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# Economic Impact of Point of Sale (POS) Services in Katsina Metropolis, Nigeria

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### ABSTRACT

This paper investigated the economic impact of Point of Sale (POS) services in Katsina Metropolis, Nigeria. Primary data were randomly collected from 100 POS operators in different parts of the metropolis. Simple Bar Chart, Correlation Analysis and Percentages were used to determine the degree of correlation between use of POS device and economic development in the metropolis, and to specifically ascertain the extent of the impact of POS services on operators' income, consumption, savings and investment in the metropolis. . The paper found that POS operators on the metropolis earn daily profit ranging from 3, 000 to 8, 000 naira, an average of 5,500 naira. The daily expenditure on consumption, daily savings and annual re-investment were dependent on the meagre income earned. It further revealed that POS services have positive impact on the personal daily income. Consumption expenditure, savings and investment, It further revealed positive correlation between POS services, disposable income, consumption expenditure and investment turn over by the POS owners. The paper recommends improved security, improved internet service to enhance POS services delivery in the metropolis.

*Keywords*: *Economic Impact, Point of Sale, Services, Katsina, Metropolis*

## Introduction

Application of technology in human endeavour provides abundant solutions to emerging socio-economic and other life challenges in the world. Technology increases efficiency, productivity, economic performance, simplifies social relationship, it eases governance and profitability in business amongst others. With technological advancement, all sectors of the economy and utilizes technology for better results. Financial sector of the economy is not left out in embracing technology for better financial services, and in return for optimal performance of the economy. The application of technology helped the financial sector immensely in reducing the cost of printing, supply and handling of paper notes and coins. For example the CBN (2011) reported that cost of cash to Nigeria financial system is high and increasing as the cost was very close to NGN 50 billion naira in 2008. In addition to the production cost of currency notes, storage and handling of currencies exposes the currency handlers to avoidable insecurity and danger. Among the problems often associated with cash transactions are armed robberies, use of counterfeit bank notes, frauds, inconveniences of carrying large quantities of currency notes, long period of waiting in bank halls, frequent trips to banks, frequent printing of bank notes (Nnanna and Ajayi, 2005).

The aforementioned problems and many more necessitated development of technology based alternatives like, e-currency, electronic transfers, and introduction of Automotive Teller Machine (ATM), Mobile applications and Point of Sale known as (POS). For instance the of POS terminals to make financial payments in Nigeria was introduced by the Central Bank of Nigeria (CBN) in 2012 to promote its cashless policy with the aim of improving the payment system. The CBN introduced the POS system and agent banking in 2013 to achieve financial inclusion and develop a cashless economy (Kayode 2021).

The use of POS was warmly welcomed and passionately accepted by Nigerians resulting to rapid increase of its use in both public and private sector of the economy. According to Salimon (2006), introduction of payment instruments such as point of sale (POS) terminal and automated teller machine (ATM) which gave rise to significant growth in the use of electronic payment systems Evidences shoed that in the first three months of 2018, it was reported that a total of 17,193 POS terminals were registered by banks for carrying out cashless transactions in Nigeria (Ogunfuwa, 2018).

Point of Sales introduction came with many benefits to the economy. In addition to facilitation, reducing queues in the banking halls, super markets, stores, filling stations and many wholesale and retail business premises, POS creates job hundreds of job opportunities to thousands of Nigerian youths. Okoye et'al (2022) reported that, with advancement in financial technology, Nigerians are taking the POS services subsector as agency banking, many have become self-employed, creating jobs for many others.

However, it has been observed that numerous studies on the Point of Sale (POS) have been undertaken at different times, on different aspect of POS. For example Adeoti and Oshotimehin (2011) and Olugbade and Kehinde (2012), conducted different researches on the impact assessment of POS on consumer satisfaction, Omotayo (2015) conducted another research on the determinants of POS. a study on the challenges and Prospects of POS services in Nigeria was carried out by Anyanwu and Anumaka (2020), another research on the challenges and efficient use of the POS was conducted by Adeoti (2013) while Okoye and et'al (2022) studied the impact of POS business in Nigeria. But none of the aforementioned studies investigated the economic impact of POS using income earned by the operators, consumption pattern, and level of investments as variable in the specified models for the studies. To bridge this gap, this paper investigated the economic impact of Point of Sale (POS) services in Katsina Metropolis, Nigeria. To achieve this objective, primary data was collected randomly from 100 POS users in different part of the metropolis. Bar Chart was used to summarize the data and correlation analysis was applied to determine the correlation between POS services and economic development, and finally percentages were used to ascertain the extent of the impact of POS services on income, consumption, savings and investment in the metropolis.

**Hypothesis:**

$H_1$: POS services have impact on the income of its users in Katsina Metropolis

$H_2$: POS services have impact on the consumption of its users in Katsina Metropolis

$H_3$: POS services have impact on the savings of its users in Katsina Metropolis

$H_4$: POS services have impact on the investment of its users in Katsina Metropolis

## Point of Sale (POS)

A point of sales (POS) is the point at which a retail transaction is finalized, usually coinciding with the moment a customer makes a payment in exchange for goods and services using his or her debit/credit card instead of cash. It is a device allowing the use of payment cards such as debit cards at a physical point of sale in making payments for transactions or demands made. POS are found in stores, restaurant, hospitals, schools, churches and other service centers. In other words, it is a form of e-payment that handles balance inquiry, payment for goods and service, electronic fund transfer at a specific point of sale. The device allows customers to make payment for goods and services purchased without the physical use of cash. At POS terminals, when a customer slots in his card into the POS, he inputs his details and in the case of payment for goods or services, his account is debited at that point resulting in a transfer of funds to the service provider's account.

A point of sales (POS) is the point at which a retail transaction is finalized, usually coinciding with the moment a customer makes a payment in exchange for goods and services using his or her debit/credit card (0koye, et'al 2022)

Fattahi, and Mousavian, (2011) define POS as a device installed in a center of sale of goods and services, rather than paying cash by physical transport, debiting the account holder (i.e. customer) from the transaction amount of their account It is done electronically using an electronic card while paying the card recipient (seller).

## Theoretical Framework

The diffusion of innovations theory was developed by Rogers (1962). It is a theory outlining how new technological and other advancements spread throughout societies and cultures, from introduction to widespread adoption. The theory seeks to explain how and why new ideas and practices are adopted, with timelines potentially spread out over long periods (Halton, 2021). It explains the passage of an idea through stages of adoption by different actors. The key to adoption is that the person must perceive the idea, behaviour, or product as new or innovative. It is through this that diffusion is possible. The main players in the theory are innovators, early adopters, early majority, late majority, and laggards.

## Empirical Literature Review

Several studies on the impact, significance, challenges and the prosperity of POS services were conducted in different places by different scholars. This is due to the level at which POS use and businesses trend in the country. For instance, Kolawole (2020) discovered that owning a POS (Point of Sale) outlet is probably one of the most lucrative businesses in Nigeria currently. In another research by Olugbade and Kehinde (2012), he found that the level of consumers' satisfaction with adoption of e-payment system in Nigeria. The result of his study indicates that fewer POS consumers were satisfied with the speed of transaction, level of service provided by the merchants, awareness, and security of the POS services. The findings suggest opportunities for improving the consumers interface with POS technology in order to achieve the objective of cashless economy. In a study by Anyanwu, and. Anumaka (2020), he examined the impact of Point of Sale (POS) on cashless policy and its prospect in Nigeria economy, the result of the study shows that POS has significant and positive impact on cashless policy in Nigeria.

Omotayo, (2015) investigated the factors affecting adoption of POS by organisations in Lagos and Ibadan metropolises, Nigeria. The findings show that subjective norms and perceived ease of use have significant relationship with adoption of POS machine by the organisations. However, the results further revealed that characteristics of the organisations, image and perceived usefulness do not have significant relationship with adoption of POS. According to a report by NIBSS, (2015) the volume of transactions conducted through POS increased by 183% compound annual growth rate (CAGR) suggesting

significant adoption and usage of POS. in another report by NIBSS (2018) only 109, 916 representing 77 percent of the total registered POS machines have been successfully deployed and connected. This leaves 23 per cent inactive, that drastic measures should be taken to eradicate the flaws and systemic inadequacies being experienced.

## Prospects and the Challenges of POS Services

According to Okoye et'al (2022), any utility bills, such as electricity, airtime, cable or decoder subscriptions, are often paid using POS device. Hence, with the growing use of advanced innovative electronic technologies for e-funds around the world, the introduction of POS into the Nigerian economy has facilitated the ease of doing business without having to carry large sums of cash in one's wallet.

The e- payment system, according to Central Bank of Nigeria has helped in solving many of the associated challenges arising in the country ranging from the exuberant cost arising from frequent printing of currency notes, currency sorting, cash movement, keeping large amount of cash, security cost of checking high incidences of robbery among others (Akerejola, 2017). Justifying the significance of POS services, Adeoti and Oshotimehin (2012) opined that e-payment system provides a better audit trail than transactions which involve physical cash and thus reduce the amount of currency in circulation.

According to Ejere (2022), in his article titled Rising fraud threatens POS business from The Hallmark news, customers misconceive any unusual activity of the POS operator as fraudulent act. There is also the problems of dispense error which pends transaction making the withdrawal or transfer on hold in transition, at this instance, the customers which are mostly the ones withdrawing from their accounts do not want to understand the issue-related case, this issue of pending transaction problem which is always caused when either of the sending or receiving party has network problem, particularly, network problem from the customer's transaction releasing financial institution or bank. From his discoveries, fraud, customer misconception, dispense error, and poor internet network service are the major challenges of POS usage and POS business in Nigeria.

On the other hand, Sanusi, (2011), however revealed that the hitches discovered in the cashless 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. For Sanusi (2011), Poor communication network, interoperability of cards and poor response time to customer complaints are the common challenges of POS usage and POS services in Nigeria.

## Methodology

This paper investigated the economic impact of point of sale (POS) services in Katsina Metropolis, Nigeria. A simple random sampling technique was used in collecting data from a hundred users of POS device in the metropolis. Due to low level education of some users of the POS in the metropolis, questionnaire and interview techniques were simultaneously used. The questions were translated in the local Hausa language for the respondents that hardly understand the question sets in English language.

Simple Bar Charts, percentage analysis were used to summarize the question of interest about the respondents. Correlation analysis and Chi- Square Test were run to determine the degree of correlation and the economic impact of point of sale (POS) services in Katsina Metropolis, Nigeria.

**Age Composition of the Sampled POS Operators in Katsina Metropolis**
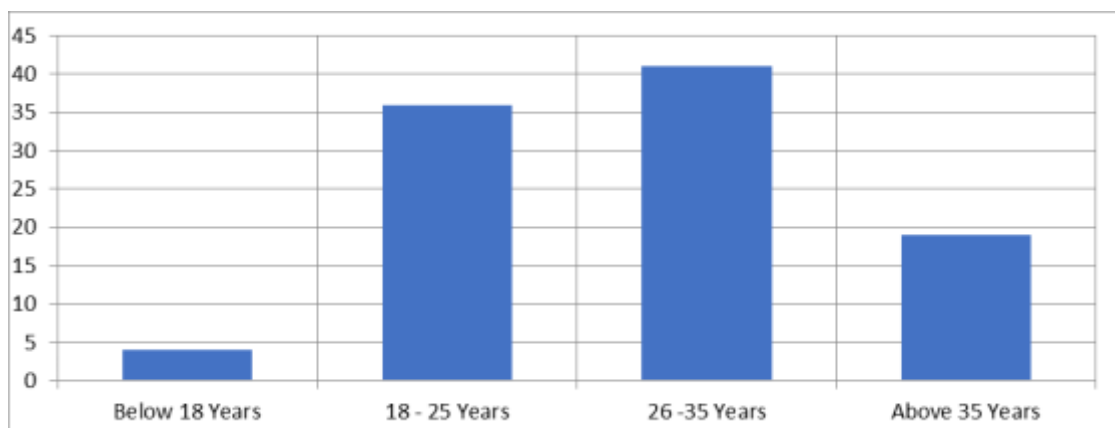


From the table above, out of a hundred users of PO in Katsina Metropolis, 4, in other words 4% are below 18 years, indicating that they may not be the actual owners of the business, though the questionnaire did not provide a question that will provide answers on the actual owner. It was observed that 36 users of the POS were of ages between 18 years to 25 years old, equivalent to 36%. 41% were of ages between 26 to 35 years old, while 19% were above 35 years old.

**Level of Education of the Respondents**
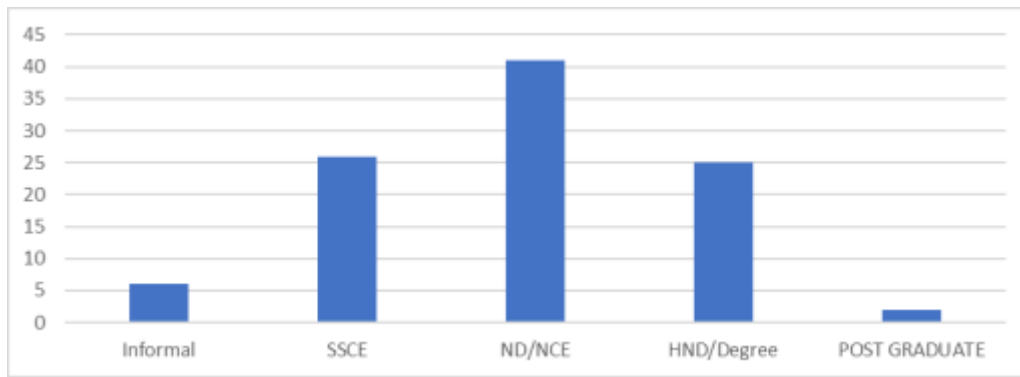
**Source: Author's Computation**

The Bar-Chart above presents the summary of the level of education of the respondents. From the chart, 6% of the respondents did not have formal education. They were trained informally without certification. 26% obtained the senior secondary certificate, 41% obtained either National Diploma from Polytechnics or National Certificate of Education from the colleges of Education. 25% obtained either the Higher National Diploma from Polytechnic or a Bachelor Degree from university, while 2% had postgraduate certificates, either Postgraduate Diploma or Master Degree from the relevant Postgraduate degree awarding institutions.

**Marital Status of the Respondents**
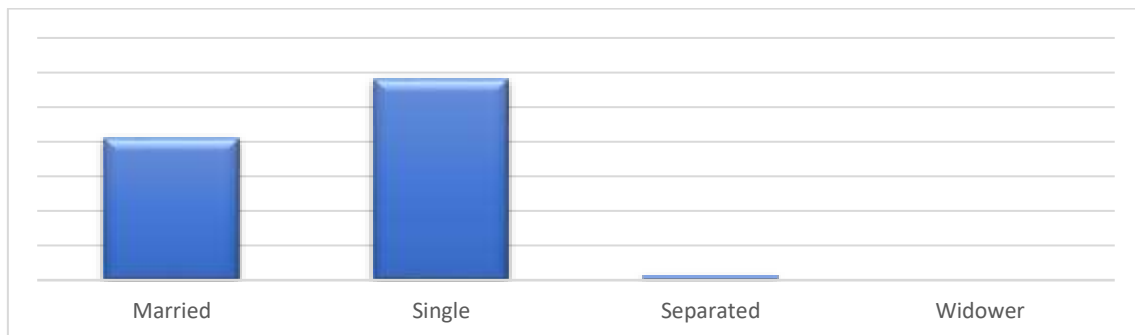


**Source:** Authors computation using MS window 10 mathematical application

From the Bar-Chart above, 41% of the respondents were married while 58% were single as at the time of the data collection, even though some of them admitted that they were preparing to get married. Only one person (1%) of the respondents admitted that he was married before now, but divorced. However, none of the respondents was a widow or widower as at the time of the data collection.

**Table 1: Summary of Data in Nigerian Legal Tender (Naira)**

| S/N | Variables | Minimum | Maximum | Difference | Average |
|-----|-----------|---------|---------|------------|---------|
| 1 | Net Daily Income | 3, 000 | 8, 000 | 5. 000 | 5, 500 |
| 2 | Consumption Expenditure | 3, 000 | 5, 000 | 2, 000 | 4, 000 |
| 3 | Daily Savings | 0.000 | 3, 000 | 3, 000 | 1, 500 |
| 4 | Annual Re-investment | 180, 000 | 350, 000 | 170, 000 | 265, 000 |
|   |   |   |   |   |   |
| 5 | Sampled POS | 100 | 100 | 100 | 100 |

**Source:** Author's Computation

Table 1 above presents the summary of the data collected from randomly sampled 100 POS owners in Katsina Metropolis. The data revealed that a POS user earned minimum of 3, 000 and maximum of 8, 000 naira profit from POS. this gave a difference of 5, 000 between the lowest and the highest profit earner, and 5, 500 naira is the average income earned from POS. it further revealed that minimum of 3, 000 and maximum of 5, 000 of the income earned was spent on daily consumption, given the difference of 2, 000 naira between the lowest and the highest expenditure on consumption, while 4, 000 naira was the difference. The minimum savings was zero while the highest saving per day was 3, 000, given 3, 000 and 1, 500 as the difference and average daily savings by the POS operators in the metropolis. At the end of the year, minimum of 180, 000 naira was re-invested into the principle capital, and 350, 000 was the maximum annual re-investment, given the difference of 170, 000 and the average re-investment of 265, 000 annually.

**Table 2: Percentage Analysis of the economic impact of POS services in Katsina Metropolis**

| S/N | Description Question | Strongly Agreed (%) | Agreed (%) | Undecided (%) | Disagree (%) | Strongly Disagree (%) | Total (%) |
|---|---|---|---|---|---|---|---|
| 1 | Does POS service impact positively on vendors personal Income | 38 (38%) | 57 (57%) | 00 (0.00%) | 03 (3%) | 02 (2%) | 100 100% |
| 2 | Does POS service impact positively on the vendors daily consumption pattern | 35 (35%) | 59 (59%) | 02 (2%) | 03 (3%) | 01 (1%) | 100 100% |
| 3 | Does POS service impact positively on vendors personal saving | 42 (42%) | 54 (54%) | 01 (1%) | 03 (3%) | 00 (0.00%) | 100 100% |
| 4 | Does POS service impact positively on vendors annual investment | 32 (32%) | 56 (56%) | 2 (2%) | 08 (8%) | 04 (4%) | 100 100% |

**Source:** Author's Computation

Table 2 presents the percentage analysis of the research questions. From the question one, 38% of the respondents strongly agreed that POS services has positive impact on the personal income of users, 57% agreed, 0% undecided, while 3% and 2% disagree and strongly disagreed respectively. Question two also presents answers to whether POS has impact on the daily consumption of users, 35% strongly agreed, 59% agreed, 2% did not decide while 3% and 1% disagreed and strongly disagreed respectively. Moreover, question three presents responses on the impact of POS on daily savings of the respondents. 42% and 54% strongly agreed and agreed. 1% was undecided while 3% and zero percent disagree and strongly disagreed respectively. Finally, question four presents answers on whether POS services impacts positively on the POS owners' annual investment. While 32% and 56% of the respondents strongly agree and agreed respectively, 2% were undecided, 8% disagreed and 4% strongly disagreed. From all answers to the four questions, the respondents mostly agreed that POS services have positive impact on the daily income, consumption expenditure, savings and investment of the owners.

**Table 3: Correlation result**

|  | POS | INC | CON | SAV | INV |
|---|---|---|---|---|---|
| **POS** | 1 |  |  |  |  |
| **INC** | 0.824 | 1 |  |  |  |
| **CON** | 0.736 | 0.812 | 1 |  |  |
| **SAV** | 0.714 | 0.725 | 0.816 | 1 |  |
| **INV** | 0.617 | 0.720 | 0.748 | 0.852 | 1 |

**Source:** Authors Computation using SPSS version 17

Table 3 shows the correlation result of the relationship between POS services, income, consumption, savings and investment in Katsina metropolis. The relationship between POS and daily income is positive this means that, more use of POS means more income to the owner. Similarly, the relationship between POS services and consumption expenditure is also positive, meaning that, more use of POS means more expenditure on daily consumption. Moreover, the correlation result indicates positive relationship between POS services and savings, meaning that more POS services will results to more savings by the owners. Finally the correlation result shows positive relationship between POS services and the annual investment of POS owners, meaning that more usage of POS will results to expansion of investment in Katsina Metropolis.

**Discussion of the Results**

The minimum income of 3, 000 earned from POS operation is too meager to enable the owners to cater for their daily needs, considering the unprecedented inflation rate in the country. The low profit might be as a result of low income earned by virtually larger proportion of the population. As at the time the

paper is written, national minimum wage was not implemented in the country, while prices of essential goods and services rose due to fuel subsidy removal. But the 8, 000 naira daily profit is manageable, even though not sufficient for a household, but it was much better than incomes from many petty businesses relied on by many other households.

The 3, 000 minimum and 5, 000 maximum expenditure on consumption was also not adequate to cater for the household needs because of the persistent increase in the general prices of essential goods and services. The meager expenditure on consumption was as a result of low income earned, though consumption is a function of income. POS operators with small capital save nothing from their earnings, only operators with higher capital save maximum of 3, 000 naira. This indicates low savings, as such it may not enable the POS owners to re-invest substantial amount from their meager savings.

It is evident from the result that, majority of the respondents agree that POS business impacts positively on their daily income, daily consumption, savings and investment. This is despite the low income, low consumption expenditure, low savings and low investment form the proceeds of POS operation. As said earlier, POS business helped immensely in reducing unemployment and keeps the owners busy and yields job satisfaction to the owners. The correlation results also indicates positive relationship between POS business, owners' daily income, daily expenditure, savings and investment of the operators.

## Conclusion

This paper investigated the economic impact of Point of Sale (POS) services in Katsina Metropolis, Nigeria. Primary data was randomly collected from 100 POS owners in different parts of the metropolis. Bar Chart correlation analysis and percentages were used to determine the correlation between POS services and economic development, and to ascertain the extent of the impact of POS services on income, consumption, savings and investment in the metropolis. The paper concludes that POS owners earn daily profit ranging from 3, 000 to 8, 000 naira. The daily expenditure on consumption, daily savings and annual re-investment were dependent on the meagre income earned. The paper further concludes that POS services have positive impact on the personal daily income. Consumption expenditure, savings and investment. It also concludes that positive correlation exists between POS services, disposable income, consumption expenditure and annual re-investment by the POS owners.

## Recommendations

Based on the above conclusion, discussion and reviews, the paper put forward the following recommendations:

1. There is need for improving the security of the POS system to safeguard users from fraud. This can be achieved through inclusion of thump print of the user as requirement for approval for all payments through POS.

2. Use of strong network service is recommended to speed up payments and avoid network related hitch. The device should be improved and upgraded to ensure effective function and delivery.

3. Bank connectivity should be enhanced to avoid dispense error and uncompleted transactions between banks and between different accounts.

4. There is need for more campaign and enlightment on the importance of financial inclusion. People can be encourage through introduction of social intervention programme that will require opening of accounts. This will increase POS service patronage and eventually the daily earnings from POS.

5. All policies that spur POS use should be brought forward. Mobilization of people to use POS. This will help in improving the level of economic impact of POS on income, consumption, savings and investment.

6. To sustain the established relationship among POS, income of the operators, Consumption, savings and investment.

7. There is the need for harmonizing the infrastructural requirements, security and the guidelines to ensure security. This can be achieved through introduction of the regulatory authority for POS use

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