Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

THE IMPACTS OF POINT OF SALE (POS) ON ECONOMIC GROWTH IN NIGERIA

DOI: 10.36108/wjss/ConfP.2024.015

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Abstract
The use of Point of Sale (POS) has created a lot of innovative change in the financial transaction of lots of Nigerians in the business world. The study examined the impact of POS on economic growth in Nigeria. The statistical analysis method was adopted in this study. The data were analyzed with econometric techniques involving descriptive statistics, Augmented Dicker Fuller and Philip Perron tests for unit roots and the ordinary least square (OLS). The results from the coefficient (0.518247) and the probability value (p. = 0.0183< 0.05) showed that point of sale (POS) had a positive and significant effect on the annual growth of gross domestic product (RGDP). The volume of transactions on Point of sale has significant impact on economic growth in Nigeria from Table 5 above since the probability value is less than 5% (0.0183<0.05), the null hypothesis is rejected while the alternative hypothesis is accepted implying that the point of sale has a significant impact on economic growth in Nigeria. Based on the findings, it was recommended amongst others that the ease of use, and customer interactive features in mobile and online shopping systems should be improved.
Keywords: Impacts, Point, Sale, (POS) Economic and Growth

Introduction

The Point of Sale Machine has been of major significant in the development of Nigerian economy. With the advent of POS in the Nigerian financial sector, there had been a major ease in financial transactions. The means of buying and selling of goods and services had been conformably handled by the POS machine in many industries and business environment.

Many customers do not see the need to wait for long cues in order to get things done for them. The POS machine had created that gap to give adequate services to customers at any time of the day. With this innovation, many customers prefer not to visit the bank for financial transactions. The POS had been a huge source of financial gain to the Nigerian economy. With the proliferation of the POS machine, a lot young lads have been employed and there is a significant spread of micro-financial outlets in the country. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced (Mackinnon, 2018).The quest for profit forces companies, households and economic agents to look for new and improved products, services, processes and forms or structures of companies that will decrease their production costs, will satisfy, in a great range, their customers' demand and will bring higher profits. Sometimes this quest is made through official Research and Development (R&D) programmes or sectors of a company. Other times, it is a hazardous result of control processes or of the trial and mistake method. Today, more than ever before, innovation, enterprise and intellectual assets drive economic growth and increase standards of living. Hence innovation is instrumental in creating new jobs, providing higher incomes, offering investment opportunities, solving social problems, curing disease, safeguarding the environment, protecting our security and transparency in organization and governments (Štreimikien, 2014).

Markets and organizations produce various new products and services in order to satisfy the investors demand. Financial innovation is an ongoing process where new financial products, services and procedures are created and standardized products are differentiated in order to response at the continuously changing economic environment. This running process has various periods of uncertainty. thus, the purpose of the introduction of a financial innovation to market participants is the minimization of costs and the reduction of risk exposure among other function such as moving funds across time and space (e.g., savings accounts),the pooling of funds (e.g., mutual funds), managing risk (e.g., insurance and many derivatives products), extracting information to support decision-making (e.g., markets which provide price information, such as extracting default probabilities from bonds or credit default swaps), addressing moral hazard and asymmetric information problems (e.g., contracting by venture capital firms); and facilitating the sale or purchase of goods and services through a payment system (e.g., cash, debit cards, credit cards) (Laeven, et al, 2015).

Objectives of the Study

The main objective of the study is to examine the impact of point of sale (POS) on economic growth in Nigeria

Research Question

The research question was used as a guide to the study:

1. What are the impacts of point of sale (POS) on economic growth in Nigeria?

Hypothesis

The hypothesis was adopted and applied in this study:

Ho_1: The volume of transaction on point of sale has no significant impact on economic growth in Nigeria.

Literature Review

Financial innovation channels refer to platforms or avenues through which new and creative financial solutions are introduced and made accessible to individuals and businesses. In Nigeria, several channels have been identified as means of fostering financial innovation. The e-payments system comes in the form of automated teller machines (ATM), point-of-sale (PoS) terminals, internet banking, e-wallets, mobile payment wire transfers, etc. Banks have realized that to become relevant globally, they must embrace technology, repackage products in manners acceptable to customers and use it as competition strategy for their core competence. Smart card or electronic purse (use of point of sale terminal), electronic fund transfer (EFT), internet banking, ATM, telephone banking and personal computer banking are the major products of electronic banking in Nigeria.

A specific type of retail ICT that can be employed to achieve effective store management is a Point-of-Sale‟ (POS) system. POS systems are defined in many different ways. On Wikipedia, a retail POS system is defined as a computer, monitor, cash drawer, receipt printer, customer display and a barcode scanner (Adeoti & Oshotimehin, 2012). Webopedia.com defines a POS system as "the capturing of data and customer payment information at a physical location when goods or services are bought and sold". YourDictionary.com defines it as: "A comprehensive computerized checkout system that includes a bar-code scanner, receipt printer, cash drawer, credit and debit card scanner, monitor, and inventory management software. A point-of-sale system tracks sales and identifies inventory levels in real time". There are many different types and brands of POS systems available. EBay.com and BuyerZone.com provide a web-based „Point of Sale System Buying Guide‟, containing over 4,000 different POS equipment's for retailers, and 91 different types of POS software. POS systems enable retailers to consult more detailed management information compared to traditional cash registers and Electronic Cash Registers (ECRs). As this management information is based on sales figures, retailers can improve their business by maintaining a better product strategy and pursuing a more efficient replenishment process matching customer demand, alleviating what is often referred to as the bullwhip effect. This enables inventory optimization, minimizing storage space and „sold-out" situations. Moreover, cash slips can be stored electronically and the results can be brought up in the POS system immediately, both reducing time spent on administrative tasks. This is specifically relevant for The Netherlands, where the administrative burden for SMEs has increased through regulations concerning article pricing, tax regulations for transactions storing and ingredients tracing for food products. It can therefore be expected that POS systems lead to higher performance and support the development of small retailers. Professionalizing through ICT may particularly help the small, independent retailers to improve their competitive position against larger retailers and internet-based vendors.

The Nigerian payments system has evolved over the past few decades (Agarwal & Prasad, 1997). The modern payments system started being completely paper-based with the use of banks notes, payment orders, and cheques. In 1996, the payments system was modified to include card-based e-payment products. This was followed by the introduction of pay card in 1997. By 1999, card-based payment products assumed an open platform with authorization from the CBN for the floating of two card service companies by a consortium of over 20 banks. In 2003, the CBN, in collaboration with the Bankers Committee, launched the first major initiative to modernize the payment system, granting approval to a number of banks to introduce international money transfer products, telephone banking, and online banking via the internet on a limited scale (Agarwal & Prasad, 1999). Today, virtually all banks have introduced electronic funds transfers (EFT), debit and credit cards, internet banking, mobile banking and deployed Automated Teller Machines (ATM). The Nigerian payments system has further evolved with the introduction of the Payments System Vision 2020, launched in 2007 to facilitate a wider range of electronic payment methods such as POS terminals, facilitated by a wider range of service providers (Ajayi & Ojo, 2006).

Methodology

Research Design

The study adopted an ex-post facto research design because the data for the study are secondary data that already exist in the publications of well acclaimed financial institutions such as the Central Bank of Nigeria. Secondary data were sourced from Central Bank of Nigeria, Statistical Bulletin and Statement of Accounts, National Bureau of Statistics (NBS) for the period under review. The model regressed some selected financial innovation variables on economic growth in Nigerian which is proxied by RGDP.

Population of the Study

The population of this study comprises of results of the total statistical financial innovation economic growth in Nigeria from the year 1999 to 2022.

Sample and Sampling Techniques

The sample for this study consisted of various stakeholders in the Nigerian economy, including policymakers, financial market participants, and academic experts. Additionally, data from relevant financial institutions, such as the Central Bank of Nigeria and commercial banks, was included in the sample.

The simple Random Sampling technique was adopted in the study. This technique involves randomly selecting individuals or organizations from the population to be included in the sample. For example, a random sample of individuals could be selected from the population of policymakers, financial market participants, and academic experts. This technique helps to ensure that each member of the population has an equal chance of being included in the sample, resulting in a more representative and unbiased sample

Sources of Data

Secondary sources of data were adopted in this study and these include:

Academic journals: There are numerous academic journals that publish research articles on various aspects of financial innovation and economic growth in Nigeria. Some examples include "Journal of African Economies," "African Development Review," and "Nigerian Journal of Economic and Social Studies." These journals often contain empirical studies, theoretical discussions, and policy analyses related to the impact of financial innovation on economic growth.

Government reports: Government reports from agencies such as the Central Bank of Nigeria, the National Bureau of Statistics, and the Ministry of Finance provide valuable insights into the impact of financial innovation on economic growth. These reports may include data on financial innovation policies, economic indicators, and case studies that can be used to analyze the relationship between financial innovation and economic growth.

International organizations: Organizations such as the International Monetary Fund (IMF), World Bank, and African Development Bank (AfDB) often publish reports and studies on the impact of financial innovation on economic growth in Nigeria. Their reports may provide a broader perspective by comparing Nigeria's financial innovation trends and economic growth with other countries or regions.

Commercial research databases: Subscription-based research databases like JSTOR, ProQuest, and Google Scholar provide access to a wide range of academic articles, books, and reports on financial innovation and economic growth in Nigeria. These databases can be a valuable source of secondary data for researchers.

Methods of data collection

The statistical analysis method was adopted in this study. This method involves analyzing quantitative data to assess the relationship between financial innovation and economic growth. Researchers can collect data on financial innovation indicators such as the number of new financial products and services, fintech adoption rate, and investment in financial technology. They can also collect data on economic growth indicators such as Gross Domestic Product (GDP) growth rate, employment rate, and poverty level. Statistical techniques such as correlation analysis, regression analysis, and time-series analysis can be employed to analyze the data and determine the impact of financial innovation on economic growth.

Method of data Analysis

The data were analyzed with econometric techniques involving descriptive statistics, Augmented Dicker Fuller and Philip Perron tests for unit roots and the ordinary least square (OLS)

Model of Specification

Dependent Variable: In this study, economic growth in Nigeria is proxied by RGDP as the dependent variable (Y).

Independent Variables: The independent or explanatory variables (X) in this study is point of sales (POS).

RGDP= f (POS)

Where:

RGDP = Annual Growth of Gross Domestic Product

POS= Point of sale

The model was modified by introducing internet banking as a new variable

RGDP = f (ATM, POS, MB, ITB)

Where:

RGDP = Annual Growth of Gross Domestic Product

POS= Point of sale

RGDP = $\beta 0 + \beta 1$POS + μ--- - ---- ------ ----1

$\beta 0$ and μ are the constant and error term respectively while $\beta 1$, is the coefficient of financial innovation on economic growth in Nigeria

Data Analysis

The data for the analyses are shown on Appendix 1. The data for the study include annual growth of gross domestic product (RGDP) and point of sale (POS).

Descriptive Statistics

Table 1: Descriptive Statistics used for Test of Normality of the Variables

	RGDP	**POS**
Mean	19.5863	21.2077
Std. Dev.	2.0344	1.5913
Skewness	-0.5049	-0.2891
Kurtosis	1.9873	1.6853
Jarque-Bera	1.8748	1.8907
Probability	0.3916	0.3885
Observations	**22**	**22**

Source: Computed from E-views Result, (2022).

The results of the descriptive statistics showed that the mean of the variables for annual growth of gross domestic product (19.5863) and point of sale (21.2077) are larger than their respective standard deviations, 2.0344, 1.1436, 1.5913, 10.0172 and 14.4092 respectively. This suggests that there is no wide variation between the series of the variables. Also, the values for their respectively skewness and kurtosis are close to 0 and 3 respectively indicating presence of normal distribution in the series.

Unit Root Test

Table 2: Summary of the Unit Root Result

Variables	T-statistics	Probability	Order of Integration
RGDP	-6.088595	0.0000	1(0)
POS	-4.619034	0.0010	1(0)

Source: Computation from E-view Version 8.1

The table above shows that annual growth of gross domestic product, automated teller machine, point of sale, mobile banking and internet banking assume stationary at levels. This is indicated by the probability value of the test which is below 0.05 levels of significance.

Analyses of the Impact of Financial Innovation on Economic Growth in Nigeria

Dependent Variable: RGDP

Method: Least Squares

Date: 11/30/23 Time: 2:45

Sample: 1999 - 2022

Included observations: 32

Variable	Coefficient	Std . Error	t-Statistic	Prob.
RGDP	0.6 67553	0.8 24890	10.8 09263	0 .0260
POS	0.518247	0.672745	3.770347	0.0183

R-squared	0.7 12561	Mean dependent var	4.67 6947
Adjusted R-squared	0.655073	S.D. dependent var	7.153306
S.E. of regression	6.953540	Akaike info criterion	6.888364
Sum squared resid	1208.793	Schwarz criterion	7.165910
Log likelihood	-100.7696	Hannan-Quinn criter.	6.978837
F-statistic	19.349696	Durbin-Watson stat	2.971283
Prob(F-statistic)	0.006525		

The results from coefficient (0.667553) and the probability value (p. = 0.0260< 0.05) showed that annual growth of gross domestic product (RGDP) which is the dependent variable (Y) is positive: This means that if all the independent, explanatory variables (X) are held constant, annual growth of gross domestic product (RGDP) as a dependent variable (Y) will grow by (0.667553) units in annual-wide basis.

The results from coefficient (0.518247) and the probability value (p. = 0.0183< 0.05) showed that point of sale (POS) had positive and significant effect on annual growth of gross domestic product (RGDP). This means that the null hypothesis two: Point of sale has no significant effect on annual growth of gross domestic product (RGDP), is rejected.

However, the coefficient of determination (R2) = 0.712561showed that about 71% of changes in annual growth of gross domestic product in Nigeria is accounted for by the level of financial innovation in Nigeria. This implies that financial innovation is one major contributor on economic growth in Nigeria. The F-statistics (19.349696; $p. < 0.05$) indicated that all the variables of the model (financial innovation variables) have significant effect on economic growth in Nigeria.

The Durbin Watson statistics (2.971283) showed that there was no autocorrelation in the model employed.

Test of hypotheses

To test the hypotheses, the statistical significance of the individual parameters is use to test hypotheses.

Hypothesis

Ho_1: The volume of transaction on point of sale has no significant impact on economic growth in Nigeria

Hi: The volume of transaction on Point of sale has significant impact on economic growth in Nigeria From table 5 above, since the probability value is less than 5% ($0.0183<0.05$), the null hypothesis is rejected while the alternative hypothesis is accepted implying that point of sale has significant impact on economic growth in Nigeria.

Discussion of findings

Point of Sale

The result indicates that point of sale has significant impact on economic growth in Nigeria. The result of our findings is not in agreement with the work of Cecilia and Tobias (2016), who posited that point of sale has a negative and insignificant impact on economic growth in Nigeria

Summary of Findings

Point of Sale (POS) has a positive and significant effect on annual growth of gross domestic product (RGDP). Mobile Banking (MB) has a positive and significant effect on annual growth of gross domestic product (RGDP).

Recommendations

In line with the objectives and findings, the study recommends as follows:

1. Ease of use and customer interactive features in mobile and online shopping systems should be improved

2. Management of banks should from time to time train customers with regard to Internet banking, its benefits, risk exposure, and physical and Internet security to avoid financial loss in the hands of hackers. This will enhance their technical competence which will rob off positively on their operations with a positive spill-over effect on the entire economy

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