International Journal of Innovative Social Sciences & Humanities Research 14(2):252-265, April-June, 2026

© SEAHI PUBLICATIONS, 2026 www.seahipublications.org ISSN: 2354-2926

doi:10.5281/zenodo.20159072

Effect Of Electronic Banking On The Performance Of Some Selected Banks In Nigeria

[1]Dr Okpala O.V. & [2]Dr Chime, Uzoamaka Francisca

[1]Department of Banking and Finance
Tansian University, Umunya, Anambra State, Nigeria
Ositadimma1995@gmail.com

[2]Department of Business Administration,
Tansian University, Umunya, Anambra State, Nigeria
chukwusom2017@gmail.com

ABSTRACT

This study investigates the effect of electronic banking on the performance of some selected banks in Nigeria. The specific objective of this research was to: To investigate the effect of point of sale (POS) on performance of commercial banks in Nigeria; To examine the effect of automated teller machine (ATM) on the performance of commercial bank in Nigeria; To evaluate the effect of mobile banking on the performance of commercial bank in Nigeria. Secondary sources of data were used in this study; they were soured from the annual report of the selected deposit money bank in Nigeria and Nigerian exchange. There are twenty deposit money listed on the Nigerian Exchange Group but five sample were selected because of data proximity, Panel Least Square method of data analysis were used in this study. The study found that; Point of sales has a positive effect and is statistically significant on bank performance in Nigeria; Mobility of payment has a positive effect and is statistically significant; Automated teller machine has positive significant effect on the on bank performance in Nigeria. The study concludes that E-banking hold the potential to sustainably enhance the financial performance of banks in Nigeria provided they are supported by robust policy frameworks and technological innovations. The study recommends, The researcher Advocate for more ATM facilities which should be placed at strategic location for easy access. Marketing and education of internet banking service and products should be intensified to attract more customers which enhance profitability. The bank should conduct more research to find new internet banking product to attract and to retain her potential customers.

Keywords: electronic banking on the performance, point of sale, automated teller machine, mobile banking

INTRODUCTION

1.1 Background to the Study

The banking industry across the world has witnessed remarkable transformation due to advancements in information and communication technology (ICT). The emergence of electronic banking has changed the traditional method of banking operations by enabling customers to conduct financial transactions through digital platforms without necessarily visiting banking halls (Dusica, Sanjo, & Nikola, 2025). Electronic banking, also known as e-banking, refers to the delivery of banking services and products through electronic channels such as Automated Teller Machines (ATMs), mobile banking, internet banking, Point of Sale (POS) terminals, and electronic fund transfers. The adoption of electronic banking has become an important strategy for improving operational efficiency, customer satisfaction, profitability, and overall

performance of deposit money banks (Elegunde, & Shotunde, 2020). In Nigeria, the banking sector has experienced significant growth in the use of electronic banking services following the reforms introduced by the Central Bank of Nigeria (CBN). The increasing penetration of mobile phones, internet services, and digital technologies has encouraged banks to embrace electronic banking in order to remain competitive and satisfy customers' demands for fast, convenient, and secure banking services (Mohammed, Kabiru, & Kabiru 2021). Deposit money banks in Nigeria now invest heavily in digital infrastructure to enhance service delivery, reduce transaction costs, and increase revenue generation (Dutta, & Swati 2021). The introduction of cashless policy by the CBN further accelerated the use of electronic payment systems across the country.

Electronic banking offers numerous benefits to both banks and customers. For banks, it reduces operational costs, minimizes long queues in banking halls, improves transaction speed, enhances customer retention, and increases market coverage (Dusica, Sanjo, & Nikola, 2020). Customers, on the other hand, enjoy twenty-four-hour access to banking services, convenience, flexibility, and faster transaction processing. Through electronic banking platforms, customers can transfer funds, pay bills, purchase airtime, check account balances, and carry out several other banking transactions from any location (Mohammed, Kabiru & Kabiru 2025). Despite these benefits, electronic banking also presents several challenges to deposit money banks. Issues such as cyber fraud, network failure, poor internet connectivity, insecurity of online transactions, inadequate technological infrastructure, and low level of digital literacy among some customers continue to affect the effective operation of electronic banking services in Nigeria. In addition, the increasing rate of electronic fraud and hacking has raised concerns about the safety and reliability of electronic banking platforms (Egiyi, & Udeh, 2020). These challenges may negatively influence the performance of deposit money banks if not properly managed.

Performance of deposit money banks can be measured in terms of profitability, operational efficiency, customer satisfaction, market share, and service quality. The ability of banks to effectively implement electronic banking systems can significantly influence these performance indicators (Mhlanga, 2020). Banks that successfully integrate digital banking technologies into their operations tend to achieve higher productivity, increased customer loyalty, and improved financial performance compared to those relying mainly on traditional banking methods.

Several studies have examined the relationship between electronic banking and bank performance, but findings remain inconclusive due to differences in geographical locations, methodologies, and variables used. While some researchers argue that electronic banking positively affects bank performance through increased efficiency and profitability, others maintain that the associated costs and security risks may reduce its overall benefits. This inconsistency creates a gap that necessitates further investigation. Therefore, this study seeks to examine the effect of electronic banking on the performance of deposit money banks.

1.2 Statement of Problem

The rapid advancement in information and communication technology has transformed the banking industry globally, leading to the adoption of electronic banking services by deposit money banks. In Nigeria, deposit money banks have increasingly embraced electronic banking platforms such as Automated Teller Machines (ATMs), mobile banking, internet banking, Point of Sale (POS) terminals, and electronic fund transfer systems in order to improve service delivery, enhance customer satisfaction, and increase profitability. Despite the huge investments made in electronic banking infrastructure, many banks still experience challenges that affect their overall performance.

One of the major problems facing deposit money banks is the persistent issue of network failure and poor connectivity, which often disrupt electronic transactions and causes delays in service delivery. Customers frequently encounter failed transactions, delayed debit reversals, and downtime in ATM and mobile banking services, leading to dissatisfaction and loss of confidence in the banking system. These operational challenges may negatively affect the efficiency and reputation of banks. Another major concern is the increasing rate of cybercrime and electronic fraud associated with electronic banking systems. Cases of hacking, unauthorized transactions, identity theft, and internet fraud have become common in the Nigerian banking sector. These security threats not only result in financial losses for

banks and customers but also reduce customers' trust in electronic banking platforms. Consequently, banks are compelled to spend huge amounts on cybersecurity and fraud prevention measures, which may affect their profitability. Furthermore, despite the availability of electronic banking services, some customers still prefer traditional banking methods due to lack of technological knowledge, fear of fraud, and inadequate awareness of electronic banking operations. This low level of customer acceptance and digital literacy limits the full utilization of electronic banking services and may hinder the expected improvement in bank performance. In addition, many deposit money banks in Nigeria continue to face high operational costs associated with maintaining and upgrading electronic banking infrastructure. Frequent system maintenance, software upgrades, and technological investments require substantial financial resources. In some cases, the expected benefits of electronic banking may not be fully realized due to these rising operational expenses.

Although several studies have been conducted on electronic banking and bank performance, there is still no general agreement among researchers regarding the extent to which electronic banking affects the performance of deposit money banks. While some studies reported positive effects in terms of profitability and efficiency, others found that electronic banking exposes banks to risks and operational challenges that may reduce performance. This inconsistency in previous findings creates a knowledge gap that requires further investigation. Therefore, the problem confronting this study is to determine the effect of electronic banking on the performance of deposit money banks and to examine whether electronic banking services significantly contribute to improved operational efficiency, customer satisfaction, and profitability in the banking sector.

1.3 Objective of the study

The main objective of this study is to investigate the effect of electronic banking on the performance of some selected banks in Nigeria.

The following are the specific objectives of the study;

1. To investigate the effect of point of sale (POS) on performance of commercial banks in Nigeria.
2. To examine the effect of automated teller machine (ATM) on the performance of commercial bank in Nigeria
3. To evaluate the effect of mobile banking on the performance of commercial bank in Nigeria

REVIEW OF RELATED LITERATURES

2.1 Conceptual Issues

2.1.1 E-banking

E-banking means a system through which financial service providers, customers, individuals and businesses are able to access their accounts, do transactions and obtain latest information on financial products and services from public or private networks, such as the internet. For example, using intelligent devices such as personal computer, automated teller machines (ATMs) and personal digital assistant (PDA), customers access e-banking services and do their transactions with less effort as compared to the branch based banking. The term e-banking can be explained in different way from different perspectives. Nonetheless, researchers across the world have made extensive efforts to provide a precise and all-inclusive concept of e-banking.

The term "e-banking" refers to a method of banking through which customers are able to carry out their banking transactions electronically without visiting a bank branch (Simpson 2002). Among other benefits, e-banking saves time, customers need not to visit the bank branch and banks have the opportunity to enhance their customer base thereby experiencing improved profits (Okibo, Wario 2014). According to Basel Committee Report on Banking Supervision (2003), e-banking is to include the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services delivered electronically.

With respect to the field of banking and financial services, e-banking has been described as a product of e-commerce. According to Sokolov (2007), financial institutions, in addition to provide traditional banking products and services, can also facilitates a wider array of banking products and services that

have been designed or tailored to shore up e-commerce. The most common and popular support services are: Electronic card; Phone and mobile bank; Call center; Home bank; corporate bank and Internet bank.

2.1.2 Financial performance

Financial performance is the extent to which objectives of the firm and in this case financial objectives will be met or have been met (Yahaya & Lamidi, 2015). The company's financial performance subject to how effectively a firm uses its assets from its principal role of conducting business and its subsequent generation of revenues. Financial performance can also refer to the general well-being of a firm as far as finance is concerned over a certain period of time. Financial performance focuses more items that affect the financial statements or reports of a firm directly. The financial performance analysis can deal with items such as dividend growth, sales turnover, capital employed, asset base among others about the firm (Omondi & Muturi, 2013).The financial performance of different financial institutions can be measured by use of different ratios, measuring the performance against the provided budget, benchmarking among other methods (Avkiran, 2011).

The financial statements of commercial banks in Kenya contain a variety of financial ratios designed to give an indication of the bank`s performance. Some of the ratios commonly used to measure performance of banks include Capital adequacy ratios, Asset Quality ratio, Earnings and Liquidity ratios. The most common financial ratios used to measure performance is the profitability ratios. Profitability ratios measure the total effectiveness of a bank's management in generating profits on interest income, assets, and owner's investment. Firm performance can be calculated in various ways. These may include but not limited to; increase in sales rate, market expansion, productivity and profitability (Ichniowski & Giovanna.,2011).

Sales growth rate is a ratio that measures the rate of change in sales from time to time or a specified period of time. The utilization of historical growth rates is one of the methods of estimating future growth. Market share is the percentage of a market, which may be defined in terms of either units or revenue, accounted for by a specific entity. Market share is a key indicator of market competitiveness, that is, how well a firm is doing against its competitors. Firm's financial performance is measured in monetary terms. A firm financial performance is reflected in the amount of success as regards to its output in terms of; return on investment, return on assets, value added among others. Profit is the main objective of commercial banks.

Profitability of firms is measured in various ratios which majorly include; Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) (Murthy & Mouritsen, 2011). ROE is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment. ROA is a ratio of income to its total asset (Khrawish, 2011). It measures the ability of the bank management to generate income by utilizing company assets at their disposal. ROE was used in this research to calculate the financial outcome for the firm

2.2 Theoretical Framework

2.2.1 Task technology fit N Theory (TTF)

The study is based on the Task technology fit theory that was developed by Dishaw and Strong, (1999). According to the theory ICT is more likely to n b e embraced by its users if it positively affects the users performance and if the capabilities of the technology are in line with the responsibilities or the tasks that the user is expected to complete. Good hue and Thompson (1995) pointe out a few factors that can be used to deduce if the technology fits the task at hand. The factors include system reliability, ease of training or use, quality, relationship with the users, compatibility and authorization and production timeliness. This theory comes in handy when analyzing of different contexts where information technology is being used including in the e-commerce systems and when e-commerce systems are used together with other techniques that lead to outcomes related to information systems. This model purports that for information technology to be successful it must fit in to the task at hand and success is pegged on the improved individual and group performance. There was a task-technology fit theory that was specifically developed for group support systems. This theory was developed and tested by Zigurs,

Buckland, Connolly and Wilson, (1999) and came up with the requirements that needed to be met for developed systems to fit into group tasks.

The theory of task-technology fit has been especially successful when it comes to mobile based information systems. However ,there are still unanswered questions regarding the use of this theory in mobile information systems. The theory looks at the significance of task technology. Additionally, the theory gives more explicit link between technology and the construct at hand which provides a better theoretical basis for coming up with issues that affect the use of technology and its performance. This model emphasis is that there needs to be a match between information technology and the business tasks if information technology use is to be a success (Junglas & Watson, 2016). The current model is useful to this research since it is important to consider the changes and requirements in the business tasks and the technology to be used, it is also important to deduce if the theory can be used in mobile technology contexts and if not if there are any adjustments that can be made to ensure it is used successfully in the said context. This theory looks at how electronic banking technology can be a contributor to Nigerian commercial banks improved performance and competitiveness (Kanyuira, 2012).

2.3 Empirical Review

Ihenyen and Yeitaribo, (2024) examined the extent cashless policy can lead to improvement in small business enterprises in Bayelsa State. A descriptive survey design was adopted in the study and a sample size of four (400) respondents which comprised small business traders, civil servants and students in Bayelsa State. The data generated were subjected to different statistical tests such as descriptive, correlation analysis and inferential tests. The data gathered were finally analyzed using regression analysis via SPSS version 26. The study found that Digital payment instruments, Cash withdrawal limits and Naira notes redesign policy affect small business enterprises in the State. Consequently, the study concludes that this policy is capable to improve customers' satisfaction, reduce the harmful effect of cash related crimes, and raise the market for small business enterprises that will enhance the economy of the State. The study recommends that Bayelsa State government should enforce the political will to ensure full compliance in the cashless policy; ensure adequate power supply to power the electronic devices; conduct massive training on the use of the new technology and enlightenment programmes to sensitize the people of the State as well as meting appropriate punishment to officers, institutions and organs found sabotaging the cashless policy.

Odumusor, (2023) examined the effect of cashless policy on the performance of small-scale enterprises in Nigeria: a study of selected small-scale businesses in Cross River Northern Senatorial district. The specific objectives were to examine the effect of Automated Teller Machine (ATM) transactions on the performance of small-scale businesses in Cross River Northern Senatorial district, to determine the effect of internet banking transactions on the performance of small-scale businesses in Cross River Northern Senatorial district and to examine the effect of Point of Sale (POS) transactions on the performance of small-scale businesses in Cross River Northern Senatorial district. This study adopted the descriptive research design. The target population for this study comprises of 122 staff of Gomara farms Ltd, Ushie Table Water Ltd and Blessed Brother Bread Ltd. The sample size of 111 was calculated using the Krejcie and Morgan (1970) table. The researcher adopted the Simple Random sampling method in selecting respondents from the target population. The data collected were analyzed using the Ordinary Least Square regression with the aid of Statistical Package for Social Sciences (SPSS 27) with the output presented using descriptive and inferential statistics. The study found out that Automated Teller Machine (ATM) transactions, internet banking and Point of Sale (POS) transactions has a significant effect on the performance of small-scale businesses in Cross River Northern Senatorial district.

Hafsat, Naziru and Yusuf (2023) assessed the impact of cashless policy on the performance of Small and Medium Scale Enterprises in Bauchi Metropolis. The study adopted the financial inclusion as dimensions of cashless policy. A systematic analysis of the existing literature revealed various studies on the impact of cashless policy on SMEs' performance. The study adopted a quantitative research approach. Primary data were collected through structured questionnaires issued to three hundred and seventy-four, 374 drawn from a population of fifteen thousand, three hundred and nineteen respondents in line with Krejcie and Morgann table (1970) of determining sample size. The findings revealed the significant influence of

cashless policy on small and medium enterprises' performance in Bauchi Metropolis. The results further indicated that, financial inclusion has influence on the performance of SMEs. The study strongly recommends that cashless policies should make financial products and services more available than what has been advertising to build in trust in those involve in SM&ME. This will bring in individuals from low-income background.

Heman and Ama (2023) investigated the impact of cashless economy on small business operators in Borno state of Nigeria. The study aimed at promoting electronic payment system and reduce the volume of cash transactions has significantly affected small business operations in Borno state, Nigeria. The researchers used mixed method approach that includes; surveys, interviews, observations, and focus group discussions. Data was collected through a survey questionnaire distributed to a sample of small business operators across Borno state, and analyzed using descriptive statistics and hypotheses testing. The results show that the transition to cashless economy has a perceived impact on the performance of small business operators. However, Significant challenges were identified which include; high transaction costs, restricted access to digital infrastructure, network outages, lack of client bank accounts, and low customer awareness, Low levels of financial education and support for the acquisition and maintenance of electronic payment devices

Nwankwo, et.al (2022) also studied the effect of channels for the cashless economy on entrepreneurship development in Anambra State, Nigeria. This descriptive study explores internet banking services, automated teller machines and crowd funding as the explanatory/independent variables, while the dependent variable was entrepreneurship development. The study population was 3,574 owner-managers of manufacturing small and medium enterprises in Anambra State, Nigeria. A sample of three hundred and four (344) owner-managers was selected using a simple random sampling technique. Data collected through structured questionnaires were analyzed using correlation analysis and multiple regression analysis. Results show that internet banking services, automated teller machine services, and crowd funding positively affect entrepreneurship development. The study concluded that channels for a cashless economy have a significant and positive effect on entrepreneurship development.

Okonkwo and Ekwueme, (2022) studied the influence of cashless policy on small scale businesses in Ogoni Land of Rivers State, Nigeria. The purpose of this study is to examine the impact of cashless policy on small scale businesses. The study approved out in Ogoni of Rivers state, using the purposive sampling technique, 250 owners and operators of small- scale businesses were selected and achieved questionnaire. The data collected were coded and analyzed using frequency table and percentage, while regression analysis was used to test the framed hypotheses using SPSS (Statistical Package for Social Sciences). The results specify that: small scale businesses in Ogoni land are predominately involved by sole proprietorship with meager income with a significant statistics of them having a very poor banking habit; it was also initiate out that small scale businesses statistically do not trust on heavy capital outlay; couple with the fact that provision of services is their main business action makes bank transaction, ATMs procedure and online banking of less or no significance since their operation is grossly hinged on "cash and carry basis"; the findings from the study also propose that operators of small scale business have zero tolerance to ICT practice in both the operations and transactions of their businesses; and this establish a major challenge to the adoption of cashless policy in the study area and usually, there was a negative significant effect of the introduction of cashless policy on the processes and growth of small scale businesses in Ogoni land. Based on the findings some recommendations among others made are: the need for government to harness efforts which should be directed at enlightening the activities of small scale businesses through concerted policies, regulations and actions that will encourage and empower small scale businesses monetarily thus making the sector lively and productively ready to withstand a cashless economy.

METHODOLOGY

3.1 Research design

This study adopted ex-post facto research design and adopts a secondary approach in gathering data. This is because, we have no control over certain variables and cannot manipulate them because they already exist; rather search backwards through data for possible causal variables.

3.2 Area of Study

In conducting this research the area of study focuses on some selected quoted banks in Nigeria from which the data required for a thorough analysis were derived.

3.3 Population of the Study

The population of the study is made of all quoted banks in Nigeria stock exchange as at 31st dec 2024 which is twenty-four in number.

3.4 Source of Data

This study made use of secondary data. The data were sourced from publications of the Nigerian stock exchange (NSE), the annual report and accounts of the listed banks from 2018-2024. Both the dependent and independent variables were computed from the data extracted from publications of the Nigerian stock exchange (NSE), the annual report and accounts of the listed banks and ratios were computed from the figures as reported in the annual reports.

3.5 Sample Size and Sampling Method

The five (5) listed banks represent the sample size for this study. Data were gathered from the published financial statements of the five (5) listed banks for a seven (7) year period spanning from 2018-2024, using purposive sampling method (that is selected firms that filed their annual financial statements with NSE from 2018-2024 without missing any year was selected for this study). The total number of quoted banks in Nigeria stock exchange were twenty-four (24), the researcher choose five banks from them, Access bank, Zenith bank, UBA, First Bank, and Union because of proximity

3.6 Model Specification

The model to be regress in this study is presented in a functional form as follows

Performance of Bank (ROA)

ROA =F (POS, ATM, MB)

$ROA=\beta o+\beta_1 POS + \beta_2 ATM + \beta_3 MB$

Where

ROA= Return on equity (proxy of performance of bank)

POS= Point of sale

ATM= Automated teller Machine

MB= Mobile banking

Bo= constant

β_1-β_3 is parameters to be estimated

3.7 Method of Analysis

The regression method of data analysis was adopted in this study to be specific, the ordinary least square regression techniques was adopted to analysis the relationship between the dependent variable (performance of bank) and independent variable (electronic banking) in the model. Correlation method is appropriate therefore; descriptive statistics correlation analysis and multiple regression analysis were the major statistical tool used in analyzing the data.

The Ordinary Least Squares Theorem, is supported by Koutsoyiannis (1985)and Nyong (1993) cited in Okeke (2016) as the Best Linear Unbiased Estimator (BLUE), thus this study adopted it. Tests done using OLS includes r^2, t-test, F-test and auto-correlation analysis. The Statistical Package E-view version 8.0 for windows is the computer software used for the analysis of our model above.

The explanation to the test statistics are:

i. Coefficient of Determination (R^2) Test = measures the explanatory power of the independent variables on the dependent variable. The coefficient of determination varies between 0.0 and 1.0. A coefficient of determination, say 0.25 means that 25% of changes in the dependent variable is explained by the independent variable(s).

ii. F-Test = measures the overall significance. The extent to which the statistic of the coefficient of determination is statistically significant is measured by the F-test. At 5% level of significance, we reject null hypotheses for tests with probability estimates lower than 5% (0.05) and conclude that they are statistically significant. Otherwise, we accept (when probability estimates are above 0.05) and conclude that there is no overall statistical significance.

iii. Student T-Test = measures the individual statistical significance of the estimated independent variables. At 5% level of significance, reject null hypotheses for tests with probability estimates lower than 5% (0.05) and conclude that they are statistically significant. Otherwise, we accept (when probability estimates are above 0.05) and conclude that there is no overall statistical significance.

iv. Durbin-Watson (DW) test = test for autocorrelation. This is used to check for the appropriateness of the models for analysis. Any equation with Durbin-Watson less than or greater than values not approximately 2, is not acceptable. Unacceptable Durbin-Watson suggests that the analysis cannot be relied on.

v. Decision rule: we will accept Ho, if p-value is greater than 5% level of significance, otherwise we will reject Ho, to accept Hi

DATA ANALYSIS AND RESULTS PRESENTATION

4.0 Introduction

This chapter presents the empirical results and discussion of findings. Panel Least Square (OLS) was used as statistical tools for the analysis. The result was subjected to different statistical and descriptive tests.

4.1 Descriptive Statistics

Here, the individual characteristics of the variables used in this study were presented. The aim of descriptive statistics is to examine the performance of the variables within the review period. The descriptive statistics is presented in table 4.1 below.

Table 4.1 Descriptive Statistics

	ROA	POS	MOP	ATM
Mean	16.31544	6.914620	17.63386	5.954700
Median	16.41571	7.153896	17.91208	6.002899
Maximum	19.50550	10.28997	20.59033	8.776490
Minimum	13.73023	2.400619	14.28619	3.220874
Std. Dev.	1.496468	1.933643	2.028058	1.855737
Skewness	0.036441	-0.496451	-0.179059	0.006634
Kurtosis	2.033288	3.067970	1.524361	1.407504
Jarque-Bera	1.370606	1.444440	3.362565	3.698653
Probability	0.503937	0.485673	0.186135	0.157343
Sum	571.0405	242.0117	617.1849	208.4145
Sum Sq. Dev.	76.14014	127.1251	139.8427	117.0879
Observations	35	35	35	35

Table 4.1 shows the descriptive statistics of the variables for the study. It presents the standard deviation, mean maximum and minimum values of the data set obtained from the annual reports. Return on equity, which showed a maximum value of 19.5% and a minimum value of 13.7% with a mean value of 16.3% and standard deviation of 1.4%. The Point of sales maximum value of ratio is 10.28% while the minimum value is 2.4%. The mean obtained from the computation gave 6.9% with a standard deviation of 1.9%. The mobility of payment showed a maximum value of 20% and a minimum value of 14.2% with a mean value of 17.6% and standard deviation of 2.0%. Automated teller machine has a maximum value of 8.7% and a minimum value of 3.2%. The mean value obtained was 5.9% with a standard deviation of 1.8%.

4.2 Tests For Multicollinearity

The term multicollinearity is due to Ragnar Frisch. Originally, it meant the existence of a „perfect" or exact, linear relationship among some or all explanatory variables of a regression model. The tests were carried out using correlation matrix. According to Barry and Feldman (1985) criteria; „Multicollinearity is not a problem if not correlation exceeds 0.80"

Table 4.2 Result of Multicollinearity Text

	ROA	POS	MOP	ATM
LFP	1.000000	0.348408	-0.104480	-0.240269
LPOS	0.348408	1.000000	0.832452	0.743984
LMOP	-0.104480	0.832452	1.000000	0.977133
LATM	-0.240269	0.743984	0.977133	1.000000

From the table above it was observed that there is no problem of Multicollinearity on the variables because no variables exceeds 80% as Feldman 1985 noted

4.3 Regression Result

Dependent Variable: ROA
Method: Panel EGLS (Period random effects)
Date: 5/10/26 Time: 09:43
Sample: 2018 2024
Periods included: 7
Cross-sections included: 5
Total panel (balanced) observations: 35
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24.17950	3.804105	6.356161	0.0000
POS	0.853013	0.154773	5.511394	0.0000
MOP	1.041298	0.367814	2.831044	0.0087
ATM	0.772462	0.352180	2.193372	0.0371

Effects Specification	S.D.	Rho
Cross-section fixed (dummy variables)		
Period random	0.000000	0.0000
Idiosyncratic random	0.462722	1.0000

Weighted Statistics			
R-squared	0.897933	Mean dependent var	16.31544
Adjusted R-squared	0.871471	S.D. dependent var	1.496468
S.E. of regression	0.536498	Sum squared resid	7.771405
F-statistic	33.93312	Durbin-Watson stat	1.904259
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.897933	Mean dependent var	16.31544
Sum squared resid	7.771405	Durbin-Watson stat	0.904259

Interpretation of the Result

The R^2 which is the coefficient of determination or the measure of goodness of fit shows the degree of variation in the dependent variables, as explained by the independent variables all taken together. The

closer our R^2 is to 1, the better the goodness of fit of the model. From the result in table 4.3 above, we found out that our R^2= 0.897933. This is closer to 1 and thus indicates that our model displayed a good fit. The adjusted R^2 = 0.83 this implies that despite the adjustment in the degree of freedom our variables can still explain about 87% of the changes or variation in the model. Thus, it is in line with the result of the goodness of fit of the model.

The f-statistics is used to test the overall statistical significance of our parameter in the model. If the probability of f in the computed model is greater than the desired level of significance (0.5) we accept the null hypothesis and reject the alternative. From the result in table 4.3 above the computed value of f is 33.93312 while its probability is 0.00000. Since its probability is less than 0.05 we accept alternative hypothesis which states that the independent variables are jointly statistically significant in explaining the dependent variable.

The Durbin Watson statistic is used to test for the presence or otherwise of autocorrelation in our regression model. When the value of our d-w statistics is 2, it means the absence of autocorrelation among the explanatory variables in the model.

The a'priori expectation is determined by the existing economic theory and it indicates the signs of the economic relationship under consideration. From the result of our estimated model it was discovered that point of Sale has a positive sign given its value as 0.853013. This implies that increase point of sale in increase the performance of the selected banks bank by 8%.

Automated teller machine has positive sign given its value as 0.772462, this means that increase in automated teller machine increase the performance of the selected banks bank by 0.7%, and this conforms to our a'priori expectation. Mobility of payment has a positive sign given its value as 1.041298. This suggests increase in bank performance by 1 This conforms to our theoretical expectation.

The t-statistics, this helps in detecting the individual statistical significance of parameter from the model. It was discovered that both automated teller machine and point of sale are positive and statistically significant, which implies that they contributed to bank performance. However, Mobility of payment (MOP) is positive and statistically significant at 5% level.

4.3 Hypothesis Testing

The need to examine the relationship between the collected data and the stated hypothesis has called for this section. This result will be compared with the statistical criteria to see if the preconceived notion in this research work holds or not.

Ho_1: Point of sale has no significant effect on the performance of commercial bank in Nigeria.

From the result of our test in table 4.3 above, we found out that the value of our t–test for Point of sale is 5.511394 with a probability of 0.000; this probability value is greater than the desired level of significance (0.05). We reject the null hypothesis and accept the alternative hypothesis, which says that Point of sale has significant effect on the performance of commercial bank in Nigeria.

Hypothesis Two

Ho_2: Automated teller machine has no significant effect on the performance of commercial bank in Nigeria.

From the result of our test in the table 4.3 above, we found out the value of our T–test for ATM is 2.193372 with a probability of 0.0087, this probability value is greater than the desired level of significance (0.05). We reject the null and accept the alternative hypothesis, which says that Automated teller machine has significant effect on the performance of commercial bank in Nigeria.

Hypothesis Three

Ho_3: Mobile banking has no significant effect on the performance of commercial bank in Nigeria.

T–test for Mobile banking is 2.831044 with a probability of 0.0087, this probability value is greater than the desired level of significance (0.05). We reject the null hypothesis and accept the alternative hypothesis, which says that Mobile banking has significant effect on the performance of commercial bank in Nigeria.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Summary of Findings

This study examines the effect of electronic banking on the performance of selected banks in Nigeria from the periods of 2018-2024

To accomplish the objectives of this study, econometric methodology was adopted as a tool for testing the stated hypotheses; the Panel Least Square (OLS) was chosen as the estimated tool because of the advantage it has over other estimation techniques considering the topic under study. In carrying out this study necessary data were collected from Annual report of the selected banks. After reviewing the necessary literature with regards to electronic banking it was found that it is one of the drivers of performance of deposit money bank in Nigeria. The variables were point of sales, automated teller machine, and mobility of payment,

Based on the objectives of the study and the analysis done on the work, the empirical result was found that the level of electronic banking in Nigeria has significant positive effect on small and medium scale enterprises in Nigeria. The following findings were made.

1. Point of sales has a positive effect and is statistically significant on bank performance in Nigeria
2. Mobility of payment has a positive effect and is statistically significant
3. Automated teller machine has positive significant effect on the on bank performance in Nigeria

5.2 Conclusion

The importance of the adoption of electronic banking to performance of deposit money bank is high. Importance of adequacy in infrastructure which was identified to be required for adoption of POS in rural areas, there are other known variables that contributed positively to the adoption of POS in rural areas these includes POS security, customer trust, customer education, and customer motivation. It has-been identified that the adoption of electronic banking in an organisation was prompted by the quest for the use of an alternative mode of payments to the use of cash, as it is the main medium of exchange for goods and services in rural areas. The choice of electronic banking which is a device for electronic payments systems was also to reduce the risk involved in carrying cash and the attendant consequence having known that this device is used basically for processing payments. The adoption of electronic banking in Nigeria reduces the volume of cash to be printed by the agency responsible for the printing. The reduction of the amount of money spent in cash management can be channeled to other uses. In conclusion electronic banking has a significant positive effect on the performance of deposit money bank in Nigeria.

5.3 Recommendations

Based on the following findings of this study, the following policy recommendations are suggested:

1. The researcher Advocate for more ATM facilities which should be placed at strategic location for easy access.

2. Marketing and education of internet banking service and products should be intensified to attract more customers which enhance profitability.

3. The bank should conduct more research to find new internet banking product to attract and to retain her potential customers.

REFERENCES

Abaenewe, Z. C., Ogbulu, O. M. and Ndugbu, M. O.(2013). Electronic banking and bank performance in Nigeria. *West African Journal of Industrial & Academic Research 6 (1) 171-186*

Abdullai, H.M, & Micheni., E.M (2018) Effect of internet banking on operational performance of commercial banks in nakuru county, Kenya. *International Journal of Economics, Finance and Management Sciences*. 6, (2), 60-65.

Abubakar, A (2014). The effects of electronic banking on growth of deposit money. Banks in Nigeria. *European Journal of Business and Management* 6 (33) 79-88

Abubakar, T. (2012). "Banking agents to reach the unbanked DRAFT." http://acri-mena.org/Files/Banking%20agents%20to%20reach%20the%20unbanked%20-%2007.pd

Acharya, V, (2009). Bankruptcy codes and innovation. *Review of Financial Studies*, 2 (2), 4949-4988

Adewoye, J. O (2013). Impact of mobile banking on service delivery in the nigerian commercial banks. *International Review of Management and Business Research* 2 (2) 52-67

Agboola, A. (2006). Mobilization of finance for rural housing technology, DOI 10.1002/jid. 40100304407

Agwu, E.M & Adele-Louise, C (2014). Mobile phone banking in nigeria: benefits, problems and prospects. *International Journal of Business and Commerce* 3, (6) 50-67

Ahamdm, A. A., & Al-Zu-bi, J. (2011). Financial innovation on performance of commercial banks in garissa county, Kenya. *Strategic journal* 6 (1) 491-504

Akyuz M., & Opusunju, M. I. (2019). Effect of internet banking on the performance of first bank Nigeria Plc Abuja. *The International Journal of Social Sciences and Humanities Invention* 6 (8), 45-28

Alilonu, S., (2012). Contribution of agency banking on financial performance of commercial banks in Kenya. *Journal of Economics and Sustainable Development*

Anandarajan, M., Igbaria, M. and Anakwe, U.P. (2002) IT acceptance in less developed country: A Motivational Factor Perspective, *International Journal of Information Management*, 2, (2), 47-65.

Avikiran, B. **N.** (2011). The effect of mobile banking on financial performance of commercial banks in kenya. A research project submitted in partial fulfillment of the requirements for the award of a degree of master of business administration (finance), school of business, university of Nairobi.

Baddeley, M. & Stewart, A. (2002). Using e-cash in the new economy: An economic analysis of micropayment systems, UK Cambridge. *Journal of Electronic Commerce Research*, 5(4)

Chaia, M**.** (2011). *The banking survey, Kenya:* Harvard University Press.

Chan, A., & Lu, P. (2004). A model trust in online relationship banking. *International Journal of Bank new information technologies*? Decision Sciences, 30, 361-391.November. Performance at Community Banks", *Journal of Banking and Finance*. (Forthcoming)

Chau, P & Lai, V.(2003). An Empirical Investigation of the Determinants of User Commerce, 13, (2), 123-145.

Cheruiyot K.S (2010). Impact of internet banking on financial performance of commercial banks in kenya. A management research project submitted in partial fulfillment of the requirements for the award of the degree of master of business administration (mba), department of business administration, university of Nairobi

Chevan, J (2013) Internet banking-benenfits and challenges in and emergingi Economy. *International Journal of Research and business management* (IJRBM), 3 (1) 67-78

Danlami and Mayowa B.R (2014) An empirical investigation of automated teller machines and customers' satisfaction in Nigeria. Case Study of Ilorin Kwara state, Nigeria. MPRA paper number 59757XXII

Davis, R. S., Bagozzi, P. N., & Warshaw, C. C. (1989). Effect of financial innovations and operationalization on market size in commercial banks: A Case Study of Equity Bank, Eldoret Branch. *International Journal of Business and Social Science*, *5* (8) 34-55.

Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task technology fit constructs. Information & Management, 36(1), 9-21. Working Paper. Rutgers University

Ekwueme, C. M, Egbunike, P. A, & Amara Okoye, (2018). An empirical assessment of the operational efficiency of electronic banking: Evidence of Nigerian banks. *Review of Public Administration & Management 1 (2)* 108-122

Encarter, R. M. (2009). An empirical evaluation of innovation types and organizational and environmental characteristics: Towards a configuration framework, *Journal of Public Administration Research and Theory,* 18 (4), 591-615.

Gefen, S. K., Siba, S. M., & Sreekumar, S. (2003). Service quality evaluation in internet banking: An empirical study in India. *International Journal of Indian Culture and Business Management, 2 (*1) 90-99.

Gilaninia, Sh, Fattahi, A., & Mousavian, S. J. (2011). Behavioral factors tend to use the Internet banking services case study: System (SABA), the Melli Bank, Iran, Ardabil, *International Journal of Business Administration,* 2(3), 173-179.

Gilaninia, Sh., Mousavian, S. J., Salimi, M. A., Azizzadeh, A., Makarehchian, A., Zadbagher, & Seighalani, F. (2012). Economic Growth in Iran and effective factors on its changes, *J. Basic Al. Sci. Res*., 2 (2), 986-994.

Good, H., & Thompson. (2007). Can theory knowledge and application lead to competitive advantage. *Marketing intelligence and planning*, 232-240 MIS Quarterly, 19(2) 213-236.

Gupta, U. G., (2005). The impact of information systems on the efficiency of banks: an empirical investigation of industrial management & data systems. *MCB university press, 97(1)*,10-16.

Hassani, F., & Soltani, S. (2009). Banking from mobile, information Technology Age, 2(1), 138, 139.

Horst, M.A**,** Kutts, G., Chreuter, S, & Gutteir, C (2007). Impacts of e-banking on performance of banks in a developing economy: empirical evidence from Bangladesh. *Journal of Business Economics and Management* 17 (6) 45-56

Hoseiniande C. J, & Dangoliani, M (2015). Electronic payment methods and profitability of banking firms in Nigeria: A Panel Data Analysis. *International Journal of Finance and Accounting*, 6 (3): 67-74

Ichniowski, K. S., Giovanna P. (2011). The Effects of human resource management practices on productivity: A Study of Steel Finishing Lines. *The American Economic Review*, 87, (3) 23-34

Ivatury, G., & Pickens, M. (2006). Mobile phone banking and low-income customers: Evidence from South Africa. Washington, DC: Consultative group to assist the poor (CGAP) and the United Nations Foundation.

Junglas, P.W. and Watson, R. A. (2016). The dynamics of innovative activity and competitive advantage: the case of Australian retail banking, 1981 to 1995". Organization Science, 14 (2),107-122.

Kanyuira, S.A (2012). E-Payment technology effect on bank performance in emerging economies–evidence from Nigeria. *Journal of Open Innovation: Technology, Market, and Complexity. 3 (2) 21-34*

Karjaluoto, H., M. Mattila, and T. Pento, (2002) Factors underlying attitude formation towards online banking in Finland," *International Journal of Bank Marketing*, 20, (6): 261-272,

Khrawish, H.A. (2011) Determinants of commercial banks performance: evidence from Jordan. *International Research Journal of Finance and Economics*. Zarqa University, 5(5), 19-45

Krawetz, N. (2012). Researcher: retail system riddled with security flaw Available at: <http://www.the-logic-group.com/Downloads/Intro-to-EFT.pdf.> Access August 02, 201

Kumar, M. (2008). Best practices in banc assurance. *Journal of Bancassurance*,73,(3) 30-45, retrieved from http://www.bc-worldwide.com

Liu, P. & Arnett, S. (2000). The corporate governance of banks. *Journal of Financial Regulation Compliance*. 14. (4). 375-82

Mateka, M, Gogo, J & Omagwa, J (2019). Effects of internet banking on financial performance of listed commercial banks in kenya. *American Journal of Finance*, 1 (2) 53-71

Murthy, V., &Mouritsen, J. (2011). The performance of intellectual capital: mobilizing relationships between intellectual and financial capital in a firm. *Accounting, Auditing & Accountability Journal,* 24(5), 622-646.

Musaa, M, Kurfib, S.A & Hassan, H (2015). Impact of online banking on the performance of Nigerian Banking Sector. *International conference on E-commerce, 45-49*

Mwange, J.A (2013). The impact of mobile banking on financial performance of commercial banks in kenya. Research project submitted in partial fulfillment of the requirements for the award of the degree of master of business administration, school of business university of Nairobi.

Ngumi , P.M (2013). Effect of bank innovations on financial performance of commercial banks in Kenya . A thesis submitted in partial fulfillment for the degree of Doctor of Philosophy in Business Administration in the Jomo Kenyatta University of Agriculture and Technology

Nyangosi, R., & Arora, J. S. (2011). Emergence of information technology in the kenyan banking sector: An empirical study, *International Journal of Finance Management* 5 (9) 34-56

Obiri-Yeboah, T., Pickens, M. & Porteous. D. (2008). Regulating transformational agency banking: Mobile phones and Other Technology to Increase Access to Finance. Focus Nte 43 Washington, D.C.: CGAP

Offei, M., & Nuamah, G. A. (2016). E- Banking System in Pakistan. *Blekinge Institute of Technology, Sweden*

Okigbo, A., & Wario, M. (2014).Clicks vs. bricks: internet-facilitated relationships in financial services. *International Journal of Internet Marketing and Advertising*, *1*(4), 350-370.

Okon, A. N & Amaegberi, M.A (2019) Mobile banking transactions and bank profitability in Nigeria. *international Journal of Economics, Commerce and Management* 4 (6) 692-708.

Omondi, M. M., & Muturi, W. (2013). Factors affecting the financial performance of listed companies at the Nairobi securities exchange in Kenya. *Research Journal of Finance and Accounting, 4*(15), 99-105.

Ovia, J. (2001), Internet banking: Practices and potentials in Nigeria, A paper at the conference organized by the institute of chartered accountants of Nigeria (ICAN), Lagos, September 5.[unpublished]

Parlour,O.(2003).Exploringtheusageandimpactoftransformationalm-banking:ThecaseofM-PESAinKenya,mimeo.

Porteous, R.W (2016). Effects of mobile banking on the financial performance of commercial banks in kenya a research project submitted in partial fulfillment for the requirements of the award of degree of master of business administration, school of business, university of Nairobi

Salehi, D and Alipour P. (2014), Building, incentivizing and managing a network of mobile money agency's: A Handbook for Mobile Network Operators, GSMA.

Shari, P. (2012). Financial innovation. In: Handbook of the Economics of Finance (*Volume 1a: Corporate Finance*). Eds: George Constantinidis, Milton Harris, and Rene Stulz. Elsevier North-Holland. 307-336

Shehu U. H., Aliyu M, & Musa Adeiza Farouk, M.A (2013). Electronic banking products and performance of Nigerian listed deposit money banks. *American Journal of Computer Technology and Applicatio*n 1, (10) 138 – 148

Shiels, H., (2003). Understanding the implications of ICT adoption: insights from SMEs. *Logistics Information Management*, 16(5),312-326.

Simpson, J. (2012). The impact of the internet in banking: observations and evidence from developed and emerging markets. *Telematics and Informatics*, 19, (6) 315-330

Sokolor, P. G. (2007). Effect of financial innovation on financial performance of commercial banks in Kenya. a research project presented in partial fulfillment of the requirements of the degree of master of business administration, school of business, university of Nairobi

Suoranta, M. (2003). Thesis: Adoption of mobile banking in Finland. Ph.D. Jyväskylä University Printing House, Jyväskylä and ER-paino, Lievestuore .66.

Surendan, A. A. (2012). Mobile banking and organizational performance in the banking industry. *Journal of Scientific Research and Studies* 5(5), 121-135

Timnins, M.A (2005). Electronic banking and financial performance of commercial banks in Rwanda: a case study of bank of Kigali. A research project report submitted to the department of business administration in the school of business in partial fulfillment of the requirement for the award of master degree in business administration (finance option) of jomo kenyatta university of agriculture and technology

Tiwari, R. and Buse, S. (2007). The mobile commerc e prospects: A strategic analysis of opportunities in the banking sector. Hamburg, Germany: *Hamburg University Press*

Ugwueze,A.C & Nwezeaku, N.C (2015). E-Banking and commercial bank performance in Nigeria: a co-integration and causality approach. *International Journal of e-Education, e-Business, e-Management and e-Learning*

Vincent K. T, Ayuma, C & Ambrose, K (2016). Effects of mobile banking on the financial performance of commercial banks in kapsabet (kenya): a case of selected banks in kapsabet town. *Journal of Business and Management 18 (10) 37-48*

Yahaya, O.A. & Lamidi, Y. (2015). Empirical examination of the financial performance of islamic banking in Nigeria: a case study approach. *International Journal of Accounting 2* (7) 45-55

Zigurs, I., Buckland, B. K., Connolly, J.R., & Wilson, E.V. (2010). A test of task technology fit theory for group support systems. *Database for Advances in Information Systems*, 30 (34), 34-50.