Effect of Electronic Banking on the Performance of Deposit Money Banks in Nigeria (2005-2022)

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ABSTRACT

The study examined the effect of electronic banking on the performance of deposit money banks in Nigeria. Although electronic banking has been in existence in Nigeria for some years now, its contributions to the performance of deposit money banks remained debatable. Anchored on the theory of innovation diffusion, this study used secondary data sourced from the Central Bank of Nigeria (CBN) and the Nigeria Inter-Bank Settlement System (NIBSS). Data analysis was done using the OLS regression model to test the relationship between electronic banking aspects of web transactions and mobile transactions, and the performance of deposit money banks measured via loans and advances and private sector deposits. The findings showed that both web and mobile transactions do not affect loans and advances and private sector deposits. Thus, the study concluded that electronic banking failed to influence the performance of deposit money banks in Nigeria. Hence the study recommended among others that the regulatory authorities should adhere to and promote cashless policy as a way of facilitating the increased use of electronic banking components like the web and mobile transactions, which will in turn increase banks' loans and advances and deposit base.

KEYWORDS: *electronic banking; web transactions; mobile transactions; loans and advances; private sector deposits; innovation diffusion*

JEL: *G20, O33*

1. INTRODUCTION

Traditional and manual banking practices have since given way to electronic banking and it is highly unlikely to now carry out banking services without riding on the various electronic channels that have gradually found their way into modern banking operations. Electronic banking, no doubt, has contributed immensely to the overall performance of the banking system globally. Electronic banking covers a wide range of operational areas ranging from deposit and withdrawals, clearing and settlement, credit processing, online statements of accounts,

accounts opening, funds transfer, capital raising, and card services (Le, Mai, Phan, Nguyen & Le, 2021). Other areas in which electronic banking is also deployed include staff records, appraisal exercises, and auditing. Thus, with the advent of electronic banking, the business of banking is being carried out seamlessly and this has also improved the volume of transactions deals in the system (Okoye, Adetiloye, Erin & Modebe, 2016).

Several authors have explored the relationship between electronic banking and the financial performance of banks emphasizing the importance of electronic banking in the banks' performance framework. Recent studies like Aduaka and Awolusi (2020) agreed that electronic banking enhances banks' operations and performance. Nazaritehrani and Mashali (2020) opined that some electronic channels including internet banking, point of sales (POS), and telephone banking increase market share. Also, Le et al. (2021) agreed that electronic banking (fintech innovation) increases fee-based income, consumer loans and money market deposits. Olotewo (2013) opined that the introduction of various electronic payment initiatives has improved the payment system in Nigeria. This technological innovation has led to a drastic reduction in the cost of cash management and the risk associated with moving cash about is also minimized. Thus, from the foregoing it can be noted that electronic banking has greatly impacted on the performance of banks in many ways like speed of service delivery, convenient banking for customers, increased profitability, and market share among others.

However, it is important to interrogate whether or not the increases in the mobile and web transactions aspects of electronic banking significantly influence the loans and advances, and the private sector deposit of deposit money banks. This is a unique aspect that has not been well explored and will provide useful information that underscores the contributions of electronic banking to the performance of deposit money banks especially in Nigeria. For instance, Hassan, Mamman and Farouk (2013) argued that the income generated from the use of mobile services has contributed significantly to the bottom line of financial institutions. Also, Meihami, Varmaghani and Meihami (2013) believe that the performance of deposit money banks is directly related to telephone and mobile banking and it is highly unlikely to find an active account holder who is not involved in the use of mobile banking services. This argument is further strengthened by Njoroge and Mugambi (2018) who concluded with empirical evidence that mobile banking increases performance. Similarly, Ugwueze & Nwezeaku (2016) submit that financial technology proxied by point of sales (POS) has increased demand deposit. The argument is hinged on the fact that since customers can easily access their funds with the aid of technology, they are motivated and encouraged to save more, thereby increasing the general deposit base of the banks. Also, Mateka, Gogo and Omagwa (2016) are of the view that electronic banking has a positive influence on the loan book of banks. They argued that the introduction of electronic banking has expanded the lending ability of banks since the processes and procedures were made less cumbersome, the speed of processing was increased and the volume was also magnified. These conclusions, notwithstanding, there are still some grounds to cover especially for Nigeria.

This study therefore anticipated a framework of deposit money bank performance in Nigeria using electronic banking variables such as web transactions and mobile transactions as antecedents. This study modelled deposit money bank performance from two perspectives-loans and advances, and private sector deposits. Employing the OLS regression technique, this

study provides insights into the contributions of electronic banking in the deposit money bank performance framework in Nigeria from 2005 to 2022. Also, this research is different from others in that web transactions and mobile transactions will be used as proxies for electronic banking, a departure from most previous studies which used automated teller machines (ATM) and point of sales (POS) as proxies for electronic banking.

The rest of this paper has the theoretical framework and empirical review in section two, followed by methodology in section three, results and discussions in section four, and finally conclusion and recommendations in section five.

2. THEORETICAL FRAMEWORK AND EMPIRICAL REVIEW

The Theory of Innovation Diffusion

Rogers (1962) propounded that innovation diffusion is based on the notion that the adoption of innovation involves the spontaneous or planned spread of new *ideas* and Rogers defines an innovation as 'an idea, practice, or object that is perceived as new (Rogers 1995). He stressed that it is the *perception* of change that is important; if the idea *seems* new to the potential adopter, then it should be considered to be an innovation. Rogers (1995) approaches the topic of innovation diffusion by considering a variety of case studies on topics including controlling scurvy in the British Navy, diffusion of hybrid corn in Iowa, diffusion of the news, bottle feeding of babies in the third world, how the refrigerator got its hum, Xerox PARC and Apple computer, black music in white America, Minitel in France, the non-diffusion of the Dvorak keyboard, and causes of the Irish potato famine. The prime concern in all these studies is the identification of factors that affect the speed with which an innovation is adopted, or that cause it not to be adopted at all. Apart from the many examples of innovation diffusion studies cited by Rogers (1995), examples by other researchers range across the entire field and include studies of managerial characteristics (Entrialgo, Fernandez, and Vazquez,1999), vocational training (Schmidt, 1999), creativity (Preiss 1999), information technology outsourcing (Hu, Saunders and Gebelt,1997), the growth of the Internet (Press,Burkhart &Foster 1998; Rai,Ravichandran&Samaddar,1998) and information systems innovation (Kwon & Zmud, 1987; Kishmore & McLean, 1998; Spann-Merchant, 1998; Hughes & Sheehan, 1999), to mention just a few.

In diffusion theory, the existence of innovation is seen to cause uncertainty in the minds of potential adopters (Berlyne, 1962), and uncertainty implies a lack of predictability and information. Diffusion is considered to be an information exchange process amongst members of a communicating social network driven by the need to reduce uncertainty (Rogers, 1995). Those involved in considering the adoption of the innovation are motivated to seek information to reduce this uncertainty (Rogers, 1995). Diffusion theory contends that a technological innovation embodies information, and so its adoption acts to reduce uncertainty. In illustration of this Rogers cites the innovation of solar panels as reducing uncertainty over future energy costs and reliability of energy supply.

The new ideas upon which an innovation is based are communicated over time, through various types of communication channels, among the members of a social system. There are thus four main elements of any theory of innovation diffusion: characteristic of the innovation itself, the

nature of the communication channels, the passage of time, and the social system through which the innovation diffuses (Rogers, 1995).

Empirical Review

Empirical pieces of evidence abound on the contribution of electronic banking to the performance of deposit money banks in Nigeria. For example, Aduaka and Awolusi (2020) evaluated the impact of electronic banking on the profitability of the Nigerian banking industry. The study used an inferential survey research design. Primary and secondary data were collected through questionnaires and audited financial reports of the banks respectively. Multiple regression was used to test the hypotheses. The result revealed that cards play a significant role more than other channels and are immediately followed by ATMs. It also found that e-banking channels contributed to banks' profitability. In the same vein, Amaduche, Adesanya and Adediji (2020) in their work the impact of electronic banking on the operations and performance of deposit money banks in Nigeria, collected their data through questionnaires from staff of 3 selected banks (First Bank of Nigeria, United Bank for Africa and Guarantee Trust Bank). The Pearson correlation model was used to analyse the data. It was found that e-banking enhances banks operations and performance. Also, Ibekwe (2021) carried out study on financial innovation and performance of deposit money banks in Nigeria. Secondary data was collected from CBN and analysed using the Augmented Dickey Fuller Test for unit roots and the ordinary least square regression. The findings show that ATM, POS, mobile banking and internet banking have positive effect on the performance of deposit money banks. Kabir, Kurfi and Isa (2021) looked at the impact of electronic banking on the financial performance of Nigerian deposit money banks. The study used secondary data for the 21 licenced deposit money banks for the period 2013 to 2017. Multiple linear regression model was used for data analysis. The results show that electronic banking has contributed positively to the performance of deposit money banks in Nigeria as measured by ROA.

Studies from other climes also underscored the relevance of electronic banking in the performance framework commercial banks. For instance, Mathenge (2020) examined the effect of electronic banking and the financial performance of commercial banks in Kenya. The study used secondary data from annual supervision reports published by the Central Bank of Kenya. Analysis was done using multiple regression. The study found that e-banking has a positive relationship with financial performance of commercial banks in Kenya. However, the relationship between mobile transaction and financial performance was negative. Tegenu, Eshetu and Erko (2020) evaluated the effects of electronic banking on selected commercial banks in Ethiopia. The target population was eight commercial banks in Ethiopia. The study used secondary data obtained from annual financial report of the various banks. Pearson correlation analysis, linear regression model and panel data were used to analyse the data. The study found that there was positive association between value of ATM and POS terminal transaction with ROE. Hossain (2021) assessed the effects of e-banking adoption on the financial performance of state-owned commercial banks in Bangladesh. The study used pooled ordinary least square regression (OLS) estimates to analyse the panel data of the sampled banks. The empirical findings revealed that e-banking adoption and implementation has a significant negative impact on banks profitability in terms of ROA, ROE and NIM in the year of adoption. The result also show that e-banking has a significant positive impact on ROA in the year following adoption. Tran (2021) examined the impact of payment system and bank

performance: evidence from Vietnam. The study used data of twenty listed banks from 2009 to 2019. The study used regression model for analysis. The study found that innovation in mobile payment has significant impact on banks performance. Le, Mai, Phan, Nguyen and Le (2021) researched on fintech innovations: impact of mobile banking apps on banks performance in Vietnam. They used longitudinal panel data from 2010 to 2019 with 220 observations of 22 local commercial banks in Vietnam. Multivariate panel regression was used for analysis. The study found that fintech innovations have positive impact on bank performance in Vietnam. Banks adoption of mobile banking technology positively impacted on bank's fee-based income, consumer loans and money market deposits.

On the contrary, some studies found a negative relationship while others found a not significant relationship. Studies like Amos, Umar, Busari, Ekpe and Kolawole (2020) in their work the effect of electronic banking on bank performance in Nigeria used secondary data derived from annual financial report of deposit money banks for the period 2008-2017. Data were analysed using the multiple regression technique. Their findings revealed that e-banking has no significant impact on the performance of deposit money banks in Nigeria. Fliginskih, Vaganova, Usatova, Solovjeva, Bykanova and Ragheed (2021) evaluated the impact of e-banking on the performance of banks, evidence from Russia from the period 2004-2018. Panel data of ten banks were used. The results show that there is an unfavourable influence of e-banking on the bank's performance in the first year of adoption.

Some studies also provided mixed findings and inconclusive findings. Studies such as Nazaritehrani and Mashali (2020) looked at the development of e-banking channels and market share in developing countries. The statistical population of their study was Shahr bank's central headquarters and its branches in Tehran. Questionnaires were administered to gather data after which linear regression was used to analyse the data. The result indicated that some of these channels including internet banking, POS and telephone banking positively affect a bank's market share. The results also show that mobile banking and ATM do not affect a bank's market share. Nwankwo and Agbo (2021) studied the effect of electronic banking on commercial bank performance in Nigeria. Their study covered the period 2013-2017. The result of the study revealed that ATM transactions have positive and significant effect on the performance of commercial banks in Nigeria, while both POS and mobile banking have negative and weak effects on the performance of commercial banks in Nigeria. Adiga, Adigwe, Okonkwo and Ogbonna (2022) examined the effect of financial technology on the performance of deposit money banks in Nigeria. Their secondary data was sourced from CBN statistical bulletin, ARDL was used to analyse the data, and the result proved inconclusive findings.

3. METHODOLOGY

Description of Variables

The variables for this study are specified as follows: The performance of commercial banks is the response variable, and is proxied by loans and advances (LA) and private sector deposits (PSD) while the electronic banking is the predictor variable, proxied by web transactions (WEB) and mobile payments transactions (MOBILE).

Loans and advances: loan is defined as money received from a friend, bank or financial institution in exchange for future repayment of the principal, plus interest,

Private sector deposit: it consists of all the sums of money being held in custody by commercial banks on behalf of their individual customers and organizations owned by private individuals.
Web transactions: they are front-end customer transactions done using internet browser on desktop and mobile devices.
Mobile payments transactions: involves the conduct of banking business through the use of mobile phones or fixed wireless phones.

Model Specification

This study specified an OLS multiple regression model to analyse the data for this study. This is because all the variables for this study exhibited stationarity at levels, thus, it is suitable to employ the OLS regression model. The model is stated in its functional form below.

Model I

LA = F (WEB, MOBILE) ……..... (1)

The model is therefore mathematically written below:

$LA = b_0 + b_1WEB + b_2MOBILE + e_t$ ……..……..…. (2)

Model II

PSD = f(WEB, MOBILE) ……..... (3)

The model is therefore mathematically written below:

$PSD = b_0 + b_1WEB + b_2MOBILE + e_t$ ……..…… (4)

Apriori expectations = $b_1, b_2, > 0$

4. RESULTS AND DISCUSSIONS

Descriptives Statistics and Correlations

Table I: Descriptive Statistics

Variables/Measures	WEB	MOBILE	PSD	LA
Mean	246.3314	14732.95	15260.96	13252.43
Median	111.9700	599.6250	15604.23	13056.82
Maximum	783.6600	115615.6	20619.70	22115.59
Minimum	25.05000	1.270000	9150.040	6685.850
Std. Dev.	260.5664	33130.06	3855.500	5203.200
Skewness	1.008888	2.371647	-0.149929	0.383990
Kurtosis	2.478253	7.401487	1.805850	2.070992
Jarque-Bera	2.533791	24.42529	0.884280	0.847496
Probability	0.281705	0.000005	0.642660	0.654589
Sum	3448.640	206261.3	213653.4	185534.1
Sum Sq. Dev.	882633.1	1.43	1.93	3.52

Observations	14	14	14	14

Source: Author's Computation, 2023.

The descriptive statistics reported in Table I showed the mean value for web transactions is 246.3314, mobile transaction is 14732.95, public sector deposit (PSD) is 15260.96 and loans and advances (LA) is 13252.43 for the period of study; while the standard deviation is 260.5664, 33130.06, 3855.500, and 5203.200 for web transactions, mobile transactions, public sector deposit, and loan and advances respectively. A minimum and maximum of 25.05000 and 783.6600 respectively were recorded for web transaction for the period under review. Mobile transaction recorded a minimum and maximum values of 1.270000 and 115615.6 respectively, public sector deposits recorded 9150.040 and 20619.70 as minimum and maximum values respectively while loans and advances reported a minimum value of 6685.850 and a maximum value of 22115.59 for the period of study. Also, the result shows evidence of positive skewness of 1.008888 for web transactions indicating a long right-tail distribution. A positive kurtosis 2.478253 is reported for the web transaction an indication of a flat (platykurtic) distribution. Similarly, mobile transactions reported a positive skewness of 2.371647 and a positive kurtosis of 7.401487 indicating a long right tail and a leptokurtic (peaked) distribution. Public sector deposit reported a negative skewness of -0.149929 and a positive kurtosis 1.805850 indicating that the distribution has a left long tail and platykurtic. For loans and advances, a positive skewness of 0.383990 and a positive kurtosis of 2.070992 were recorded indicating a platykurtic distribution. Large kurtosis (>3) is indicative of a leptokurtic (peaked) distribution while small kurtosis (<3) is indicative of a platykurtic (flat) distribution.

The Jarque-Bera result showed no significant statistics for all the variables except for mobile transactions. This implies that all the variables except for mobile transactions are normally distributed and therefore, satisfy the OLS assumption.

Correlations Matrix

Table II: Correlation Matrix

Probability	**WEB**	**MOBILE**	**PSD**	**LA**
WEB	1.000000			

MOBILE	0.722018	1.000000		
	0.0035	-----		
PSD	0.448360	0.578432	1.000000	
	0.1079	0.0302	-----	
LA	0.780481	0.747330	0.833317	1.000000
	0.0010	0.0021	0.0002	-----

Source: Author's Computation, 2023.

The correlation matrix in Table II reports the correlations between the variables of the study. The variables are strongly correlated except for PSD and WEB which are weakly correlated (0.448) and PSD and Mobile moderately correlated (0.578).

Unit Root Test

Table III: Unit Root Test

		WEB	MOBILE	PSD	LA
With Constant	t-Statistic	0.5259	0.3939	0.4514	0.5498
	Prob.	**	*	*	**
With Constant & Trend	t-Statistic	0.1861	0.1652	0.1053	0.0972
	Prob.	**	**	n0	n0

Note: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1% and (no) Not Significant
Source: Author's Computation, 2023.

Prior to the main data analysis, it is imperative to ascertain the order of integration. The variables of interest were subject to Unit Root Test using the KPSS test to ascertain their stationarity and order the of integration properties. The results showed that all the variables are stationary at levels I(0). Table III shows the detailed result.

Regression Analysis
Model I
Model I attempts to examine the effect of fintech on loans and advances of deposit money banks in Nigeria. The study predicts the loans and advances of deposit money banks in Nigeria using web and mobile transactions from 2009 to 2022. The F-statistics and the P-value indicate the overall significance of the model with $F(2,3) = 11.67$, $p < 0.05$. This means the explanatory variables are jointly significant in predicting the response variable. Also, the model summary shows the predictive power or ability of the regression model measured using the R^2 statistics showing the explanatory variables explaining 67.97% of the variation in the response variable (loans and advances) while the adjusted R^2 is 0.6215, which shows 62.15% of the variance in loans and advances. This indicates that the prediction power of the model is adequate.

Table IV: Coefficient Table

Variables	B	Std. Error	T	Sig.
WEB	10.04908	4.924775	2.040516	0.0660
MOBILE	0.060306	0.038733	1.556959	0.1478
C	9888.545	1236.770	7.995463	0.0000

a. Dependent Variable: LA
Source: Author's Computations, 2023.

Table IV provides the OLS regression results indicating that web transactions with B = 10.05, t = 2.04, p = 0.066 is not significant at 5% level of significance but significant at 10% level. The mobile transactions with B = 0.06, t = 1.56, p = 0.14, failed to be statistically significant

both at 5% and 10% levels of significance. From the result, it can be seen that web transactions have a positive and significant effect on loans and advances while mobile transactions have a positive but not significant effect.

From the regression model stated in the methodology, the variables are therefore operationalized by substituting in the equation as follows showing its implications.

$$\mathbf{LA} = \beta 0 + \beta_1 \mathbf{WEB} + \beta_2 \mathbf{MOBILE}$$

$$\mathbf{LA} = 9888.545 + 10.05\mathbf{WEB} + 0.06\mathbf{MOBILE}$$

This means that if web transactions (WEB) increase by 1%, loans and advances (LA) will increase by 10.05% holding other variables constant. This implies that web transactions contribute positively to loans and advances and it is significant at 10% level of significance. Also, an increase in mobile transactions (MOBILE) by 1%, leads to an increase in loans and advances by 0.06% holding all other variables constant but this is not significant. This means that increases in mobile transactions do not significantly influence loans and advances of DMBs in Nigeria. However, when web and mobile transactions are all zero, then loans and advances will increase by 9888.545% implying that the predictor variables have minimal effect.

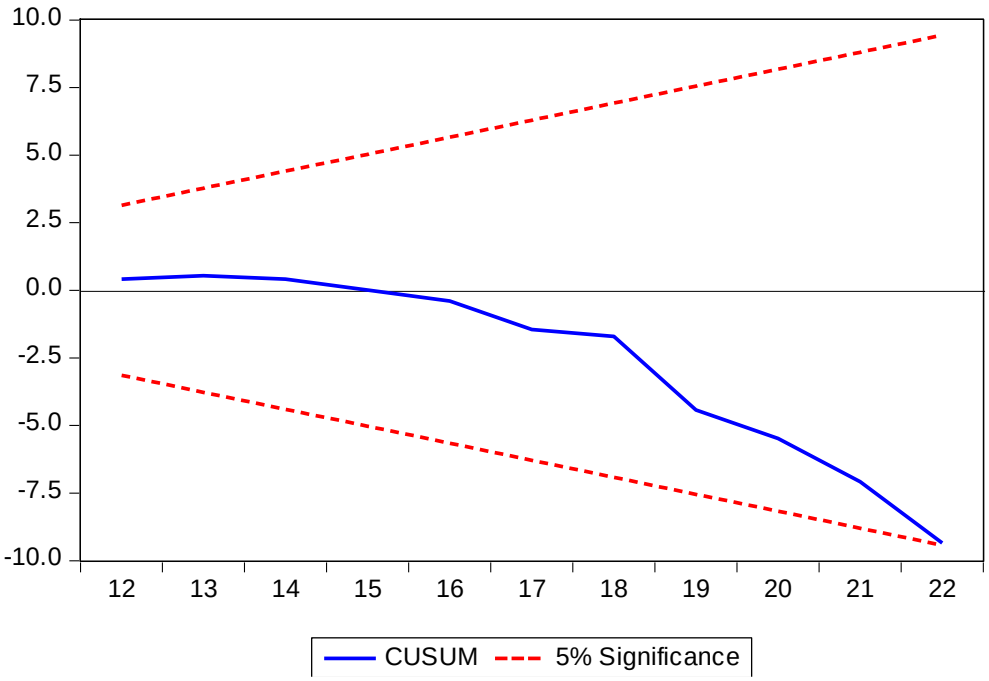
Diagnostic Test

The Breusch-Godfrey Serial Correlation LM and Heteroskedasticity tests were performed to check for the possibilities of serial correlations and Heteroskedasticity. The results in Table V revealed that there is absence of serial correlations and Heteroskedasticity in the series. The Ramsey RESET test results show that the model is stable, which is also confirmed by the CUSUM test as shown in the Cusum graph.

Table V: Diagnostic Test

Specification	**Stat (*p*-values)**	**Conclusion**
Bruesch–Godfrey (Serial Correlation)	2.543957 **(**0.1331**)**	No Serial Correlation
Bruesch–Pagan (heteroscedasticity)	0.142566 **(**0.8687**)**	No Heteroscedasticity

Source: Authors' computations, 2023



Model II

Model II predicts private sector deposit (PSD) of deposit money banks in Nigeria using web and mobile transactions from 2009 to 2022. The F-statistics and the P-value indicate the overall significance of the model with $F(2,3) = 2.79$, $p > 0.05$. This means the explanatory variables are jointly not significant in predicting the response variable. Also, the predictive power or ability of the regression model measured using the R^2 statistics showed that the explanatory variables explained only 33.66% of the variation in the response variable (public sector deposits) while the adjusted R^2 is 0.215930, which shows 21.59% of the variance in public sector deposits. This indicates that the prediction power of the model is low.

Table VI: Coefficient Table

Variables	B	Std. Error	T	Sig.
WEB	0.949626	5.252197	0.180805	0.8598
MOBILE	0.061922	0.041308	1.499029	0.1620
C	14114.74	1318.996	10.70113	0.0000

a. Dependent Variable: PSD

Source: Author's Computations, 2023.

Table VI provides the OLS regression results indicating that both web transactions with B = 0.95, t = 0.18, p = 0.85 and mobile transactions with B = 0.06, t = 1.49, p = 0.16 are not significant in predicting public sector deposits. From the result, it can be seen that though web transactions and mobile transactions have positive effect on public sector deposits, their contributions are not significant and therefore of no effect.

However, from the regression model stated in the methodology, the variables are therefore operationalized by substituting in the equation as follows showing its implications.

PSD = $\beta 0 + \beta_1$**WEB**$+\beta_2$**MOBILE**
PSD = 14114.74+ 0.95**WEB** + 0.06**MOBILE**

This means that if web transactions (WEB) increase by 1%, public sector deposits (PSD) will increase by 0.95% holding other variables constant. This implies that web transactions contribute positively to public sector deposit but the contribution is not statistically significant. Also, an increase in mobile transactions (MOBILE) by 1%, leads to an increase in public sector deposits by 0.06% holding all other variables constant but this is also statistically not significant. This means that increases in web transactions and mobile transactions do not necessarily influence public sector deposits of DMBs in Nigeria. However, when web and mobile transactions are all zero, public sector deposits increase by 14114.74% implying that the predictor variables have insignificant effect.

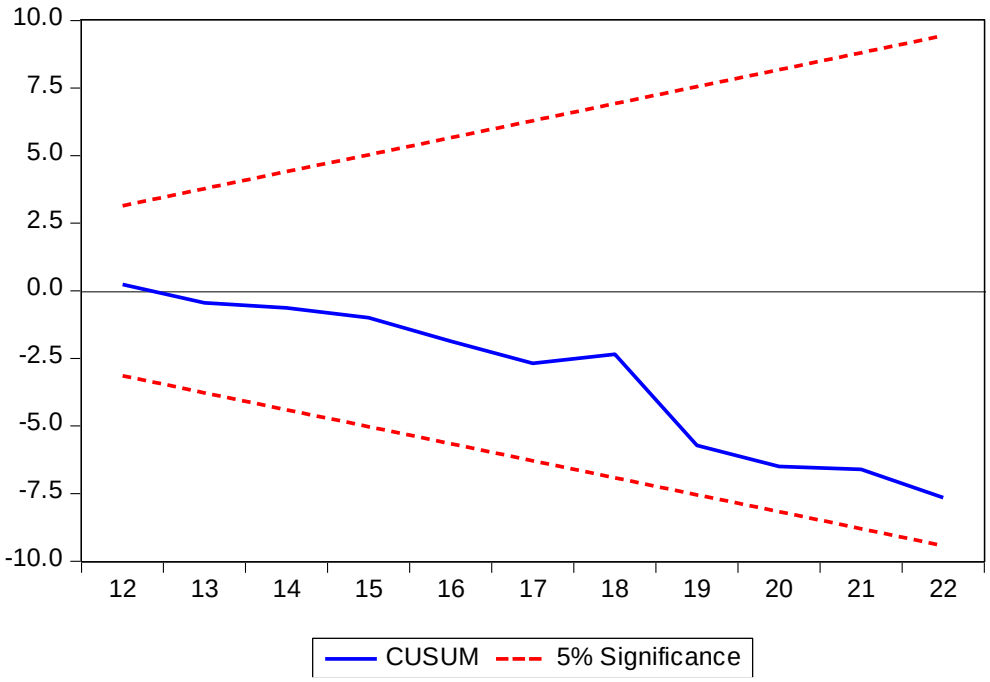
Diagnostic Test

The Breusch-Godfrey Serial Correlation LM and Heteroskedasticity tests were performed to check for the possibilities of serial correlations and Heteroskedasticity. The results in Table VII revealed that there is absence of serial correlations and Heteroskedasticity in the series. The Ramsey RESET test results show that the model is stable, which is also confirmed by the CUSUM test as shown in the Cusum graph.

Table VII: Diagnostic Test

Specification	**Stat (*p*-values)**	**Conclusion**
Bruesch–Godfrey (Serial Correlation)	3.217635 **(**0.0883**)**	No Serial Correlation
Bruesch–Pagan (heteroscedasticity)	1.202332 **(**0.3371**)**	No Heteroscedasticity

Source: Authors' computations, 2023



Discussions

This study examined the effect of electronic banking on the performance of deposit money banks in Nigeria from the period 2005-2022. The study developed two models to predict the performance of deposit money banks in Nigeria. In the first model, loans and advances were used to measure the performance of deposit money banks in Nigeria. The outcome of our analyses indicated that both web transactions and mobile transactions proved not to be significant in predicting loans and advances of deposit money banks in Nigeria. This finding finds support in the work of Amos et al. (2020). In their work on the effect of electronic banking on bank performance in Nigeria, Amos et al. (2020) used secondary data derived from annual financial reports of deposit money banks for the period 2008-2017. Data were analysed using multiple regression techniques. Their findings revealed that e-banking has no significant impact on the performance of deposit money banks in Nigeria. This finding implies that electronic banking aspects of web and mobile transactions still need improvements to significantly influence loans and advances in Nigeria. The outcome of this study contradicts the findings of Le et al. (2021) who posited that mobile transactions have a positive impact on consumer loans.

In the second model, we modelled the performance of deposit money banks using private sector deposits. Again, a similar conclusion was reached as both web and mobile transactions failed to significantly predict private sector deposits in Nigeria. This means that despite the importance of electronic banking in the performance framework of deposit money banks in Nigeria, it is still yet to stimulate private sector deposits. This finding mirrored the work of Nazaritehrani and Mashali (2020) and Mathenge (2020) who found that mobile banking does not affect banks' market share and financial performance respectively.

The overall implication of these findings is that the dimensions of electronic banking understudied are not sufficient enough to influence deposit money bank performance measured by loans and advances, and private sector deposits. This perhaps is due to challenges arising from limited access to technology, infrastructure constraints, and regulatory difficulties related to trust, security, and financial literacy. Also, limited product offerings are limiting the options available to customers. Without diverse loan products accessible via digital channels, the impact on loans and advances may be limited.

5. CONCLUSION AND RECOMMENDATIONS

This research work studied the effect of electronic banking on the performance of deposit money banks in Nigeria from the period 2005 to 2022. The variables used were loans and advances and private sector deposits as dependent variables while web and mobile transactions were the independent variables. The result showed that electronic banking components failed to significantly predict deposit money banks' performance indicators of loans and advances and private sector deposits. The study therefore concludes that electronic banking measured through web and mobile transactions have no effect on the performance of deposit money banks in Nigeria within the study period.

The study recommended that regulatory authorities should adhere to and promote the cashless policy as a way of facilitating the increased use of electronic banking components like the web and mobile transactions. The regulatory authorities should provide a strong regulatory

framework that would ensure the safety and security of electronic banking channels. This will enhance consumer confidence and will in turn expand the usage of the electronic channels. Deposit money banks are encouraged to explore other avenues of increasing loans and deposit base since it was discovered that electronic banking has not significantly improved loans and advances.

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