ELECTRONIC BANKING AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA (2005-2020).

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K E Y W O R D S	A B S T R A C T
	This study examined electronic banking and performance of deposit money banks in Nigeria (2005-2020). Data were sourced from the Nigerian Exchange Group (NEG) Fact Book and Central Bank of Nigeria Bulletin. Electronic banking was proxied by Automated Teller Machine (ATM), Point of Sales (POS) and Mobile banking while Performance was proxied by Return on Assets (ROA) and Earnings per share (EPS). The study employed Vector Auto Regression (VAR) using E-view 10 statistical package in the analyses. Findings revealed that there is positive and insignificant relationship between ATM and EPS of deposit money banks in Nigeria. There is positive and insignificant relationship between ATM and ROA of deposit money banks in Nigeria. There is negative and insignificant relationship between POS and EPS of deposit money banks in Nigeria. There is positive and insignificant relationship between POS and ROA of deposit money banks in Nigeria. There is negative and insignificant relationship between mobile banking and EPS of deposit money banks in Nigeria. There is negative and insignificant relationship between mobile banking and ROA of deposit money banks in Nigeria. The study concludes that a mixed finding exists between the explanatory variables and the dependent variables. Therefore, it was recommended that banks should encourage their customers to key into mobile banking by helping them to acquire basic skills for mobile banking. Automated teller machines should be located in major places in towns and cities, local government areas and rural areas so as to ease banking transactions, reduce cost and prevent the risk of carrying cash around by customers.

Background of the Study

The deregulation of the banking sector in 1986 laid the foundation for the formal take off of e-banking in Nigeria (Abubakar, 2014). However, the full adoption

and execution of electronic infrastructure for e-banking as alternative payment systems in Nigeria started in 2012 following the introduction of the sustainable banking principles and the cashless policy by the Central Bank of Nigeria (CBN) (Gbanador, 2023). This is meant to create positive development on society and provide more safe operations (Gbanador, 2018). The cashless policy on the other hand, was implemented nationally in July 2013 to reduce reliance on cash transactions and also to reduce illicit activities. In order to achieve the aims of these CBN policies, banks became more aggressive in the deployment of e-banking products like, POS, internet banking, telebanking, mobile banking, automated teller machine, NIBSS instant payment (NIP), and NIBSS electronic fund transfer (NEFT) among others.

Bankers and their customers heaved a sigh of relief, stressing that such innovation has reduced the challenges of manual banking and also enhanced service provision (Gbanador, 2021). The introduction of electronic banking (e-banking) triggered the deployment of several electronic payment (e-payment) channels, including automated teller machines (ATM), mobile banking (MB), internet banking (IB), point of sales (POS), and NIBSS instant payment (NIP) among others.

The acclaimed impressive performance of banks, especially deposit money banks (DMBs), is believed to positively impact the Nigerian Stock Exchange market. DMBs concentrate on acceptance of deposits and settlements of financial obligations mostly through e-banking. Most recently, e-payment innovations have ushered payment channels and subsequent establishments of financial technology companies (Mustapha, 2018). Similarly, Gbanador, Makwe and Olushola (2022) opined that advances in technology enable banks to provide services to customers more efficiently. E-banking systems were adopted to enable customers conduct transactions without visiting the bank physically with the aid of necessary information technology infrastructure (the hardware, software, networks and other relevant equipment that makes information technology based services possible) (Gbanador, 2021). This has also increased operational cost since the information technology infrastructure is capital intensive. Therefore, banks invest hugely in the developments of e-payment technologies in order to remain competitive (Mustapha, 2018).

It is expected that the adoption of innovative service delivery and e-payment channels will enhance service delivery, market share, and financial performance of banks. Performance of DBMs describes the outcomes of bank operations and transactions measured against stated objectives (Ateke & Akani, 2018). Size of bank, quantum of deposit and profitability could be considered reliable indicators of performance (Ibekwe, 2021) for banks. Such indicators include return on asset (ROA), return on equity (ROE) and earnings per share (EPS) among others. Of these, ROA and EPS were the performance proxies used in this study. ROA is a measure of financial performance based on the outcome of dividing net income by Total Assets. Earnings per share (EPS) are defined as a company's net profit divided by the number of common shares it owes to its shareholders. Thus, a higher EPS indicates greater value since it induces investors to pay more for a company's shares due to obvious increase in profitability, which implies higher investment dividend for investors.

It is noteworthy to observe that usefulness of e-banking could be hindered by certain difficulties faced by customers while utilizing e-payment channels. Some of these

issues depending on the service delivery channel includes illiteracy, network challenge, multiple deductions, long queues, possibility of fraud, and other exposures to risks (Chibueze, Maxwell & Osondu, 2013).

Based on the above, it can be said that previous studies have been focused on how e-banking affects performance of DMBs using proxies like ROE, ROA and NIM. This shows that not many of the studies used earning per share (EPS) as a proxy of bank performance. Therefore, this study determined the relationship between electronic banking and performance of deposit money banks (DBMs) in Nigeria. E-banking was proxied on ATM, POS and Mobile Banking whereas bank performance was proxied on return on asset (ROA) and earnings per share (EPS).

Statement of the Problem

The injection of the platform for electronic banking has contributed rapidly to the growth of the financial system as well as development in the country.

The foregoing notwithstanding, there are still some problems hindering both Nigerian Deposit Banks and their customers from enjoying e-banking. While some researchers reported obvious areas of performance enhancement, others do not seem to agree. Adewoye (2013) revealed that mobile banking improves bank service delivery and performance while Abaenewe, Ogbulu and Ndugbu (2013) reported that electronic banking has a positive and significant effect on return on equity (ROE) of Nigerian banks but has no significant effect on return on assets (ROA). Oginni, Abba, Gambo and Abam (2013) indicated that although e-banking contributed positively to bank performance in terms of ROA with a time lag of two years, it exerted a negative impact in the first year. Halili (2014) found that adoption of online banking is negatively related with three bank performance indicators (Return on Equity - ROE, Return on Asset and Margin. Based on the above inconclusive nature of findings, this study was embarked upon to contribute to the ongoing controversy.

Objectives of the Study

The general objective of this study is to evaluate electronic banking services and the performance of deposit money banks in Nigeria. Specifically, the study is conducted to:
1. assess the influence of Automated teller Machine on Return on Assets;
2. evaluate the influence of Automated Teller Machine on Earnings Per Share ;
3. determine the influence of Point of Sale on Return on Assets;
4. ascertain the influence of Point of Sale on Earnings Per Share;
5. determine the influence of Mobile banking on Return on Assets; and
6. ascertain how Mobile banking determines earnings Per Share.

Research Questions

The following research questions were raised to guide the study:
1. What is the influence of Automated Teller Machine on Return on Assets?

2.   What is the influence of Automated teller machine on Earnings per Share?
3.   To what extent does Point of Sale determine Return on Assets?
4. What is the influence of Point of Sale on earnings per share?
5. How does Mobile banking determine Return on Asset?
6. To what extent does Mobile banking influence Earnings per share?

Research Hypotheses

This study was guided by the following null hypotheses:

H_{01}:   Automated Teller Machine has no significant influence on Return on assets.

H_{02}:   Automated Teller machine has no significant influence on Earnings Per share.

H_{03}:   Point of Sale has no significant influence on Return on Assets.

H_{04}:   Point of Sale has no significant influence on Earnings per share.

H_{05}:   Mobile banking has no significant influence on Return on Assets.

H_{06}:   Mobile banking has no significant relationship influence on Earnings per share.

Scope of the Study

This study examined the effect of electronic banking on performance of deposit money banks in Nigeria. Geographically, the study covered deposit money banks in Nigeria. The study was further delimited to a period of 16 years (2005-2020). These banks are classified by Central Bank of Nigeria as important domestic banks based on size, interconnectivity and complexity of their operations.

Electronic banking, as the independent variable, was proxied with ATM, POS and Mobile Banking whereas bank performance was proxied with return on assets (ROA) and earning per share (EPS) as dependent variables.

Literature Review
Conceptual Review
Concept of Electronic Banking (e-banking)

Electronic banking as a concept has various definitions as put forth by different scholars. Hernando and Nieto (2016) defined electronic banking to be the different delivery channels that are made available by banks which can be made used of with different terminal (personal computer and a mobile phone with browser or desktop software, telephone or digital television) for the delivery of banks' information and services to customers by banks. To this end, Hofman (2012) opined that Internet (electronic) banking is where a customer or other clients can have access to his or her bank account via the Internet using personal computer (PC) or mobile phone and web-browser. Similarly, in the view of Josiah and Kingoo (2012), internet (electronic) banking service can be defined as banking service which however allows customers or other clients to gain access as required and perform the needed financial transactions or operations on their bank accounts from various locations with the usage of their web enabled device with the use of internet connectivity to banks' web sites or platform any time they wish to perform

transactions. Here, banking services are fully automated such that transactions are concluded within a limited short period of time. Mabrouk and Mamoghli (2017) provided an abridged definition of Internet (electronic) banking as the process whereby financial intermediation has been conducted on the Internet.

Components of electronic banking

Electronic banking consists of the following components:

1. **Mobile Banking:** Mobile banking as a component of electronic banking involves the use of mobile phones whether internet enabled or not to conduct banking operation at any place and time. It helps to process and concludes transactions promptly.The services covered by mobile banking under this product include the following but not limited to account enquiry, funds transfer, recharge phones, changing of passwords and bill payments which are offered by the banking financial institutions in Nigeria (Noyer, 2017).

2. **Internet Banking:** This form of electronic banking is usually done through website of the bank. It also provides exactly the same services that the mobile banking application provides with few additions and it is usually more secured and legible (Oginni, Mohammad, El-Maude, & Arikpo, 2013).

3. **Telephone Banking:** Telephone banking as a component of electronic banking involves the use of telephone lines as a link to the financial institutions or banks computer centre to meet the need of a customer from a financial institution. Services rendered through telephone based banking include, account balance, funds transfer, change of pin, and recharge phones and bills payment.

4. **Electronic Card:** In Nigeria, we have debit and credit cards. While debit cards are linked to our local (NGN) accounts, the credit cards are linked to authorized credit limits. They both offer immediate confirmation of payment and can be used for accessing local and international networks and widely accepted in most countries. The underlying infrastructure and operational rules are often provided by global trusted schemes (such as visa and master card) in addition to local lines. Debit cards are the dominant card mechanism in Nigeria, they are also known as ATM cards and ATM usage is wider than POS transactions (Sathye, 2015).

5. **Automated Teller Machine (ATM):** This is an electronic machine that performs the function of dispensing cash or other banking services that may be required when a card holder inserts an authorized credit or debit card of a bank of which he or she is a customer. It also aids customers of financial institutions or intermediaries to perform the needed financial transactions such as withdrawal of cash, funds transfer or obtaining of account information, at any given point in time of the day without the need for direct interaction with a bank staff

6. **Point of sale (POS):** This is an electronic terminal/device used to process card payments by using a PIN usually at retail locations like filling stations, supermarkets, eateries, etc. It transfers funds from customer's accounts to the vendors' account usually called the merchant, records every transaction done and prints the needed receipt. The risk therein is such that if a card is stolen or collected under duress and is used on a terminal, the merchant is held liable as the transaction will be traced to that terminal. CBN also introduced a N50 charge recently on every POS transaction as well as stamp duty. These reduced the use of POS and made a lot of terminals inactive (Schiffman & Kanuk, 2019)

Deposit money banks (DMBs) are financial institutions licensed by regulatory authorities to mobilize deposits from the surplus unit and channel the funds through loans to the deficit unit and perform other financial service activities (Adesola, Ewa & Oko, 2019). DMBs are commercial banks other than the Central Bank. In Nigeria, DMBs include First Bank, Access Bank, Zenith Bank, Guarantee Trust Bank (GTB), Ecobank, UBA and many others. In the same vein, deposit money banks are the most important institutions for savings mobilization and financial resource allocation. Consequently, Dhikhary (2018) stressed that these roles make them occupy important positions in economic growth and development. In performing this role, it must be realized that banks have the potential, scope and prospects for mobilizing financial resources and allocating them to productive investments. Therefore, no matter the sources of the generation of income or the economic policies of the country, deposit money banks would be interested in giving out loans and advances to their numerous customers bearing in mind, the three principles guiding their operations which are, profitability, liquidity and solvency (Oriavwote & Eshenake, 2014).

Return on Asset (ROA) and Return on equity (ROE)

The conventional approach of determining return on asset (ROA) is to divide PAT by investment. Investment represents pool of funds supplied by owners (shareholders) and creditors (lenders), while PAT represents residue income of shareholders; as a result, it is conceptually unsound to use PAT in the computation of ROA. In addition, PAT is affected by capital structure. It is therefore more appropriate to use earnings before interest and tax (EBIT) (1-T) divided by total assets (TA) in determination of return on assets (ROA). While return on equity (ROE) can be determined by profit after tax divided total asset (Ibekwe, 2021).

ii. Asset Quality (AQ)

There are two components for asset quality; namely: nonperforming loans to total gross loans and sectoral distribution of loans. Nonperforming loans to total gross loans pointer shows the quality of assets created by the banking system. The numerator is the total value of loans that are overdue while the total value of the loan portfolio is used as the denominator. Loan include those financial assets created through the direct lending of funds by a creditor to a debtor through an

arrangement in which the lender either receives no security evidencing the transactions or receives a non-negotiable document or instrument. This can be calculated by dividing non-performing loan to total loan (NPL/TL). Is the ratio of non-performing loan divided by total loan or credit (NPTC); the tolerable limit is 10% stipulated by CBN (CBN, 2014). Sectoral distribution of loans reveals the level of credit concentration and/or diversification in the loan portfolio which may be a source of vulnerability to the financial system. The numerators are lending to each of the listed sectors while the denominator is total gross loan (Mustapha, 2018).

iii. Earnings per share (EPS)

This is the monetary value of earnings per outstanding share of common stock for a company. It is a key measure of corporate profitability and is commonly used to price stocks (Njogu, 2019). EPS information is required for the four major categories of the income statement: continuing operations, discontinued operations, extraordinary items, and net income. Preferred stock rights have precedence over common stock. Therefore, dividends on preferred shares are subtracted before calculating the EPS. When preferred shares are cumulative (i.e. dividends accumulate as payable if unpaid in the given accounting year), annual al dividends are deducted whether or not they have been declared. Dividends in arrears are not relevant when calculating EPS (Nwakoby, Sidi & Abomeh, 2018).

iii. Expenses to Revenue

The determination of expenses-revenue ratios can be divided into two parts, that is, non-interest expenses to gross income and personnel expenses to non-interest expenses; this is based on IMF nomenclature. A non-interest expense to gross income implies that the metric measures the size of administrative expenses to gross income (interest margin plus non-interest income). Non-interest expenses include all expenses other than interest expenses, but without provisions and extra-ordinary items. This indicator measures the size of administrative expenses within gross income (IMF, 2012 cited in Okonkwo & Ekwueme, 2022). Personnel expense to non-interest expenses is the IMF indicator use in determining the ratio of personnel expenses to non-interest expenses. This indicator accesses the proportion of personnel costs in total administrative costs. Personnel costs imply total remuneration payable by the banks in return for services rendered by the employees. This indicator has the tendency to undermine profitability.

Theory of Planned Behaviour (TPB)

The theory of planned behaviour (TPB) was developed by Ajzen in 1988. The theory posits that individual behaviour is driven by behaviour intentions, where behavior intentions are a function of three determinants: an individual's attitude toward behaviour, subjective norms and perceived behavioural control. Attitude refers to the degree to which a person has positive or negative feelings of the behavior of interest. Behavioural intention represents a person's motivation in the

sense of her or his conscious plan or decision to perform certain behaviour (Asidok & Micheal, 2018).

Nwakoby, Okoye, Ezejiofor, Anukwu, and Ihediwa (2020) investigated the relationship between electronic banking and deposit money bank profitability in Nigeria. Ex post facto research design was used in this study. From a population of 15 banks listed on the Nigerian Stock Exchange, a sample size of 9 deposit money banks in Nigeria was used. For the years 2009 to 2018, data was gathered from annual reports and accounts of the sampled banks, as well as CBN Statistical Bulletins. With the help of E-View 9.0, the study used regression analysis to examine the hypotheses. The study found that using an Automated Teller Machine (ATM) payment method has a negative impact on deposit money banks' return on equity in Nigeria, though this effect is not statistically significant; that Point of Sales (POS) payment method has positive effect on return on equity of deposit money banks in Nigeria and this effect is not statistically significant and that Mobile banking Payment (MPAY) has positive effect on return on equity of deposit money banks in Nigeria and this effect is statistically significant.

Akani and Obiosa (2020) examined the effects of financial innovation on the profitability of deposit money banks in Nigeria. the general purpose of the study was to examine the effect of financial innovation on the profitability while the specific objectives was to examine the effect of automated teller machine, electronic fund transfer, internet banking, mobile banking and investment on information communication technology on return on equity of deposit money banks. The study formulated four hypotheses and used panel data regression to analyze the secondary data extracted from the annual reports and accounts of the fourteen firms for the period 2009 to 2017. Return on equity was the dependent variables while automated teller machine, electronic fund transfer, internet banking, mobile banking and investment on information communication technology on return were the independent variables. Findings of the study revealed that automated teller machine and electronic fund transfer have negative relationship with return on equity while internet banking, mobile banking and investment on information communication technology have positive relationship with return on equity. The study recommends that deposit money banks should adopt financial innovations, deposit money banks invest in technological innovations and banks should transform banking service by adapting to mobile banking and agency banking so that not only to providing jobs but also increase market share.

Enoruwa, Ezuem and Nwani (2019) investigated the relationship existing between electronic banking and bank performance in Nigeria, the researchers adopted data from the secondary source. The researchers made use of regression analysis to verify the nature and strength of the relationship that exist between the explanatory and dependent variables. However, the performance of the Nigerian banking sector was proxied by Total Bank Deposit while transaction values of ATM

(Automated Teller Machine), MoB (Mobile Banking), POS (Point of Sales) and Web Pay were used as proxy for electronic banking. The researcher found out that the correlation results of electronic channel products (ATM, POS, Web pay, and Mobile Pay) are positively and significantly related to bank performance. The regression result also showed that all the predictors are highly correlated to each other.

Research Design

This study utilized quasi-experimental research design, which requires the examination of how an independent variable affects a dependent variable without manipulating the data used in the study. This explanation informs the choice of this design as it suits the core objective of this study. Using this design, the study attempted to correlate the impact of electronic banking on the performance of bank in Nigeria using two widely used proxies of return on asset (ROA) and earnings per share (EPS) for measuring bank performance. Besides, the various e-banking services provided by banks in Nigeria such as ATM, Point of Sale and Mobile Banking were used for measuring e-banking.

The population consisted of all the Deposit Money Banks in Nigeria.. The time frame considered for this study is from 2005 to 2020 (16-year period).

Data were sourced from the audited financial statements of deposit money banks quoted on the Nigerian Exchange Group (NEG) for 2005-2020. Furthermore, the study made use of the Nigerian Exchange Group Fact Book and theCentral Bank of Nigeria bulletin.

The data collected determine the type of tool to be adopted for analysis. This study used VAR techniques as a tool of analysis. ATM, POS and Mobile banking measured electronic banking, which is the independent variable and bank performance which is the dependent variable ROA and EPS of Nigerian deposit money banks listed on the Nigerian Stock Exchange (NSE). Therefore, the study has three independent variables and two dependent variables.

To test for the significance of the collective effect of the independent variables on each of the proxies of dependent variable in the model, F-statistics was employed, also the coefficient of determination (R^2) was used in ascertaining the extent of the effect or influence of the independent variables on the dependent variables. This study utilized 0.00-0.05 level of significance using F-statistics for the hypotheses test. The decision to accept or reject the null hypothesis was made based on the following rules: where the statistic from the test result falls within the significant region of 0.00-0.05, the null hypothesis was rejected with the alternative accepted. Otherwise, the null hypotheses were accepted and the alternative rejected

Data Analyses

This section places emphasis on the need to estimate, analyze and interpret the model already formulated. In addition, the hypotheses are also tested. Data collected on the proxies of the dependent and the independent variable. ATM, POS

and Mobile Banking while Return on Assets (ROA) and Earning Per Share (EPS) are proxies for performance which is the dependent variable.

Table 4.1 Data on Return on Assets (ROA) and Earning Per Share (EPS) of Deposit money bank for the period (2005-2020)

YEAR	EPS (%)	ROA (%)	ATM (N'B)	POS (N'B)	MOB (N'B)	LEPS	LROA	LATM	LPOS	LMOB
2005	50.2	1.85	502.06	85.98	6.59	1.700704	0.267172	2.700756	1.934397	0.818885
2006	55.7	1.61	544.23	24.13	5.24	1.745855	0.206826	2.735782	1.382557	0.719331
2007	296	3.89	558.76	64.55	9.36	2.471292	0.58995	2.747225	1.809896	0.971276
2008	312	3.95	832.55	35.15	6.82	2.494155	0.596597	2.92041	1.545925	0.833784
2009	465	3.92	548.6	11.03	1.27	2.667453	0.593286	2.739256	1.042576	0.103804
2010	473	3.91	399.71	12.72	6.65	2.674861	0.592177	2.601745	1.104487	0.822822
2011	505	0.04	1,561.74	31.02	18.98	2.703291	-1.39794	3.193609	1.491642	1.278296
2012	644	2.62	1,984.66	48.01	31.51	2.808886	0.418301	3.297686	1.681332	1.498448
2013	651	2.33	2,828.94	161.02	142.8	2.813581	0.367356	3.451624	2.20688	2.154728
2014	653	2.29	3,679.88	312.07	346.47	2.814913	0.359835	3.565834	2.494252	2.539666
2015	668	2.18	3,970.25	448.51	442.35	2.824776	0.338456	3.598818	2.651772	2.645766
2016	834	1.48	4,988.13	759	756.9	2.921166	0.170262	3.697938	2.880242	2.879039
2017	923	4.5	6,437.59	1,409.81	1,102.00	2.965202	0.653213	3.808723	3.149161	3.042182
2018	1014	4.22	6,480.09	2,383.11	260.59	3.006038	0.625312	3.811581	3.377144	2.415958
2019	1174	4.92	7,480.09	2,383.11	290.59	3.069668	0.691965	3.873907	3.377144	2.463281
2020	1180	5.85	502.06	85.98	309.89	3.071882	0.767156	2.700756	1.934397	2.491208

Source: 1. CBN statistical bulletin various edition

Excel computation (logged form and Normal Form)

Test for stationarity (Unit root test)
Having subjected ROA, ATM, POS, MPS to stationarity test Using Augmented Dickey-Fuller test statistics, the following results were obtained.

Table 4.3:   ADF Stationarity Test Result using P-value

Variables	Result @ Level	Result @ 1st Difference	Order of integration
ATM	0.4925	0.0024	I(1)
POS	0.4237	0.0001	I(1)
MPS	0.7652	0.0330	I(1)
LEPS	0.0742	0.0112	I(1)
ROA	0.0181	0.0003	I(1)

Source: Extracts from Appendix 1

Table 4.3 shows that the time series data collected for the five (5) variables are all stationary. The table reveals that only ROA is stationary at level and first difference while data for ATM, POS, MPS and EPS were all stationary at first difference. With this, we conclude that the time series data used in the analysis of

this study are all stationary and are therefore adjudged valid for the analysis; findings of the analysis are thus reliable for policy decisions.

Table 4.4:   Results of Coefficient of the VAR Estimate

@ 5% level of Significance	Model 1 (Eqn. 1) EPS	Model 2 (Eqn. 2) ROA
β_0	0.521831	-3.363581
β_1	0.486112	1.256591
β_2	-0.158529	0.510663
β_3	-0.027472	-0.826279
R^2	85%	83%
Durbin Watson Stat.	$2.21 \sim 2$	$1.56 \simeq 2$

Source: Extracts from Appendix

Table 4.4 shows that the intercept (β_0) of the first model is positive while the second model has a negative intercept of 0.521831 and -3.363581 for models 1 and 2 respectively. These indicate that when the independent (electronic banking) variables in each of the model are zero, the dependent variables (EPS, ROA) will be positive and negative respectively. The table also reveals that β_1 (the coefficient of the first independent variables) are all positive at 0.486112 and 1.256591 for the first and second models respectively. These indicate that the first independent variable (ATM) has a positive effect on each of the two dependent variables (ROA & EPS). However, the table also reveals that β_2 (the coefficient of the second independent variables) is negative in model one and positive in model two with the slope of -0.158529 and 0.510663 respectively. The implication is that the second independent variable (POS) exerts negative and positive relationship with the dependent variables EPS and ROA respectively. The table also revealed β_3 (the coefficient of the first independent variables) are all negative at -0.027472 and -0.826279 for the first and second models respectively. These indicate that the third independent variable (MPS) has a negative effect on each of the two dependent variables (EPS & ROA).

The table also reveals that changes in the independent variables warrant about 85% and 83% changes in EPS and ROA respective while the remaining 15% and 17% changes in EPS and ROA respectively are caused by other factors not captured in the study.

Based on the tests results as summarized in table 4.4, the hypotheses of the study are decided as follows:

Ho₁: Automated teller machine has no significant effect on their EPS.

From table 4.4 we find that p-value in respect of the first hypothesis is 0.1905 (i.e. p > 0.05); indicating an insignificant effect exists between independent variable (ATM) on EPS. The study thus holds the alternative hypothesis to be false and affirm that ATM has insignificant effect on the banks' EPS. On the other hand the

alternative hypothesis that ATM has significant effect on the banks' EPS stands rejected.

Ho$_2$:   Automated teller machine has no significant relationship on ROA.

Table 4.4 further reveals that the p-value in respect of the second hypothesis is 0.1855 (P > 0.05) which also suggests an insignificant effect of the independent variable (ATM) on the dependent variable (ROA). The null hypothesis is also accepted and the alternative rejected. We thus affirm that automated teller machine of DMBs in Nigeria has no significant effect on their Return on Assets.

Ho$_3$:   Point of sales has no significant relationship on the banks' EPS.

The results in respect of the 3rd hypothesis as revealed in the table 4.4 show that P-value is 0.2724 (i.e. P > 0.05); indicating an insignificant effect of the independent variable (POS) on the dependent variable (EPS). The study therefore accepted the assertion of the null hypothesis that POS has no significant effect on the EPS of the DMBs in Nigeria and consequently rejects the alternative that POS has significant effect on EPS of the DMBs in Nigeria.

Ho$_4$:   There is no significant relationship between the POS of DMBs in Nigeria and their ROA.

In deciding on the 4th hypothesis of this study, reference is made to table 4.4 which reveals that p-value is 0.2635; hence P > 0.05. By this, the null hypothesis which states that there is no significant relationship between POS activities of DMBs in Nigeria and their Return on Assets is accepted while the associating alternative hypothesis that a significant relationship exists between POS activities of DMBs in Nigeria and their ROA is rejected.

Ho$_5$:   Mobile Payment system has no significant effect on their EPS.

From table 4.4 we find that p-value in respect of the fifth hypothesis is 0.8385 (i.e. p > 0.05); indicating an insignificant effect exists between independent variable (MPS) on EPS. The study thus holds the alternative hypothesis to be false and affirm that MPS has insignificant effect on the banks' EPS. On the other hand, the alternative hypothesis that MPS has significant effect on the banks' EPS stands rejected.

Ho$_6$:   Mobile payment system has no significant effect on ROA.

Table 4.4 further reveals that the p-value in respect of the sixth hypothesis is 0.0694 (P > 0.05) which also suggests an insignificant effect of the independent variable (MPS) on the dependent variable (ROA). The null hypothesis is also accepted and the alternative rejected. We thus affirm that Mobile payment system of DMBs in Nigeria has no significant effect on their return on assets.

From the results analysis carried out in this chapter as summarized in tables 4.3 and 4.4; the following findings are made:

The finding from the analysis in relation to the first objective and hypothesis indicated that automated teller machine shows a positive insignificant effect on performance measured with Earnings per share. This shows that when the value of ATM is related with Bank Performance, it reveals a direct insignificant effect on the overall bank performance of deposit money banks.

The finding from the analysis in relation to the second objective and hypothesis indicated that automated teller machine shows a positive insignificant effect on performance measured with return on assets. This shows that when the value of ATM is related with Bank Performance, it reveals a direct insignificant effect on the overall bank performance of deposit money banks.

This finding agrees with Enoruwa, Ezuem and Nwani (2019) who reported that ATM had positive and significant impact on deposit money bank performance. On the contrary, the findings above do not support Nwakoby, Okoye, Ezejiofor, Anukwu and Ihediwa (2020) who reported ATM had a negative impact on deposit money bank performance. The finding is also contrary to the finding of Akani and Obiosa (2020) who stated that ATM have negative impact on returns on equity of deposit money bank.

The finding regarding the 3rd objective/hypothesis of this study reveals an insignificant negative effect exists between point of sales and their Earnings per Share of Deposit money banks. This implies that a percentage increase in the slope of POS has no potent effect on performance of deposit money banks.

With respect to the fourth objective & hypothesis of the study, point of sales revealed insignificant and positive relationship with the return on assets. This indicates that when the value of POS is related with the bank performance, it has no potential for improving the ROA of deposit money banks.

In relation to previous studies, the findings agree with Enoruwa, Ezuem and Nwani (2019) who stated that POS has positive and significant impact on performance of deposit money banks in Nigeria. The study also supports the finding of Siddik, Sun, Kabiraj, Shanmugan and Yanjuan (2019) who revealed that e-banking contributed positively to banks' performance initially but lagged in the long run. Ugbede, Yahaya and Edicha (2019) reported that POS increased the profitability of deposit money banks in Nigeria.

With respect to the fifth hypothesis and objective of the study, mobile payment system revealed insignificant negative effect with earning per share of deposit money banks performance. This implies that mobile payment system has no impact on deposit money banks performance measured with earning per share.

The final hypothesis and objective of the study shows an insignificant negative relationship between mobile payment system and return on assets of deposit money banks in Nigeria. This implies that a percentage increase in the slope of MPS result to an inverse effect on the performance of deposit money banks measured with return on assets in Nigeria banks.

This finding agrees with Agu and Nwankwo (2019) who stated that mobile banking has positive insignificant impact on performance of Deposit Money Banks in Nigeria.

Summary of Findings

1.   There is positive and insignificant relationship between ATM and EPS of deposit money banks in Nigeria
2.   There is a positive and insignificant effect of ATM on ROA of deposit money banks in Nigeria.
3.   There is negative and insignificant relationship between POS and EPS of deposit money banks in Nigeria.

Conclusion

Based on the major findings, the following conclusions were drawn: e-banking has a positive and significant relationship with performance of deposit money banks in Nigeria. Therefore, a positive change in e-banking affects the performance of deposit money banks in Nigeria positively. This aligns with the work of Latifat & Azeez (2015) and Mohammed (2007) that showed a positive relationship between dividend policy and performance of deposit money banks in Nigeria. This conclusion agrees with Enoruwa, Ezuem, and Nwani (2019) who reported that electronic channel products are positively and strongly associated to bank performance, according to the correlation results.

Recommendations

Findings of the study showed that e-banking has positive effect on performance of Deposit Money. Therefore, the following were made:

1. Banks should encourage their customers to key into e-banking by helping them to acquire basic skills for mobile banking.

2. Automated teller machines should be located in strategic locations in towns and cities, local government areas and rural areas so as to ease banking transactions, reduce cost and prevent the risk of carrying cash at long distance by their customers.

3. Deposit money banks should collaborate with Telecommunication network providers and security agents to checkmate and prosecute hackers and other internet fraudsters so as to reverse the negative effect of mobile payment on deposit money banks' financial performance in Nigeria.

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