptable level of internal consistency ( $\alpha = 0.711$ ), signifying that this component of the questionnaire has strong internal consistency and will provide relatively stable and consistent sets of results over time.

The conceptual framework in figure 1 explained the relationship between the operational efficiency of point of sales service system and the performance of SMEs. The performance of the point of sales service system is hinged on the various factors that are determinant on its operational efficiency in Nigeria and some of these issues were discussed in the technology acceptance model. The importance of the other factors essential for the operational efficiency of payment terminal service providers in a cashless society that were included in the above model and theories led to the establishment of this framework to capture all the necessary requirements for the operational efficiency of payment terminal service providers in cashless operations in Nigeria. The challenges faced in the use of point of sale terminal which is one of the specific objectives being examined covers the issues that brought the Lagos test run to a halt such as ubiquity of machines, network issues, speed and cost of transaction to end users. These are intrinsic elements that are the foundation and bedrock of a workable cashless economy.

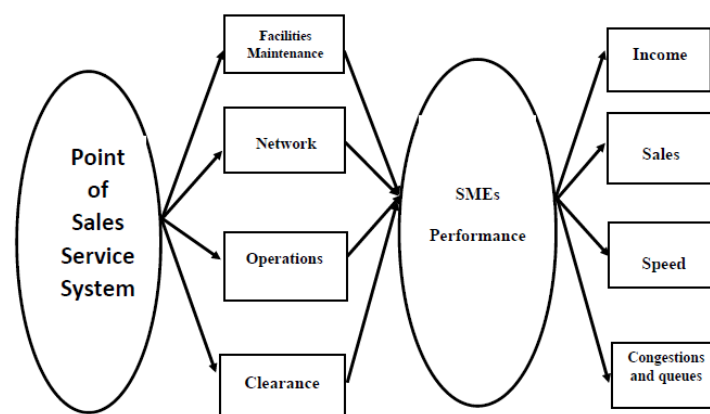


Figure 1: Research Model

Based on the theory and findings from previous research, this study combines various variables. The hypothesis developed in this study is:

H1: Point of sales terminal service usage have significant effect on the performance of SMEs in Lagos State.

#### IV.RESULT AND DISCUSSION

Table I attempts to ascertain the challenges faced by the SMEs in using point of sales terminal system. This was achieved following a scale of “Strongly Agree” to “Strongly Disagree” on a 5-point scale. The analysis based on the mean score revealed that breaking down of the POS terminal at intervals was the topmost challenge faced by the merchants. Others are inadequate security platform, delay and mistakes in account statements, unreliable network, interbank processing and clearing system, slow response of the payment terminal service providers to issues of malfunctioning POS terminals, and unavailability of spare parts.

	Weighted Mean	Standard Deviation
Our POS terminals break down at intervals	3.67	.469
The security platform for electronic payment system is inadequate	3.66	.473
Our customers often complain of delay and mistakes in their account statements	3.44	.948
The network service of our POS terminal(s) is not reliable	3.34	.813
The banks are not effective in balancing our account speedily on POS transactions	3.34	1.303
The interbank processing and clearing system is not effective	3.11	1.086
The spare parts are unavailable and non-affordable	3.11	1.303
Banks/payment terminal service providers do not respond promptly to rectify/repair malfunctioning POS terminals	2.89	1.089
Our POS terminals do not accept all types of cards e.g. Mastercard, verve card, etc.	2.89	.877
Our customers are not satisfied with the present charges on POS transactions	2.79	1.224
There is no adequate training provided for merchants	2.79	1.190
<b>Average</b>	<b>3.18</b>	<b>0.980</b>

Table I: Challenges Faced by the SMEs in Using Point of Sales Terminal System in Lagos State.

WM = Weighted Mean, STD = Standard Deviation

Table IIa & IIb reveals the effect of POS terminal systems on the performance of SMEs business. This was also achieved following a scale of “Strongly agreed” to “Strongly Disagree” on a 5-point scale. The analysis based on the mean (x) score revealed that the use of POS terminals by SMEs increased the number of customers that patronizes them. It also shows that customers were served faster when POS terminal is active. Customers buys and spend more when POS terminal is available and functional. It further reveals that the use of POS terminals for transactions reduce queues for payment. Also, the volume of sales increases due to the use of POS terminals.

This is consonance with the findings of the work of Ashike (2011) who opined that the adoption and use of POS terminal has a major effect on businesses in Nigeria. The reason for this is not farfetched, as it is no more news the world globally has shifted from cash transactions to electronic transactions, and thus, organizations that adopts the use of electronic payment means like the POS terminal have the advantage over those that have not. This will likely reflect in the general performance of the business.

	SA	A	U	D	SD	W M	STD
The use of POS terminal(s) increased the number of customer that patronize us	52 (12.9)	184 (45.9)	78 (19.6)	59 (14.8)	27 (6.8)	3.43	1.09
We serve our customer faster when the POS terminal is active.	48 (12.1)	185 (46.1)	77 (19.3)	62 (15.5)	28 (7.0)	3.41	1.10
Our Customer buys and spend more when POS terminal is available and functional	90 (22.6)	197 (49.3)	37 (9.3)	62 (15.4)	14 (3.4)	3.40	1.09
Our sales often decreases when there is issue or fault with our POS terminal(s).	46 (11.4)	184 (46.1)	80 (20.0)	62 (15.5)	28 (7.0)	3.39	1.09
The use of POS terminals for transactions reduce queues for payment in our enterprises.	46 (11.4)	184 (46.1)	79 (19.8)	63 (15.7)	28 (7.0)	3.39	1.09
There is a big difference in income when the POS terminal(s) is active and when it is not.	46 (11.4)	184 (46.1)	79 (19.8)	63 (15.7)	28 (7.0)	3.39	1.09
The volume of our sales have increased due to the use of POS terminal(s) in our enterprises	94 (23.4)	184 (46.1)	59 (14.8)	49 (12.3)	14 (3.4)	3.38	1.09
<b>Average</b>						<b>3.40</b>	<b>1.09</b>

**Table IIa: Effects of Point of Sales Terminal System on the Performance of SMEs in Lagos State.**



	SA	A	U	D	SD	WM	STD
The use of POS terminal(s) increased the number of customer that patronize us	52 (12.9)	184 (45.9)	78 (19.6) )	59 (14.8)	27 (6.8)	3.43	1.09
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<b>Average</b>						<b>3.40</b>	<b>1.09</b>

**Table IIb: Effects of Point of Sales Terminal System on the Performance of SMEs in Lagos State.****Test of Hypothesis**

The study set the significance level for the hypothesis to be a pre-set value of 0.05. The hypothesis was tested in null form, posing the assumption that a significant relationship does not exist between the independent and dependent variables. The hypotheses in the alternative form assume that a significant relationship exists between the concerned variables. If  $p$  value is less than or equal to 0.05, the alternative hypotheses will not be rejected whereas the null hypotheses will be rejected and vice-versa.

**Hypothesis 1:** Point of sales terminal service usage does not have significant effect on the performance of SMEs in Lagos State

The adopter factor is the point of sales service system. The constructs used to measure the point of sales service system are facilities management, network, operations and clearance. The relationship between the point of sales service system and the performance of SMEs was tested using ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sign
Regression	707.018	5	141.404	22.386	0.000 <sup>b</sup>
Residual	1263.298	200	6.316		
Total	1970.317	205			

R = 0.559  
Adjusted R Square = 0.343

**Table III: Regression Analysis/ANOVA**

Table III shows the regression analysis/ANOVA to determine the influence of point of sales service system on the performance of SMEs. The point of sales service system was measured via respondents' responses to the facilities maintenance, network, clearance and operations. The performance of the SMEs was determined via income, sales, speed, congestions and queues, which suggested they were fair. Table 3 reveals a significant relationship between point of sales service system and SMEs performance ( $r = 0.559$ ). It was further revealed that

point of sales service system significantly predicts performance of SMEs ( $F_{5,200} = 22.386$ ,  $p < 0.05$ ). Also, point of sales service system accounts for about 34% degree of variation in the performance of SMEs. This infers that about 66% of SMEs sales performance is accounted for by other factors beyond the scope of this study. This finding has affirmed that utilizing the point of sales terminal is important for SMEs to achieve improved performance, as well as gaining competitive advantage necessary for the overall sustenance of the enterprise. Hence, the hypothesis is rejected.

Also, studies have corroborated this finding that adoption and use of POS terminals influences SMEs performance and contributes to overall growth (Ashike, 2011; Omotayo & Dahunsi, 2015).

### CONCLUSION

The study revealed that point of sales terminal system usage had positive significant effect on the performance of SMEs' businesses using Lagos state, Nigeria as an area of study. It further reveals that utilizing point of sale terminals is a pre-requisite for SMEs to improve overall performance. Managers and owners of businesses in Lagos state should adopt the use of POS terminal in their organizations as it improves businesses. It also revealed the various challenges limiting its use and efficiency which includes inadequate network service, exorbitant charges on transactions, ineffective interbank processing and clearing system, among others. This certainly reduces the desired impact on the performance of the SMEs. This challenges should be attended to by the various authorities. When these are done, the benefits of POS terminal usage will be fully enjoyed by SMEs.

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