Review Article

Technological Development and Banks Performance in Nigeria

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Abstract

The study Investigates empirically the Impact of technological development on deposit money banks' performance in Nigeria using annual lime series covering a period of 13 years, which is between 2009 Ql and 2021 Q4. To accomplish this objective, descriptive statistics, the unit root test, and Toda- Yamamoto modelling techniques were adopted for the analysis. The study shows that the number of points of sale does not affect deposit money banks' performance; and the number of mobile payments does not affect deposit money banks' performance in Nigeria, but the number of automated teller machines enhances deposit money banks Performance. The study therefore concludes that technological development enhanced deposit money banks' performance in Nigeria within the period of study. The study recommends that efforts be made to improve the efficiency of ATM service delivery in the country. There is a need to always fund the machines to ease transactions and prevent the risk of customers carrying cash over long distances to banks.
Keywords: Technological Development, Deposit money bank.

1. INTRODUCTION

The place of technology in enhancing the performance of deposit money banks cannot he over emphasized. This is an indication of the importance of technological development for busmen establishments (Luka and Frank. 2012). Banks in particular adopt information and communication technology to improve the efficiency and effectiveness of services offered to customers, improve business processes, and enhance managerial decision-making and workgroup collaborator helps strengthen their competitive positions in rapidly changing or emerging economies. Environmental, organisational, and technological factors are creating a highly competitive business environment in which customers are the focal point. Furthermore, these factors can change quickly, sometimes unpredictably (Oyekola, 2018). Thus, the growth of any enterprise is tied to retaining loyal customers, improving productivity, cutting costs, increasing market share, and providing timely organizational response. IC'T is a major enabler for dealing with these issues. Because the pace of change and the degree of uncertainty in today's competitive environment are accelerating geometrically (Oyekola, 2018), Despite the rapid and growing adoption of information technology tools to improve banking operations through the use of SMS, the Internet, online banking, and real-time gross settlement, Nigerian banks are still facing a lot of challenges in their operations so as to increase their productivity, enhance the quality of service delivery, and also minimize the average operating cost and time (Binugo and Aregbeshola, 2014).

Technology affects all processes associated with modern-day banking. From the daily routines of preparing payroll and order entry to strategic activities such as the acquisition of a company, technology surfaces as a key element. In view of the importance of technology in the banking industry, a number of research projects have been carried out. Despite the obvious benefits attributed to the electronic payment method in Nigeria, it has not come without some challenges. One of the major challenges negating electronic payment methods in Nigeria is the tendency of fraudsters to clone ATM cards and hack into bank depositors' accounts (Shehu & Ogare 2013). This development is underscored by contemporary advancements engineered by the knowledge economy^ It is also Important to state that modern banking in Nigeria is driven by the outputs of robust local and global research and development. It is in an effort to establish the prevailing trend in the adoption of technology in the operations of Nigerian deposit money banks that the researcher has chosen this topic in order to find out the impact on the financial performance of the deposit money banks.

In line with the above, successive governments in Nigeria have shown efforts over the years to enhance

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the performance of deposit money banks in Nigeria by establishing supportive policies. According to Alalade *et al.,* (2020), prior to the introduction of the Structural Adjustment Programme (SAP) in the mid-1980s, the monetary policy framework placed emphasis on direct monetary controls; in the SAP and post-SAP eras, a regime of the Short-Term Monetary Policy Framework (1986-2001) with broad objectives of monetary policy, a number of monetary targets and instruments were adopted during the short-term (one-year) monetary policy framework. The 1986 reform also introduced e-money into Nigeria's banking lexicon. The regime of the Medium- Term Monetary Policy Framework (2002-2005), in which the CBN commenced a two-year medium-term monetary policy framework aimed at freeing monetary policy from the problem of time inconsistency and minimising overreaction due to temporary shocks; the monetary policy; the Post-Banking Consolidation (2006-2007) era; and more.

Also, several studies using various measures to investigate the nature of the effects of technological development, on the performance of deposit money banks in different countries have provided mixed results. The scholars on the extreme right, such as Andabai and Bina (2019), Jingqin *et al.,* (2019), Jemeli and Caroline (2019), Ndubuisi-Okolo and Chukwemeka (2020), Abdulmalik and Lamino (2021), Bestman and Gwarah (2021), Akwarn and Yua (2021), and more, found that technology or technological development positively affected the performance of deposit money banks of countries; others, like Ibenta and Anyanwu (2017), Henry and Ruth (2020), Akani and Tony-Obiosa (2020), and more, posit that technology or technological development negatively affected the performance of deposit money banks of countries. However, despite irresistible benefits attributable to technology or technological development like electronic banking, there has been a serious and uncontrollable lamentation from members of the public and bankers about its shortcomings that hinder banking operations in that if nothing is done to curtail the excesses, it might hinder the progress of banks (Madugba *et al.,* 2021). According to Mohammad and Saad (2011), poor ^networking conditions have also posed a great threat to successful e-payments systems businessmen now prefer cash transactions to electronic payments owing to the fact that such payments do not reflect on their accounts instantly and therefore do not conform to the business principle of cash and carry, and this has exposed customers to great dangers like armed robbery, etc. On the other hand, the government also loses income from a transaction that would have been accrued to them as a tax, and the bank also loses income that could have been accrued to them as a result of a fee for such a transaction.

It's against this backdrop that the study intends to investigate the effect of technology on the performance of deposit money banks in Nigeria for the period that spans from 2009 Q1 to 2020 Q4.

2. LITERATURE REVIEW

Technological development

Technological development is any invention and product innovation that enables a new good or product to be produced and a process innovation or method that enables an existing good to be produced at a lower cost as a result of the increase in the efficiency of the factors used in its production. The term "technology" in the banking sector refers to the use of sophisticated information and communication technologies together with computer science to enable banks to offer better services1 to their customers in a secure, reliable, and affordable manner and sustain a competitive advantage over other banks. According to Babarinde *et al.,* (2022), technology that aids the performance of the banking sector is the electronic mode, which involves payment through the following means: ATM, POS, Web Pay, Mobile Pay, NIP, NEFT, m-Cash, E-BillsPay, Remita, NAPS, and Central Pay, etc. In this study, ATMs, POS, and mobile payments will be used as technological developments.

Deposit Money Banks

Deposit money banks are the most important savings, mobilisation, and financial resource allocation institutions. Consequently, these roles make them an important phenomenon in economic growth and development. In performing this role, it must be realised that banks have the potential, scope, and prospects for mobilising financial resources, allocating them to productive investments, and, in return, promoting their performance. Therefore, no matter the sources of income generation 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 (Adolphus, 2011). In this study, deposit money performance will be measured in terms of financial ratios such as efficiency ratio, profitability ratio, capital adequacy ratio, income-expenditure ratio, deposits, and return ratios. Lucco (2021) has identified 17 key performance indicators (KPls) that every bank should tracko Ponraj and Rajendean (2012).

Theoretical Literature Agent Theory

This theory arose from Arrow's pioneering work in 1974, and it clarifies the conflict of interest that can emerge from a principal-agent contract due to the agents' secret characteristics, motives, and behaviours, which the principal cannot know with certainty. The principal is an individual, organization, or institution that hires another to act on their behalf, whereas the agent is the person, organization, or institution that is hired to perform the task in question (in this case, loan recipients). This principle is particularly important in this

study because access to credit might not be accompanied by a willingness to repay the loan, leaving the borrower with no way of knowing whether or not the loan will be repaid. However, it is important to note that the information asymmetry associated with agency theory inhibits the smooth flow of financial inclusion. On the part of the principal (the financial institutions), the agent (the rural farmers) bears the greatest risk due to a lack of information about the realities on the field. The risk may stem from inadequate documentation of farm operations, a poor identity system, the instable residential status of the agent, seasonal changes, and a lack of suitable collateral. Thus, there is a fear that the rural farmer will default. That notwithstanding, microfinance institutions are more likely to advance credit facilities to rural farmers in Africa (Belek & Jean Marie, 2020). Furthermore, these microfinance institutions provide credit at a high cost. In reality, according to a study by Belek and Jean Marie (2020), rural farmers who receive financial assistance from microfinance institutions have a technical efficiency of 0.68% lower than non-beneficiaries, who have a technical efficiency of 0.72%. The high cost of financial services deters some rural farmers from using them, limiting financial inclusion.

Empirical Literature

Ibenta and Anyanwu (2017) evaluated the relationship between financial innovation and bank efficiency and the impact of financial innovation on the efficiency ratio of deposit money banks in Nigeria from 2006 to 2014. The secondary data covering the study period were sourced from the Central Bank of Nigeria statistical bulletin. The unit root test was performed to ensure that the variables were free from stationarity defects linked with almost all-time series data due to the nature of the data they were generated. A multiple regression model was developed and estimated to evaluate the relationship among the variables concerned. The finding reveals that the value of transactions on automated teller machines (ATM) and point of sale (POS) is negatively related to the efficiency ratio, while web/internet and mobile banking are positively related, but only that of web/internet was significant. "The greater impact assessment depicted that financial innovation products reflected by the value of transactions on ATMs, web/internet, POS, and mobile banking have no significant impact on the efficiency ratio of deposit money banks in Nigeria. However, there was evidence that bank efficiency ratios exerted a significant impact on the value of transactions at ATMs.

Odibr and Banuso (2018) carried out a study in Nigeria and observed that 68.2% of the respondents complained about long queues in the bank, 28.9% complained of the bad attitude of teller officers (cashiers), and 2.89% complained of the long distance of bank locations to their home or work places. Likewise, in her 24th NCS national conference in December 2011, CBN data shows that 51 % of withdrawals done in Nigeria were through automated teller machines (ATM), while 33.6% were through over-the-counter (OTC) cash withdrawals and 13.6% through cheques. Payment was also done through the point-of-sale machine (POS), which accounted for 0.5% and 1.3%, respectively.

Ugwueze and Nwezeaku (2018) examined the nexus between financial innovation and bank efficiency as well as the impact of financial innovation on the efficiency ratio of deposit money banks in Nigeria from 2006 to 2014. The secondary data covering the period of the study were sourced from the Central Bank of Nigeria statistical bulletin. The unit root test was performed to ensure that the variables were free from stationarity defects linked with almost all time series data due to the nature of the data they were generated. Edwin and Adele-Louise (2018) investigated the extent of the adoption and usage of mobile phone banking services among banking customers in Nigeria and the associated problems. Mobile phones are now ubiquitous and a standard aspect of daily life for a large percentage of the world population.

Andabai and Bina (2019) examined the impact of cashless policy on deposit money banks performance in Nigeria for the period 2000-2018. Secondary data were used and collected from the Central Bank of Nigeria Statistical Bulletin. This study used automated teller machines (ATM), point-of-sale (POS), and mobile banking (MB) as the explanatory variables to measure cashless policy, whereas the return on assets of deposit money banks was a proxy for deposit money bank performance and employed as a dependent variable. Hypotheses were formulated and tested using Ordinary Least Squares (OLS). There is a significant impact of automated teller machine transactions on the return on assets of deposit money banks in Nigeria. Point-on-sale terminal transactions have a significant impact on the return on assets of deposit money banks in Nigeria. Electronic mobile payments have a significant impact on the return on assets of banks in Nigeria. The coefficient of determination indicates that about 47% of the variations in bank profitability can be explained by changes in cashless policy variables (ATM, POS, and MB) in Nigeria. The study concludes that cashless policy has a significant impact on deposit money banks performance in Nigeria. The study recommends that policymakers should ensure effective deployment of information technology due to its sophistication since the technology has a perceived relative advantage. Policymakers and regulatory authorities should be able to provide security by physically and electronically checking the incidence of hacking by fraudsters. The management deposit money banks should from time-to-time train customers with regard to electronic banking benefits, its risk exposure, and physical and electronic security to avoid financial loss in the hands of fraudsters. The operators should educate their customers on the

convenience and importance of adopting a mobile banking channel for completing their transactions.

Jingqin *et al.,* (2019) examined the impacts of financial innovation on banks' profitability and performance through electronic banking services in Africa from 2015 to 2018. The study employed the dynamic panel data method and GMM estimations. The results show that bank cards and ATMs positively affect banks' financial performances, except POS and internet banking. More importantly, the profitability of most banks in African developing countries affects the percentage of ATMs per number of branches and is highly important.

Jemeli and Caroline (2019) investigated the effect of financial innovations on the financial sustainability of MFIs in Eldoret town, Kenya. The study used primary data through the use of research questionnaires. The study used a census research design since it consents to the use of questionnaires^ to be completed by the respondents involved in the study and helps present constructive' and precise information. The study narrowed its research to MFIs found in Eldoret town, and the accessible population for the study was 120 employees working in 15 MFIs in Eldoret town. Protesting of research instruments was conducted before the main study was conducted in order to determine if the research instruments were reliable. Inferential statistics used were Pearson's product-moment of correlation and multiple regression analysis. The study's findings indicated a positive and significant effect of financial innovations on the financial sustainability (performance) of MFIs in Eldoret town, Kenya.

2. Methodology Model Specification

The model specification of this study is based on the works of Akani and Tony-Obiosa (2020) who examined the effect of financial innovations on the profitability of deposit money banks in Nigeria modelled:

$$ROE = f(EFT, IB, MB, ATM, INT) \qquad (3.1)$$

Where;
ROE = Return on Equity
ETR= electronic fund transfer
IB = internet banking
MB = Mobile banking
ATM = Automated teller machine
INT = Investment in technology

However, the present study deviates from these studies by looking at the effect of technological development on the performance of deposit money banks in Nigeria by using returns on equity, return on assets and return of capitals while Number of Automated Teller Machine (ATM), Number of Point of Sale (POS) and Number of Mobile Pay (MPY) will be used to proxy technological development as the explanatory variables.

The functional relationship of model one shall be stated as:

$$ROE = f(ATM, POS, MPY, EXR) \qquad (3.2)$$

The mathematical form of the model or equations (3.3) takes the form of;

$$ROE_t = \beta_0 + \beta_1 ATM_t + \beta_2 POS_t + \beta_3 MPY_t + \beta_4 EXR_t \qquad (3.3)$$

The linear econometric form of the model or equations (3.4) takes the form of;

$$ROE_t = \beta_0 + \beta_1 ATM_t + \beta_2 POS_t + \beta_3 MPY_t + \beta_4 EXR_t + \mu_{t1} \qquad (3.4)$$

Where;
ROE = Return on equity
ROA = Return on Assets
PPR = Profitability Ratio
ATM = Number of Automated Teller Machine
POS = Number of Point of Sale
MPY = Number of Mobile Pay
EXR= Exchange Rate
β_0 is the intercept
β_1 - β_6 are the coefficients of independent variables while μ_1 is the error terms.
t = Time period
ATM, POS, MPY are as earlier defined while exchange rate entered the money as the control variable.

Estimation Techniques

The study is an empirical estimation of the effect of technology on the performance of deposit money banks in Nigeria for the period, which spans from 200 Q1 to 2022 Q4. The time series data are subjected to a stationarity process to ascertain the characteristics of the data, and the pretest season determines the appropriate method of estimation that will be adopted. The data for this study are mainly annual time series collected from secondary sources covering a period of thirty- nine years, from 2009 Q1 to 2020 Q4. Some of these sources include publications of the Central Bank of Nigeria's (CBN) statistical bulletin, annual report, and statement of accounts.

	PPR	EXR	ATM	POS	MPY	ROA	ROE
Mean	48.00981	244.7988	5.46E+08	1.49E+08	1.02E+08	1.902643	12.5745
Median	49.38500	215.8588	4.92E+08	44968784	45103321	2.0355	12.84
Maximum	63.21000	474.9600	8.76E+08	4.39E+08	3.77E+08	2.999	21.618
Minimum	30.43000	148.8800	60133610	918256.0	1156533.	0.217	1.634
Std. Dev.	8.877562	96.113 65	2.76E+08	1.70E+08	1.23E+08	0.674827	4.289666
Skewness	-0.538837	0.600843	-0.172170	0.622637	0.973451	-0.58449	-0.50757

	PPR	EXR	ATM	POS	MPY	ROA	ROE
Kurtosis	2.349568	2.157150	1.608400	1.596637	2.243275	3.867585	4.65766
Jarque-Bera	3.432958	4.667964	4.452760	7.626959	9.453293	4.944864	8.816182
Probability	0.179698	0.096909	0.107918	0.022071	0.008856	0.084379	0.012178
Sum	2496.510	12729.54	2.84E-10	7.75E+09	5.29E+09	106.548	704.172
Sum Sq. Dev	4019.366	471129.6	3.87E+18	1.47E+18	7.71E+17	25.04655	1012.068
Observations	56	56	56	56	56	56	56

Estimation Techniques

The descriptive test shows that, the mean values of 48.00981, 244.7988, 5.46E+08, 1.49E+08, 1.02E+08, 1.902643 and 12.5745. The median values are 49.38500, 215.8588, 4.92E+08, 44968784, 45103321, 2.0355, and 12.84. The skewness values show that, all the variables has negative skewness except POS and MPY. The kurtosis values of 2.349568,2.157150, and 2.243275 indicates that, PPR, EXR and MPY has a normally distributed residuals (mesokurtic) while others does not. The probability values of the jarques-Bera statistics shows that, while some variables have a normally distributed residuals others do not.

Stationarity Test:

Unit Root Test Results Variables ADF	ADF at Level	ADF at 1st Difference	ADF at 2nd Difference	Status	Remarks
ROE	-5.700964	-	-		Stationary
PPR	-2.916677	-2.332923	-6.490777		Stationary
ROA	-7.665015	-	-		Stationary
LOG(EXR)	0.286895	-1.811928	-7.151661		Stationary
LOG(ATM)	-1.532221	-3.188673	-		Stationary
LOG(POS)	-1.827792	-3.060494	-		Stationary
LOG(MPY)	-1.271948	-4.263528	-		Stationary
Critical Values					
1% level	-3.568308	-3.581152	-3.581152		
5% level	-2.921175	-2.926622	-2.926622		
10% level	-2.598551	-2.601424	-2.601424		

Unit Root Test Results KPSS Variables	ADF at Level	ADF at 1st Difference	ADF at 2nd Difference	Status	Remarks
PPR	0.553741	0.085268	-		Stationary
ROE	0.763281	-			Stationary
ROA	0.446898	-			Stationary
EXR	0.922867	0.510033	0.124990		Stationary
ATM	0.838297	0.151334	-		Stationary
POS	0.939268	0.367889	-		Stationary
MPY	0.925238	0.104826	-		Stationary
Critical Values					
1% level	0.739000	0.739000	0.739000		
5% level	0.463000	0.463000	0.463000		
10% level	0.347000	0.347000	0.347000		

Source: *Author's computation (2023)*

The outcomes of the unit root test in Table 4.3 using ADF reveal that ROA is stationary at level 1(0), ATM, POS, and MPY are stationary at the first difference, i.e., 1(1), while EXR is stationary at the second difference, i.e., 1(2). Hence, this study concludes that the variables used in the model were integrated in different order, that is, 1(0), 1(1), and 1(2). The result of the KPSS presented in Table 4.4 reveals that ROA was stationary at level while ATM, POS, and MPY were stationary at first difference, i.e., 1(1), and EXR was stationary at second difference, i.e., 1(2). Hence, this study concludes that the variables used in the model were integrated with different order integrations, that is, 1(1), and 1(2). Since the ADF results indicate that the series are of different order of integration, we proceed to conduct co-integration and then the Tado Yamamoto modelling technique.

Lag Order Selection
Included observation: 52

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-432.5737	NA	14.01876	16.82976	17.01738	16.90169
1	-111.5310	567.9986	0.000160	5.443501	6.569218*	5.875074
2	-71.89331	62.50561	9.36e-05	4.880512	6.944328	5.671730
3	-60.02076	16.43893	0.000166	5.385414	8.387327	6.536276
4	2.337318	74.35001*	4.55e-05*	3.948565*	7.888576	5.459072*

An important preliminary step in model building and estimating the Tado Yamamoto model is the selection of the lag order. In this study we use some commonly used lag-order selection criteria to choose the lag order, such as the "Akaike information criterion (AIC)", "Schwartz criterion (SC)", "Hannam-Quinn criterion (HQC)" and "final prediction error (FPE)" to determine the optimum lag and then analyze the residuals.

Toda Yamamoto 1995 Test
Dependent variables: LOG(ROA)

Excluded	Chi-sq	df	Prob.
LOG(ATM)	10.94867	2	0.0042
LOG(POS)	0.664701	2	0.7172
LOG(MPY)	4.852942	2	0.0883
EXR	1.287011	2	0.5254
All	21.94728	8	0.0050
Dependent variable: LOG(ATM)			
Excluded	Chi-sq	df	Prob.
LOG(ROA)	0.194867	2	0.9072
LOG(POS)	6.340164	2	0.0420
LOG(MPY)	1.302994	2	0.5213
EXR	0.362726	2	0.8341
All	10.89709	8	0.2076
Dependent variable: LOG(POS)			
Excluded	Chi-sq	df	Prob.
LOG(ROA)	20.13809	2	0.0000
LOQ(ATM)	5.009140	2	0.0817
LOG(MPY)	2.1491088	2	0.3415
EXR	3.862031	2	0.1450
All	46.47641	8	0.0000
Dependent variable: LOG(MPY)			
Excluded	Chi-sq	df	Prob.
LOG(ROA)	31.71386	2	0.0000
LOG(ATM)	4.073355	2	0.1305
LOG(POS)	2.070364	2	0.3552
EXR	3.299169	2	0.1921
All	38.57555	8	0.0000
Dependent variable: EXR			
Excluded	Chi-sq	df	Prob.
LOG(ROA)	0.121956	2	0.9408
LOG(ATM)	0.051349	2	0.9747
LOG(POS)	0.420797	2	0.8103
LOG(MPY)	0.342732	2	0.8425
All	2.038507	8	0.9798

In the return-to-assets equation, a unidirectional causality exists between ATM and ROA. Therefore, there is a greater causality running from ATM to ROA in the long run. The reason for this conclusion is based on the significant disposition of the ATM probability value of 0.0042 at 5%. Hence, we assert that there is a one-way strong association or relationship between the use of ATMs arid returns tin assets in Nigeria for the period that spans from 2009 Q1 to 2022 Q4. Contrary to the above, the probability values of other variables were insignificant at 5%. This implies that there is no causality of any kind among the variables.

In the second equation, where ATM is the dependent variable, the coefficient of POS is significant at 5%. Meaning that there is a causality running from POS to ATM since the probability of 0.0420 is less than the threshold of 5%. Hence, there is a unidirectional causality running from POS to ATM in Nigeria for the period of study. Contrary to the above, there is no significant relationship among other variables in the model with the dependent variable since their probability values are insignificant at 5%.

In the third equation, where POS is the dependent variable, the coefficient of ROA is significant at 5%. Meaning that there is a unidirectional causality running from ROA to POS in Nigeria over the study period, which spans 2009ql to 2022q4. The one-way causality implies that ROA granger causes POS in Nigeria. This assertion is premised on the fact that the probability value of 0.0000 is less than the threshold of 5%. Hence, we assert that the rise in investment expectations for a positive return on their capital invested causes a drastic rise in the use of POS in Nigeria over the study period.

In the fourth equation, where e-banking (MPY) is the dependent variable, the coefficient of return on assets is significant at 5%. Meaning that there is a significant relationship between MPY and ROA in Nigeria for the period of the study. Hence, a one-way or unidirectional causality exists between ROA arid MPY in Nigeria. This conclusion is premised on the fact that the probability value of 0.0000 is grossly insignificant at 5%. Other variables in the model have insignificant probability values and, as such, do not significantly affect the dependent variable in Nigeria.

4. SUMMARY OF FINDINGS

The study examined the effect of technological development on the performance of deposit money banks in Nigeria from 2009Q1 to 2021Q4. In other to achieve our objectives, annual time series data of the dependent variable returns on asset (ROA), returns on equity(ROE) and profitability ratio (PPR) while Number of Automated Teller Machine (ATM), Number of Point of Sale (POS) and Number of Mobile Pay (MPY) were used to proxy technological development in the banking industry - independent variables while exchange rate (EXR) served as the control variable in the model. This data were collected from secondary sources and analyzed using the Toda-Yamamoto modeling technique computed on the basis of K+DMAX.

The summary of the findings of this study on the basis of which appropriate policy recommendations were proffered can be summarized as follows:
- exchange rate do not encourage profitability ratio in Nigeria.
- number of Automated Teller Machine do not enhance profitability ratio in Nigeria.
- number of Point of Sale does not improve profitability ratio in Nigeria.
- number of Mobile Pay does not improve profitability ratio in Nigeria.
- number of Automated Teller Machine enhance returns on asset in Nigeria
- number of Automated Teller Machine enhance returns on equity in Nigeria

CONCLUSIONS

The study investigates empirically the impact of technological development on deposit money banks' performance in Nigeria using annual time series covering a period of 13 years, which is between 2009Q1 and 2021Q4. To accomplish this objective, descriptive statistics, unit root test, and Toda-Yamamoto modeling techniques were adopted for the analysis. The study shows that, technological developments affects deposit money bank performance through it effects on returns on assets and returns on equity of investors in the stock market. The study therefore concludes that technological development does enhance deposit money banks' performance in Nigeria within the period of study.

Recommendations
1. Bank management should ensure that capital is properly channeled to the productive sector of the economy.
2. Deposit money banks should keep adopting and using mobile banking in their operations because the number of people with access to a mobile handset is increasing every day.
3. There is need to always fund the machines to ease transactions and prevent risk of carrying cash at long distance by customers of banks.
4. Financial institutions should intensify on the internet banking and ensure ample internet securities are acquired to protect customers' accounts against threat of system intrusion by hackers.

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