EAST AFRICAN FINANCE JOURNAL (EAFJ)
Volume 5 Issue 1 |2026 | pp 107-118

E-ISSN: 2959-9121

Impact of Digital Financial Services Innovation on the Performance of Deposit Money Banks in Nigeria, 2012 to 2024

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Article DOI: *10.59413/eafj/v5.i1.9*

Abstract:

The main objective of the study was to investigate the impact of digital financial services innovations on the deposit money banks in Nigeria within the period of 2012 to 2024. Specifically, the study aims to examine the impact of the volume of Automated Teller Machine (VATM) digital financial services innovation on Return on Asset (ROA) in Nigeria; evaluate the impact of the volume of Point of Sales (VPOS) digital financial services innovation on Return on Assets (ROA) in Nigeria; investigate the impact of the volume of mobile-based (VMOB) digital financial services innovation on Return on Asset (ROA) in Nigeria; and assess the impact of the volume of web-based (VWBP) digital financial services innovation on Return on Asset (ROA) in Nigeria. This study, conducted for the period from 2012 to 2024, utilized the ordinary least squares regression method to investigate the impact of digital financial services innovation on the performance of deposit money banks in Nigeria. Secondary data were sourced from the Central Bank of Nigeria's Statistical Bulletin and Statistics and Economic Reports for various years. Empirical findings revealed that the volume of ATM, POS, mobile-based, and web-based digital financial services innovation had a favorable and critical impact on the deposit money banks in Nigeria. Consequently, the study concluded that digital financial services innovation contributes to enhancing deposit money banks in the country. To promote further growth in the deposit money banks, the study recommends expanding the deployment and usage of digital finance channels such as the volume of ATM, POS, mobile-based, and web-based channels, encouraging their utilization for financial services innovation by participants.

Keywords: Innovation, Digital, volume of web -based OLS, ROA

1. Introduction

Just before the emergence of ICT means of exchange, the Nigerian remittance system was mainly through the usage of cash with little use of cheques. The old method of remittance was given through cheques, while electronic method entails remittance through ATM, POS, web pay, mobile pay etc. (Babarinde et al, 2024).

The Nigerian population discovered that digital finance has come to stay as from 2012 when the Nigerian populace discovered digital finance had come to stay, and the attendant gains, the old method of remittance

 E-ISSN: 2959-9121

started declining. The value of usual method of remittance (cheque-based transaction) went down seriously from 97.86 per cent in 2009 to 2.61 per cent in 2019; while the digital form of remittance went so high from 2.14 per cent in 2009 to 97.39 per cent in 2019. For that particular reason the total of 167,014.33 billion Naira were paid through the electronic means in the 2019 while the old method only accounted for 4481.67billion Naira of the total of 171,496.00 billion Naira paid (Babarinde et al, 2024).

Information and Communication Technology has been a facilitator to the provision of financial transaction since man have learn to accept the ICT in their financial affairs. The newest of particular importance is digital technology and its application to the financial services sector.

As a matter of fact, digital financial services are done by both banks and non-bank financial organizations. Digital finance, has found to expand the position of financial services innovation. Digital technologies also offer cheap and ease to consumers of financial services to prevent, make remittances, access credit, and obtain insurance. Due to the gains of internet-based digital technologies, some developing countries newly moved for the acceptance of digital economy by enhancing capital flows from rich to the poor countries (Okoyeuzu & Isa, 2020).

The 2007 to 2009 global financial crisis served as a stimulant to the use of digital financial services method by financial institutions in their financial deals like processing of cross border remittance, management of customer's account (Ozili, 2023).

The growth in digital financial services innovation in Nigeria and the level to which digital finance affects the DMBs has been unclear (Igoni et al., 2021).

Also, Ozili (2020) checked the digital financial services in US, UK, India and Nigeria and shows that Nigeria has more debit card usage than India while India has higher credit card usage than Nigeria.

Therefore, the main purpose of the study was to ex-ray the position of digital financial services innovation on the performance of Deposit Money Banks in Nigeria within the period, 2012 to 2024

In specific terms, the study sought to:

- Examine the impact of volume of Automated Teller Machine (VATM) digital financial services innovation on ROA of DMBs in Nigeria
- Evaluate the effect of volume of Point of Sales (VPOS) digital financial services innovation on ROA of DMBs in Nigeria;
- Investigate the impact of volume of mobile-based (VMOB) digital financial services innovation on ROA of DMBs in Nigeria;
- And assess the impact of volume of web-based (VWBP) digital financial services innovation on ROA of DMBs in Nigeria.

Statement of Hypothesis.

- Volume of Automated Teller Machine digital financial services innovation did not have favourable and critical impact on ROA of DMBs in Nigeria;

- Volume of Point of Sales digital financial services innovation did not have favourable and critical impact on ROA of DMBs in Nigeria;
- Volume of Mobile-based digital financial services innovation did not have favourable and critical impact on ROA of DMBs in Nigeria; and
- Volume of Web-based digital financial services innovation did not have favourable and critical impact on ROA of DMBs in Nigeria.

2. Literature Review

2.1 Conceptual Review

Digital Financial Services

Digital financial services are those services utilized by customers through digital technology such as e- money, digital wallet and digital payment (https://www.digitalfinance.worldbank.org, 2026)

Pazarbasioglu et al., (2020), stated that digital financial services are the financial services that are based on digital technologies for delivery and use by customers. Digital financial services in developing countries enables individuals with limited access to financial services to access these services using their mobile phones at their convenience and without going to the physical bank.

Pazarbasioglu et al. (2020), further stated that nations with more sharp financial systems shows speedy of economic growth and more reduction in inequality and poverty gaps. Digital financial services reduce business costs by encouraging transaction pace, security, and openness and encourage a more solid financial services to the gains of the poor (Pazarbasioglu et al., 2020).

Automated Teller Machine (ATM): This is an electronic device which gives the individuals of a financial institution with opportunity to financial performance in an open pace without help from a human clerk or bank staff. It is a computer managed system which gives away and render other services to individuals who know them with a personal identification number (PIN). The gains of ATM to a bank are a very important channel that attract and retain more customers, improve cash in a customer's hands, render simple service for customers, reduces the amount of bad cheques, saves lots of unknown costs etc (Appah & Inini, 2019).

Point of Sales (POS): This is a services machine used to conduct retail transaction, a checkout counter in a shop, or the location where a transaction occurs. It is a computer facility in stores that permit a customer to instantly pay for goods and services electronically by deducting the cost of each purchase directly from a customer's account.

Mobile Banking: This is provision and av ailment of banking and financial services with the help of mobile telecommunication devices (Agu, 2025)

Appah and Inini (2019), mobile banking refers to the provision of banking and financial services with the help of mobile telecommunication devices. It is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such a mobile phone. It is a term used for performing balance checks, account transactions, payments, etc. via a mobile device such as the mobile phone.

Web Banking: This is an online platform through which customers of the bank can get their account and financial transactions using the internet. Customers can view account, transfer funds between sister accounts, invest in a tenor deposit, confirm cheque issued and transfer funds in favour of third party (Appah & Inini,

 E-ISSN: 2959-9121

2019). It uses the electronic card infrastructure for executing payment instructions and final settlement of goods and services over the internet between the trader and the customer.

Return of Asset

Return on Assets (ROA) is a financial metric that measures a company's profitability in relation to its total assets, indicating how efficiently management is using its assets to generate profit. The formula is ROA = Net Income / Average Total Assets, expressed as a percentage. A higher ROA suggests better efficiency, while a lower ROA may indicate underutilized resources or failures in operations.

Return on assets (ROA) is an important metric for deciding the profitability of an organization. It represents a organization's net income as a percentage of total assets. However, it is not the only relevant metric, and investors should make use of to know the full picture when they compare different organizations. (Online copy, 2025)

2.2 Theoretical Framework

Technology Acceptance Model (TAM)

We based this study on the technology acceptance model (TAM) propounded by Davis (1989). This is an information system theory that explains how users of information technology come to understanding and use and adopt system known. Davis (1989) introduced the technology acceptance model to show the important reasons responsible for individual target to understand and use new technology. The study found that the two major points encouraging individual reason to adopt and use new technology are perceived importance and ease of use.

2.3 Empirical Review

Abubakar (2020) ex-rayed the outcome of automated teller machine (ATM) on user satisfaction in Nigeria: A study of united bank for Africa in Sokoto metropolis: The research was carried out using a cross-sectional survey design which questioned respondents on ATM services. The findings indicated that, the effect of ATM services as regards to their known ease of use, transaction cost and service security.

Loaba (2021) determined the outcome of mobile banking services on savings pattern in West Africa in 2017. The study utilized the Multi nominal logit method. The findings showed that using mobile banking services enhances of the opportunity of formal and informal savings by 2.4% and 0.83% respectively.

Olubukola, et al (2023) looked at digital financial services and the Nigerian economy from 2009 to 2017. The work made use of ex post facto research design and data were collected from the CBN. The work made use of volume of V(ATM) exchange, volume of VPOS exchange, volume of point of sales exchange and volume of web exchange as the explanatory variables while GDP was used as the explained variable. The secondary data were analyzed using univariate and multivariate analysis. The OLS results showed that volume of mobile banking, volume of point of sales, and volume of automated teller machine favorably and critically impacted GDP.

3. Methodology

3.1 Research Design

The work used an ex-post facto research design. The methodology is chosen because the study was quantitative and were introduced study the effect on the of digital financial innovation services on the financial performance of commercial banks in Nigeria. Emphasis is on the four most popularly used digital exchange window: Volume of Automated Teller Machine (VATM), Volume of Point of Sale (VPOS), Volume of Mobile Banking and Volume of Web-Based Banking which are taken as the explanatory variables to explain the effect on Return on Asset (ROA) as a proxy for the Deposit Money Banks performance in Nigeria.

3.2 Nature and Sources of Data

Data used were annual time series data of the variables which include Return on Assets, Volume Mobile Banking, Volume Automated Teller Machine and Point of Sale, Volume web-based banking which were sourced from CBN - Statistical Bulletin (various issues) over a time period of 2012 - 2024.

3.3 Model Specification

Model was formulated using Bank Performance (proxies by Return on Assets), as the dependent variable, digital financial services (proxies by Volume Mobile banking, Volume Automated Teller Machine and Volume of Point of Sale), Volume of Web -based banking served as the independent variable. The model is specified as follows;

$$Y = \alpha i + \Sigma p\ i=1\ \delta Yt\text{-}i + \Sigma q\ i=1\ \beta 1\ Xt\text{-}1 + \Sigma q\ i=1\ \beta 2\ Xt\text{-}1 + \Sigma q\ i=1\ \beta 3\ Xt\text{-}1 + \beta 4\ Xt\text{-}1\ et \text{ ---------} 3.1$$

$\Sigma p\ i=1$ = speed of adjustment parameter

Where;

Y = Explained variable

X1, X2, X3----------Xn = the explanatory or independent variables

B 1, β 2, β 3 and δ ---------- β n = is the slope

e = Error

t = Time

Relating the above to the study;

$$ROA = \beta 0 + \Sigma q\ i=1\ \beta 1i\ ROA + \Sigma q\ i=1\ \beta 2i\ POS + \Sigma q\ i=1\ \beta 3i\ M0Bt\text{-}1 + \Sigma q\ i=1\ \beta 4i\ ATM\ t\text{-}1 + WEB\ t\text{-}1\ ECM\ t\text{-}1\ \ n + \varepsilon \text{ - -- } 3.2$$

And in econometric form and the variables log linearized, it will appear thus;

$$LnROA = \beta 0 + \Sigma q\ i=1\ \beta 1i\ LnROA + \Sigma q\ i=1\ \beta 2i\ LnVMOB\ t\text{-}1 + \Sigma q\ i=1\ \beta 3i\ LnVPOS\ t\text{-}1 + \Sigma q\ i=1\ \beta 4i$$

LnVATM t-1 +LnVWEB t-1 ECM t-1 n + ε - ---- 3.3

Where;

LnVROA = Return on Assets

LnVMOB = Mobile banking

LnVATM = Automated teller machine

LnVPOS = Point of Sales

LnVWEB = Web-based Banking

B 1, β 2, β 3 -----Bn

t = Time

4. Presentation of Data and Analysis

4.1 Descriptive Statistics

Table 1 below, provides the summary of the descriptive statistics of the data covering the period of 38 observations

Table 1: Descriptive Statistics

	LROA	LVATM	LVPOS	LVMOB	LVWEB
Mean	4.394068	3.098350	1.929350	1.799838	1.436643
Median	4.240503	3.136242	2.214075	2.218950	1.516226
Maximum	5.295870	3.893719	2.841322	2.768697	1.955640
Minimum	4.050532	1.796505	0.271842	-1.221849	0.527630
Std. Dev	0.378273	0.550655	0.768078	0.979187	3.377589
Skewness	1.648448	-0.451219	-0.927668	-1.361624	-0.694309
Kurtosis	3.865351	3.5790847	3.5021530	3.878472	2.474097
Jarque-Bera	32.91866	3.076281	10.45536	23.19875	6.247025
Probability	0.108913	0.214780	0.055365	0.000009	0.044002
Sum	298.7966	210.6878	131.1958	122.3890	97.82774
Sum Sq.Dev	9.587055	20.51378	39.52628	64.24005	9.552404
Observations	38	38	38	38	38

Source: Output from E-Views 12

The descriptive statistics of the test variables is provided in Table 1 above. It can be observed that the years for which the time series was collected ranges between 2006 -2024 constituted an observations period of 38. The Return on Asset (LROA) has a Mean value of 4.394 with Standard deviation 0.378. The automated teller machine (LVATM) has a Mean value of 3.098 with Standard deviation 0.550. The point of sale (LVPOS) has a Mean value of 1.929 with Standard deviation 0.768. The mobile banking (LVMOB) of the years has a Mean value of 1.799 with Standard deviation 0.979. The web banking (LVWEB) has a Mean value of 1.438 with Standard deviation 0.3775. It can be said that volume of automated teller machine (LVATM) is more consistent compared to other variables

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The skewness statistics indicated that all the four dimensions of digital financial services innovation are negatively skewed which implies that the variables has a short right tail while the measure of bank performance (ROA) is positively skewed which implies that the variable has a long right tail, it showed that four out of five variables return on asset (ROA), volume of automated teller machine (LVATM), volume of point of sale (VPOS) and volume of mobile banking (MOB) have leptokurtic values, which suggest that the variables are higher than the kurtosis value of (3) that is clearly mesokurtic while web banking (VWEB) produce a platykurtic value because its value of 2.474 is less than the kurtosis value of (3).

Table 2 Unit Root Result

PhillipsPerron Test (P-P)

Variables	Level T-Stat	Critical value@ 5%	Level Prob value	1st Diff T-Stat	Critical value @ 5%	1st Diff Prob value	Order of Integration
LROA	-2.0877	-29066	0.2502	-8.6081	-2.9052	0.0000	1(1)
LVATM	-1.4265	-2.9023	0.8765	-10.602	-29063	0.0000	1(1)
LVPOS	-1.2958	-2.9055	0.6269	-8.1522	-2.9061	0.0000	1(1)
LVMOB	-1.9218	-2.9055	0.3205	-8.8168	-2.9062	0.0000	1(1)
LVWEB	-2.3473	-209055	0.1606	-11.447	-2.9062	0.0000	1(1)

Source: Output from Eview 12

The Phillips-Perron (P-P) unit root result showed that Return on Asset (ROA), automated teller machine (VATM), point of sale (VPOS), mobile banking (VMOB) and web banking (VWEB) at first difference I (1) and none of the variables is integrated at order 1(0) and 1(2).

4.2 Test of Hypotheses

The hypotheses of this study as stated in chapter one was tested in line with the procedure below;

Step 1: Re-statement of the hypotheses in null form (Ho)

Step 2: Statement of decision criteria

Step 3: Presentation of test result

Step 4: Decision

These steps were adopted for each hypothesis of this study. For all the hypothesis, a regression analysis was conducted between the independent and dependent variables given in the model. Based on the output generated from the regression conducted, decision was taken.

Table 3.: OLS Estimation Results

Dependent Variable: D(LROA)
Method: Least Squares
Date: 08/19/23 Time: 18:32
Sample (adjusted): 2005 2024
Included observations: 18 after adjustments

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.277284	0.243029	-1.140949	0.2730
LVATM	1.184604	0.416029	2.847407	0.0129
LVMOB	6.243698	1.830203	3.411477	0.0042
LVPOS	2.623100	0.963872	2.721418	0.0165
LVWEB	2.945644	0.890456	3.234519	0.0002

R-squared	0.754029	Mean dependent var	0.042962
Adjusted R-squared	0.683752	S.D. dependent var	0.943386
S.E. of regression	0.530522	Akaike info criterion	1.791022
Sum squared resid	3.940345	Schwarz criterion	2.039559
Log likelihood	-12.01471	Hannan-Quinn criter.	1.833084
F-statistic	10.72934	Durbin-Watson stat	1.706526
Prob(F-statistic)	0.000342		

Source: E-views 9 output, 2023

Decision rule

The decision rule is based on a 5% probability value and is stated as follows:

$H_0: \theta = \theta_0$ versus $H_a: \theta \neq \theta_0$

The above, model shows the result gotten from the OLS test, the value of the R squared is 0.754029, this means that 75% of the dependent variable ROA is noted by the explained variables in the model. Adjusted R squared is 68% indicating a good fit for the model. For a unit increase in Volume of Automated teller machine (LVATM), return on assets (LROA) of DMBs in Nigeria will increase by 1.18%. For a unit increase in Volume of Mobile banking (LVMOB), the ROA of DMBs in Nigeria will increase by 6.24%. a unit increase in Volume of Point of sales (LVPOS), the Return on assets (LROA) of DMBs in Nigeria will increase by 2.62%. A unit increase in Web-based banking (LVWEB), the Return on assets (LROA) of DMBs in Nigeria will increase by 2.94%. The value of the constant is -0.277284, therefore, when the independent variables are equated to zero, LROA will decrease by -0.277 percentage points. The F-value (10.72934), with a probability value 0.000342 < 0.05 is an indicative that the overall regression is significant. The Durbin Watson statistics (DW) approximate value of 1.706526 shows signs of no serial auto-correlation having a value greater than the R-squared.

Test of Hypothesis I

H_{o1}: Volume of Point of sales (POS) had a favourable and critical effect on the ROA of DMBs performance in Nigeria

H_{i1}: Volume of Point of sales does not have a favourable and critical effect on the ROA of DMBs performance in Nigeria

Based on table 3 above, Volume of Point of sales (VPOS) had favourable and critical effect on the ROA of DMBs performance in Nigeria. This was explained by the positive coefficient value (2.623100) of volume Point of sales and its corresponding p-value of (0.0165), which is < 0.05 critical levels. Thus, we reject the null

 E-ISSN: 2959-9121

hypothesis and accept the alternate hypothesis that Point of sales have a positive and significant effect on the ROA of DMBs performance in Nigeria.

Test of Hypothesis II

H_{i2}: Volume of Automated teller machines has a positive and significant effect on the ROA of DMBs performance in Nigeria

H_{o2}: Volume of Automated teller machine does not have a favourable and critical effect on ROA of DMBs performance in Nigeria

Based on table 3 above, Volume of Automated teller machine (VATM) had favourable and significant effect on the ROA DMBs performance in Nigeria. This was explained by the positive coefficient value (1.184604) of Automated teller machine (VATM) and its corresponding pvalue (0.0129), which is < 0.05 critical levels. Thus, we reject the null hypothesis and accept the alternate hypothesis that Point of sales has a favourable and critical effect on the ROA of DMBs performance in Nigeria.

Test of Hypothesis III

H_{i3}: Volume of Mobile banking have a favourable and critical effect on the ROA of DMBs performance in Nigeria.

H_{o3}: Volume of Mobile banking does not have a favourable and critical effect on the ROA of DMBs performance in Nigeria

Based on table 4. above, Volume of Mobile banking (VM0B) had favourable and citical effect on the ROA of DMBs performance in Nigeria. This was explained by the positive coefficient value (6.243698) of Mobile banking and its corresponding pvalue (0.0042), which is < 0.05 significant levels. Thus, we reject the null hypothesis and accept the alternate hypothesis that Mobile banking has positive and significant effect on the Return on Assets of Deposit Money Banks (DMBs) performance in Nigeria.

Test of Hypothesis IV

H_{i4}: Volume of Web-based banking have a favourable and critical effect on the ROA of DMBs performance in Nigeria.

H_{o4}: Volume of Web-based banking does not have a favourable and critical effect on the ROA of DMBs performance in Nigeria.

Based on table 3. above, Volume of Web-based banking (VWEB) had favourable and critical effect on the ROA of DMBs in Nigeria. This was explained by the positive coefficient value (0.890456) of Web-based banking and its corresponding pvalue of (0.00002), which is more than 0.05 significant levels. Thus, we reject the alternate hypothesis and accept the null hypothesis that Web-based banking has positive and significant effect on the Return on Assets of Deposit Money Banks (DMBs) performance in Nigeria.

4.3 Discussion of Findings

These findings were made in line with the test of hypotheses and discussed according to these objectives.

Objective one: Determine the effect of Volume of Point of Sales on Return on Assets of DMBs performance in Nigeria

The results of our estimation indicates that volume of point of sales (VPOS) has favourable and critical effect on the ROA on DMBs performance in Nigeria. This was explained by the positive coefficient value (2.623100) and its corresponding p- value (0.0165), which is less than 0.05 significant levels. This result concurs with Olubukola, et al (2023) which study indicates that volume of point of sales positively and significantly affects return on asset.

Objective two: Ascertain the effect of Volume of Automated Teller Machine on Return on Assets of DMBs performance in Nigeria

As regard to the result gotten from our analysis Volume of Automated teller machine (ATM) has favourable and critical effect on the ROA on DMBs performance in Nigeria. This was explained by the positive coefficient value (1.184604) of volume of Automated teller machine (VATM) and its corresponding p- value (0.0129), which is less than 0.05 significant levels. This result agreed with Chukwunulu (2019) which result from the generalized method of moments reveal that ATM positively and significantly influences return on asset of our banks.

Objective three: Examine the effect of volume of Mobile banking on Return on Assets of DMBs performance in Nigeria

The results of our estimation revealed that Volume of Mobile banking (VM0B) has favourable and critical impact on ROA on DMBs performance in Nigeria. This was explained by the positive coefficient value (6.243698) and its corresponding p- value (0.0042), which is less than 0.05 significant levels. This result agreed with Ramos and Olweny (2021) which results from the regression analysis indicated a positive and significant relationship between mobile banking and gross domestic product in Kenya.

Objective four: Ascertain the effect of Volume of web-based (VWEB)banking on Return on Assets of DMBs performance in Nigeria

As regard to the result gotten from our analysis of volume of web-based banking has favourable and critical effect on the ROA on DMBs performance in Nigeria. This was explained by the positive coefficient value (0.890456) of web-based banking and its corresponding p- value (0.00002), which is less than 0.05 significant levels. This result agreed with Chukwunulu (2020) which result from the generalized method of moments reveal that ATM positively and significantly influences return on asset of Banks in Nigeria.

5. Conclusion and Recommendations

5.1 Summary of Findings

The findings arising from this study are summarized as follows;

- Volume of Automated teller machine favorably and critically impacted ROA of DMBs in Nigeria. This finding was explained by the positive coefficient value (1.184604) of volume of Automated teller machine (VATM) and its corresponding p- value (0.0129), which is less than 0.05 significant levels.

- Volume of Point of sales had a favourable and critical impact ROA of DMBs in Nigeria, this finding was backed up by the positive coefficient value (2.623100) of Point of Sales and its corresponding p- value (0.0165), which is less than 0.05 significant levels
- Volume of Mobile banking had a favourable and critical impact ROA of DMBs in Nigeria, This finding was explained by the positive coefficient value (6.243698) of volume of Mobile banking and its corresponding p- value (0.0042), which is less than 0.05 significant levels.
- Volume of Web- based banking favorably and critically impacted ROA of DMBs in Nigeria. This finding was supported by the positive coefficient value (0.890456) of web-based banking and its corresponding probability value (0.00002), which is less than 0.05 significant levels.

5.2 Conclusions

This work concluded that digital financial services innovation contributes to enhancing Deposit Money Banks performance in the country.

5.3 Recommendations

Based on the empirical findings, the study recommends the following.

- Stakeholders are advised to strengthen improvement on digital financial services innovation in term of point of sales and web banking by citizens would enhance the return on asset of DMBs in Nigeria.
- Federal and State government should plan for long term investment in digital financial services because it will enhance the growth of return on Asset of DMBs in Nigeria. ,
- The central bank of Nigeria (CBN) should monitor the operations of automated teller machine and mobile banking so as to encourage people to use them more often.
- The stakeholder should ensure that policies aimed at promoting and enhancing the availability and penetration of digital financial services should be implemented and made effective as this will also increase return on asset of deposit money banks in Nigeria.

References

Akinyemi, B. E., & Mushunje, A. (2020). Determinants of mobile money technology adoption in rural areas of Africa. Cogent Social Sciences, 6(1), 1815963.

Anane, I. & Nie, F. (2022). Determinants of factors of digital financial services adoption and usage level: Empirical evidence from Ghana. International Journal of Management Technology, 9(1), 26 – 47.

Appah, E. (2022). Oil revenue and economic growth of Nigeria: 1990 – 2019. African Journal of Economics and Sustainable Development, 5(1), 17 – 46.

Appah, E. & Inini, J. W. (2019). Cashless policy and the financial performance of deposit money banks in Nigeria, Multi-Disciplinary Journal of Business and Office Education, 1(1), 1 – 22.

Chukwunulu, J.I. (2019). Effect of financial innovation on the Nigerian economy. World Journal of Innovative Research, 6(5), 15 – 21. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 319 340. https://doi.org/10.2307/249008.

Efanga, O. U., Obinne, U.G. & Okonya, O. C. (2020). Analysis of the impact of oil revenue on economic growth of Nigeria between 1981 and 2018. IOSR Journal of Economics and Finance, 11(2), 25 – 34.

Gbongli, K., Xu, Y., & Amedjonekou, K. M. (2019). Extended technology acceptance model to predict mobile-based money acceptance and sustainability: A multi-analytical structural equation modeling and neural network approach. Sustainability, 11(13), 3639.

Hasan, M. M., Yajuan, L.,& Khan, S. (2020). Promoting China's inclusive finance through digital financial services. Global Business Review, 3(2), 1-23.

Iwedi, M., Owakah, N.F. & Wofuru-Nyenke, O.K. (2023). Effect of financial technology on financial inclusion in Nigeria. African Journal of Accounting and Financial Services, 6(1), 21 – 36.

Jabir, I. M., Karimu, A., Fiador, V. O., & Abor, J.Y. (2020). Oil revenues and economic growth in Oil-producing countries: The role of domestic financial markets. Resource Policy, 69(1), 1- 15.

Njoku, C.O., Nwadike, E.C. & Azuama, G.U. (2020). Effect of electronic banking on the economic growth of Nigeria (2009 – 2018). The International Journal of Business Management and Technology, 4(3), 196 – 219.

Okoye, V., Nwisienyi, K.J. & Obi, O.A. (2019). Emerging financial technological innovation and economic growth in Nigeria. EPRA International Journal of Research and Development, 4(9), 153 – 162

Olubukola, A.A., Ikpefan, O.A., Akinrinola, O.O.,& Itai M.M. (2023). The impact of digital financial services on the Nigerian economy. African Journal of Accounting and Financial Research 6(1), 1-20. DOI: 10.52589/AJAFR-9MKT1BTW.

Patnam, M., & Yao, W. (2020). Real Effects of Mobile Money: Evidence from a Large-Scale Fintech Expansion (No. 2020/138). International Monetary Fund

Pazarbasioglu, C., Mora, et al. (2020). Digital financial services. World Bank.

Ramos, P.K. & Olweny, T. (2021). The influence of digital money on economic growth Kenya, Account and Financial Management Journal, 6(11),2538 –2556.

Satia, P., & Okle, R.A. (2020). Financial innovation and economic growth in Cameroon. International Journal of Business and Finance Management Research, 8(1), 1-9

Sreenu, N. (2020). Cashless payment policy and its effects on economic growth of India: An exploratory study. ACM Transactions on Management Information Systems (TMIS), 11(3), 1-10. .

Wang, Z., Guo, B., Wang, F. & Wu, Y. (2022). Financial innovation, technological innovation and economic growth: Empirical evidence of 31 provinces and cities in China. Proceedings of the 7 International Conference on Financial Innovation and Economic Development. Advances in Economics, Business and Management Research, 648, 3053 - 3057.

Wong, T. L., Lau, W. Y.,& Yip, T. M. (2020). Cashless payments and economic growth: Evidence from selected OECD Countries. Journal of Central Banking Theory and Practice, 9(1), 189- 213.

Yinusa, O.G., Olowofela, O.E., Yunusa, A.L. & Folami, R.A. (2021). Effect of financial innovation on economic growth: Evidence from African countries. International Journal of Commerce and Finance, 7(1), 130 – 140