

POINT OF SALE (POS) - ADOPTION AND CHALLENGES IN NIGERIA

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ABSTRACT

The availability of an efficient payment system in an economy cannot be over emphasized. One of such payment platform is Point of Sale (POS). POS e-payment system has emerged as a powerful provider of fast and efficient payment platform in Nigeria. The quest for survival, global relevance, maintenance of existing market share and sustainable development have made the exploitation of many advantages of information and communication technology through the use of Point of Sale (POS) terminals. New platforms and protocols are being developed to be able to create and support a seamless and truly global service platform. This study examines some relevant standards and protocols for Point of Sale (POS) terminals and discusses POS services and their adoption within a conceptual framework. Data for the study were collected from general merchants (traders) business centers, restaurants/ eatery, supermarkets and others. The finding of this study showed that in spite of having POS terminals, most merchants still accept cash above POS. This is because according to the finding, POS deployment was involuntary as they were deployed by banks unsolicited. There should be increased awareness of consumers which will accelerate adoption of the POS terminals and card payment system.

Keywords: Payment system, Point of Sale (POS), card payment system

1.0 INTRODUCTION

The financial institutions and telecommunication companies' worldwide are facing new loop on the Information and Communication Technology convergence curve. Point of sale [POS] terminal has emerged as a promising new application of the next generation e-payment system. The role and importance of efficient payment system has been closely monitored and promoted

by monetary authorities in all countries. The Nigerian payment system that is cash- driven cannot and has not guaranteed the much needed efficient and effective payment platform required for a sustainable economic development, [Adeoti 2013;1]

The Nigerian economy being largely cash-based is associated with high cost of cash management. Reliance on cash based payment platform has been found to be risky and cumbersome. Carrying cash in the economy is responsible for large pool of money being found in the hand of the unbanked citizens. In an effort to reduce the volume of cash in circulation and reduce the risk of going about with huge cash, the CBN introduced electronic payment system such as point of sale [POS] terminal, automated teller machine (ATM), payment cards [Smart card] etc into the Nigerian economy. This has given rise to the introduction of switch companies that facilitate interconnectivity (Salimo in Adeoti 2013;2).

A point of sale/ service [POS] terminal is used to conduct retail transactions. It can provide many services including credit card processing check reading and transactions depending on the model. These devices can be found virtually anywhere, from grocery stores to gas stations. The technology used in POS machine results in a speedy and secured transaction.

Based on CBN policy on cash lodgments and withdraws all businesses that accept cash up to N0.5m for individuals and up to N3m for corporate customers for their daily business transactions require a PoS terminal to avoid being charged from 2% in excess of the approved free lodgment limit. These include supermarkets, hotels and restaurants, electronic shops, pharmacies, boutiques, Hospitals, Distributorships, Airlines, etc.

1.1 Statement of Problem

Generally, electronic payment system (e-payment) refers to an electronic means of making payments for goods and services procured online or in supermarkets and shopping malls. It enables websites and shopping malls to securely process transactions in real time. It operates on a smartcard that stores information on microchips. The microchips contain a purse in which monetary value is held electronically. The electronic payment system takes the following forms: electronic financial payment system, where payment is through some specific protocols, and smartcard payment system, where the information on the silicon is used to effect payment for services (Adeoti, 2013:2). This payment system provides a better audit trail than transactions that involve physical cash and thus reduces the amount of currency in circulation.

The adoption of this payment platform by the consumers has improved Nigeria's payment system. This is evident in terms of the volume, value and level of adoption in the country. The level of adoption by the consumers has continued to increase significantly; and this accounted for the billions-worth of transactions as at 2008 (Adesina and Ayo 2010 in Adeoti 2013:1).

However, despite the general increase in the adoption of e-payment system, the rate and use of POS is relatively low when compared to the rest of e-payment platforms. Customers who prefer to use the POS find it difficult because most POS are not loaded with cash making them to travel from one POS to another. Merchants with POS terminals still prefer cash payment as this is the most frequently used payment option.

1.2 Objectives of the Study

The broad objective of the study is to evaluate the level of adoption of Point of Sale (POS) payment platform in Nigeria with special focus on Enugu State.

Specific objectives include:

- a) To assess the effectiveness of the implementation of POS payment system in Enugu metropolis.
- b) To identify perceived obstacles inherent with the implementation of POS payment system
- c) To proffer solutions to the identified obstacles in the implementation of the system.

1.3 Research Questions

The following questions will guide the study:

- a) How effective is the implementation of POS payment system in Enugu metropolis?
- b) What are the perceived obstacles inherent with the implementation of POS payment system?

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

According to Rose et al (2008:113), point of sale terminals are computer facilities in stores that permit a customer to instantly pay for goods and services electronically by deducting the cost of each purchase directly from his/her account. The customer presents an encoded debit card to the store clerks who insert it into a computer terminal connected to the financial firm's computer system. The customer's account is charged for the purchase and funds are automatically transferred to the store's deposit account. Adeoti et al (2012:10) described a POS machine as a terminal, a box that allows a merchant to accept payments by means of cards from his customers. It works almost like an ATM machine except that in this case, the machine is designed to accept

payments only on behalf of the merchant which is mostly the registered company which has an account with bank.

Rose and Hudgins (2008:113), state that current Point-of-Sale network are divided between online and offline POS systems. The offline accumulates all of the customer's transaction until day's end and then the total of all transactions is subtracted from the customer's account. In contrast, online system deducts each purchase from the customer's account as that purchase is made. Customers and financial firms would generally prefer offline POS system, but online system appears to reduce the frequency of customer overdrafts and, thus may be less costly in the long run.

2.2 How Does POS Payment Platform Work?

When the POS machine is activated a buyer is able to use his ATM or acceptable debit card to make payment by using his Personal Identification Number (PIN). The merchant's account gets credited and there is no notification while the payer's account at the same time gets debited. The machine has a power source with a battery that needs to be charged before use. So it works like a phone, uses a special SIM Card from any of the supporting networks like MTN or GLO in Nigeria for connectivity but the processing is made possible by inter bank transfer systems such as Interswitch or Etransact.

How do you really operate POS ?

- a) Your POS machine should be fully charged before the business of the day.
- b) Power it on by pressing the button until you hear a beep.
- c) When asked, enter your password which could be some letters such as 1234
- d) If there is connection, it should connect and ready to accept payments.
- e) A buyer presents his debit card and confirms by pressing 'enter'
- f) You forward it for processing
- g) If successful, your account gets credited and 2 receipts are printed
- h) Cut out the customer's copy and give to him while you cut out the merchant's copy for your records and for recording with your bank if necessary.
- i) You could also sign up with your bank for SMS notifications so you get an SMS for every payment made into your account on the POS.

Customer's resistance to POS usage appears to be fading, and their future growth is expected to continue to be rapid. Service providers must work to overcome several disadvantages for the customer, such as loss of cheque book float (because loss of funds occurs the same day), computer problems that can generate costly mistakes, and the absence of canceled cheques or cheque images, which gives customers handy written receipts for tax purposes. However, chequeing account fees are on the increase at a rate that is faster than inflation rate, which eventually may make POS terminals more economically attractive for more customers.

A point of sale (POS) terminal is a computerized device in replacement for a cash register, much more complex than the cash registers of even just a few years ago. The POS system can include;

- a) The ability to record and track customer orders.
- b) Process debit and credit cards.
- c) Connect to other systems in a network and
- d) Manage inventory.

Generally, a POS terminal has as its core, a personal computer, which is provided with application-specific programs and I/O devices for the particular environment in which it will serve. A POS system for a restaurant, for example, is likely to have all menu items stored in a data base that can be queried for information in a number of ways. POS terminals are used in most industries that have point of sale such as a service desk, including restaurants, lodging, entertainment, and museums.

Okechi and Kepeghom (2013:12) describes POS as an electronic device that is used for verifying and processing credit transactions typically connected via highly reliable performance. A retail point of sales system typically includes a computer, monitor, cash drawer, and receipt printer, customer display and barcode scanner, and the majority of retail POS system also includes a debit/credit card reader. It can also include a weight scale, integrated credit processing system, a signature capture device and a customer pin pad device. More and more POS monitors use torch-screen technology for ease of use and a computer is built into the monitor chassis for what is referred to as an all-in-one unit.

According to Central Bank of Nigeria (2013:3) the approved minimum standard for POS card acceptance services include that all industry stakeholders who process and /or store cardholder information shall ensure that their terminals, applications and processing systems comply with the minimum requirements of the following standards and best practices (for PCI, the minimum requirement will be level 2.1). In addition, all terminals, applications and processing systems

should also comply with the standard specified by the various card schemes. Each vendor must provide valid certificates showing compliance with these standards and must regularly receive status of all its terminals to ensure they are still compliant as standards change. There will be a continuous review and recertification on compliance with these and other global industry standard from time to time.

2.3 Roles and Responsibilities of Parties to POS E-Payment System

The various parties to the POS payment platform have roles and responsibilities imposed on them by statute. These include:

a. POS Merchant Acquirers;

- Only CBN licensed financial and non-financial institutions shall serve as merchant acquirer
- Merchant acquirers can own POS terminals, but shall only deploy and support POS terminals through a CBN licenced Payment Service Provider (PTSP).
- Merchant acquirers shall ensure that POS terminal purchase and deploy a merchant/retailer locations through CBN licensed payment terminal services provider(PTSP) shall accept all cards (card agnostic)
- Merchant acquirers shall enter into agreements/contracts with merchant for accepting payment by means of electronic payment instrument. All agreements/contracts shall clearly spell out the terms and conditions, including roles, responsibilities and rights of the acquirer and the merchant.
- The contract should also clearly spell out requirements for the merchant's responsibilities in ensuring proper upkeep of the POS terminal.
- Every merchant acquirer shall connect all its POS terminals or other acquiring devices directly to the payments service aggregator.
- Merchant acquirers shall switch all domestic transactions through the preferred local switch of their choice for purposes of seeking authorization from the relevant issuer.
- All POS Terminals procedure should allow for implementation of biometric authentication by December 2015.

- Merchant acquirers in conjunction with their payment terminal service providers shall be responsible for ensuring that merchants are trained and made to put in place reasonable processes and systems for confirming cardholder identity and detecting suspicious or an authorized usage of electronic payment instruments where customer/card is physically present at point of sale.
- Merchant deposit banks shall maintain and reconcile accounts on behalf of merchant acquirers (CBN 2013: 5)

b. Payment Terminal Services Provider (PTSP)

- To ensure effectiveness of POS operations and proper support/maintenance infrastructure, only CBN licensed payments terminal service providers shall deploy, maintain and provide support for POS terminals in Nigeria.
- CBN shall license a limited number of payments terminals service providers, to enable the PTSP build scale and maximize efficiency. Criteria for PTSPs shall be defined by CBN, and the performance of licensed PTSPs shall be reviewed annually to confirm they meet defined performance targets. Licensee of PTSPs that fails to meet performance expectations can be withdrawn and fresh license issued to qualifying companies.
- PTSPs can identify merchant opportunities and market potential merchants on behalf of acquirers.
- Only PTSPs shall be allowed to deploy POS terminals in Nigeria. Any party, other than a PTSP that deploys POS terminals, shall be fined 50,000 Naira per day that terminal remains deployed. PTSPs shall clearly agree service level agreements (SLAs) on deployment timelines with acquirers to ensure efficient deployment of POS terminals.
- PTSPs shall ensure that deployed POS terminals are functional at all times. Appropriate mechanism must be put in place to remotely detect failure which shall be rectified or replaced within 48 hours.
- All terminals deployed by PTSPs must have stickers with the PTSPs support service contact information. Additionally PTSPs must have a support infrastructure that ensures support coverage for merchants 7 days a week.

c. Payment Terminal Services Aggregator

- Nigeria interbank settlement system (NIBSS)-owned by all Nigerian banks and the Central Bank of Nigeria (CBN) shall act as payments terminal services aggregator for the financial system.
- As the payments terminal Services aggregator for the industry, NIBSS shall establish communication network for reliable POS data traffic that shall satisfy the services and availability standards and expectations of the industry on a cost effective basis.
- As the payments terminal service aggregator for the industry, NIBSS shall on an annual basis or more frequently as may be required, on behalf of the industry certify POS terminals that meet the POS terminal standards approved for the industry.
- As the payments terminal services aggregator, NIBSS shall participate on a joint committee of industry stakeholders, to negotiate a price list with 2-3 terminal equipment providers for bulk purchase of POS terminals for Nigerian market. It is expected that a bulk purchase agreement will enable cost reduction on POS terminals as well as the ability to define special requirements for Nigerian market and ensure sufficient support infrastructure from the terminal manufacturers. Any terminal owner may subscribe to the negotiated global price list for the purchase of POS terminals to take advantage of these benefits.
- As the payment terminal service aggregator, NIBSS shall be the only entity permitted to operate a terminal management system. All POS terminals operating in Nigeria must be connected to the payment terminal services aggregator. This is to ensure comprehensive oversight, reporting/ performance monitoring, and also in line with our objective of shared industry infrastructure and best practices. NIBSS shall provide acquirers and payment terminal services provider and their merchant (where required) the ability to view transactions and monitor performance of their devices.
- As POS terminal deployed it shall be technically enabled to accept all cards issued by Nigerian banks.

DATA SECURITY STANDARD

1. PCI, PED--- Payment Card Industry Pin Entry Device.
2. PCI, DSS---Payment Card Industry Data Security Standard.

3. Triple DES—Data Encryption Standards should be benchmark for all data transmitted and authenticated between each party. The triple DES algorithm is the minimum standard.
4. EMV—The deployed infrastructure must comply with the minimum Europe MasterCard Visa (EMV) standard requirements.
5. Each vendor must provide valid certificates showing compliance with these standards.

The timelines for compliance with the Pos Cad acceptance minimum standards are as follows:

New terminals and payment applications	Immediate
Existing payment applications	Within one year
Existing terminals	Within one year.

(CBN 2013: 7)

2.4 Importance of POS to Business

POS payment platform confers several benefits to users. Some of these benefits are summarized below:

- a) Better and faster way of making payments.
- b) Convenient to use for all amounts as cash payment could be bulky.
- c) Deposits money electronically into your account without having to go to the bank.
- d) Reduces risks of theft and cash handling.
- e) Transactions can be monitored online real time.
- f) MIS report can be generated anytime on the PoS terminal for you.
- g) Increases sales as customers buy more with cards than cash at hand.
- h) The economy now demands card payment as a preferred option to cash with large handling charges imposed on individuals and companies who withdraw and pay in cash.

3.0 METHODOLOGY

3.1 Sources of Data

Primary data were collected through survey design which involves the use of questionnaire designed to capture data on the key research issues such as how effective is the implementation of Point of Sale (POS) payment system in some selected areas in Enugu Metropolis, the perceived obstacles inherent with the implementation of POS payment system and what should be the solutions to the perceived obstacles so identified.

The secondary sources of data involve review of journal articles and the internet.

3.2 Area of Study, Population of Study and Sample Size

The area of study covers Merchants (traders), Business center operators, Restaurant/eatery operators and Supermarket operators and their customers. The population of the study was 315. The sample size was obtained using convenient sampling with 100 respondents from the Merchants (Traders), 80 respondents from Restaurants/Eatery operators, 90 respondents from Business Center operators and 45 respondents from Supermarket operators from some selected part of Enugu namely, Abakpa Nike, Coal Camp, New Haven and Uwani Enugu. Out of 315 questionnaires administered, 300 responded given a response rate of 95.2% and this was used in our analysis.

4.0 DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

The data gathered through the questionnaire are presented below in tables and frequency distribution.

Table 1 Determination of the Educational Level of the Respondents

Option	Frequency	Percentages (%)
WASSCE/GCE	100	33.3
OND/HND	95	31.7
BSC	55	18.3
Postgraduate	50	16.7
Total	300	100

Source: Field Survey, 2015

The analysis of educational level of those who responded to the questionnaire revealed the following trend: Majority of those who answered the questionnaire falls within the WASSCE/GCE level representing 33.3% of the respondents. Those with OND/HND constitute the second largest (i.e. 31.7%). BSC with 18.3% came third. The least on the table are those with Postgraduate certificates which constitute 16.7% of the respondents. Based on the table above, a greater percentage of the respondents have a low level of education.

Table 2 Determination of the effectiveness of Point of Sale Terminal Implementation

Option	Frequency	Percentages (%)
Very effective	30	10
Effective	120	40
Not effective	150	50
Total	300	100

Source: Field Survey 2015

Table 2 above shows that the implementation of Point of Sale (POS) terminal is not effective among the respondents. As high as 50% of the respondents are of the opinion that POS is not effective. It was observed that lack of awareness on the part of the respondents contributed to this fact. The research discovered that deployment is not the problem but usage as some of the merchants keeps machine under their lockers.

Table 3 Determination of the most preferred mode of payment

Option	Frequency	Percentages (%)
POS terminal	20	6.7
EFT Payment	50	16.6
Cheque Payment	80	26.7
Cash Payment	150	50.0
Total	300	100

Source: Field Survey, 2015.

This table shows the most preferred mode of payment acceptable to the respondents. Eighty (80) or 26.7% of the respondents preferred cheque as the preferred method of payment, While 150 or 50% of the respondents took cash payment as the most preferred method of payment. This was attributed to the delays associated with access to funds after sales from the POS terminals. The POS terminal has 20 or 6.7% respondents as its preferred method of payment. The majority of the respondents indicated that they would like to shift to POS payment system if given more education on the mode of operation.

Table 4 Determination of the type of Business operation in Enugu metropolis

Option	Frequency	Percentages (%)
General Merchant (trading)	120	40.0
Restaurant/eatery	45	15.0
Business Center	100	33.3
Supermarket	35	11.7
Total	300	100

Source: Field survey. 2015

Table 4 above shows that 40% of the respondents are general merchants. 15% are restaurants/eateries 33.3% are business center operators, 11.7% are supermarkets. These business types are mostly located in open markets, neighborhood shops, shopping malls and kiosk locations. It is deduced that the general merchants are the group that will mostly benefit from the use of (POS) terminals.

Table 5 Determination of the perceived obstacle in the implementation of Point of Sale (POS) terminals

Option	Frequency	Percentages (%)
Unavailability of dedicated data service Network	75	25.0
No knowledge of Point of sales Machine	75	25.0
Frequent Power interruption	80	26.7
Low internet bandwidth	70	23.3
Total	300	100

Source: Field Survey, 2015.

The responses to this questionnaire were revealing. Obstacles range from unavailability of dedicated data service network, no knowledge of point of sale machine (POS), frequent power interruption and low internet bandwidth. Of the 300 responses received, all agreed that the above were the major obstacles inhibiting the effective implementation of POS payment system in Enugu metropolis.

4.2 Discussion of Findings

The findings reveal that 65% of the respondents have low level of education; and this accounted for the low level of exposure to the new payment technology by the respondents. Majority of the

respondents claimed to have never seen the Point of Sale machine talk less of knowledge of its operations.

The findings of the study also show that the implementation of Point of Sale (POS) payment option in Enugu State is ineffective. As high as 50% of the respondents are of the opinion that POS is not effective. This is attributable to the low level of awareness of the merchants and business operators on the ability of POS to boost business transactions.

Moreover, One hundred and fifty (150) or 50% of the respondents agreed that cash payment is the most preferred choice of payment. This was attributed to the delays associated with access to funds after sales from POS terminal.

On the issue of the perceived obstacle in the implementation of Point of Sale terminals in the studied area, it was discovered that the obstacle ranges from low internet bandwidth, unavailability of dedicated data service network, no knowledge of Point of Sale machine, frequent power interruption, and Network failures.

5. RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made, which if carefully implemented will increase awareness and usage of POS as a preferred payment option in Enugu State.

- a) Merchants should increase internet bandwidths and always make available a dedicated data service network.
- b) Bankers to these merchants need to introduce POS terminals to them and adopt more friendly criteria for POS terminal deployment.
- c) There should be massive awareness program undertaken to publicize the purpose and benefits of the POS system and allay fears of default and fraud.
- d) Management of POS terminals should put in place a workable standby automatic change-over power generating set to minimize cases of frequent power interruption.
- e) Management of POS terminals should have a proper mechanism aimed at reducing incessant internet failure that makes the use of POS uninteresting.
- f) There should be training on the usage of POS terminals immediately after deployment.

- g) PTSPs should check on the merchants after a day of training in order to ensure that merchants understand how to use the POS terminals and are using them appropriately.
- h) Publicity through radio, direct contact mounting of bill boards, fliers, social media and TV adverts should be encouraged.
- i) General merchants who use POS should encourage others to use the POS and card payment systems based on their experience with the payment systems.
- j) Policies should be formulated to discourage carrying of cash by customers.
- k) All costs involved in setting up POS terminals should be made known to the consumers during publicity program.
- l) The NIBSS role should be popularized and communicated to merchants to boost confidence in the system.

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