EFFECT OF DISRUPTIVE INNOVATION ON THE FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA.

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Abstract

The research focused on assessing the impact of disruptive innovation on the financial performance of deposit money banks in Nigeria, employing an ex-post research design covering the period from 2012 to 2022. Data were sourced from the Central Bank of Nigeria Statistical Bulletin and Global Financial Data Indicators (2022). Net interest margin was used as a proxy for financial performance, and disruptive innovations were represented by point of sales, net electronic fund transfer, mobile banking, and automated teller machine. The primary estimation technique utilized was multiple regression. The study revealed that point of sale and mobile banking exerted a positive influence on the net interest margin of deposit money banks in Nigeria. However, net electronic fund transfer and automatic teller machine had an adverse effect on the net interest margin of these banks. Consequently, the study concludes that not all disruptive innovations contribute positively to the financial performance of deposit money banks. In light of these findings, the study recommends that banks should introduce more user-friendly innovations to facilitate transactions for their customers.

Keywords: Financial performance, Disruptive innovations, Net interest margin, Deposit money banks

1. Introduction

For a wide range of activities like financial transactions, health care, education, trade and commerce, and logistics, firms, entities, and even policymakers depend more and more on disruptive innovation, particularly financial disruptive innovations (Shofawati, 2019; Ehiedu et al., 2022).

The traditional physical, branch-based financial services model is giving way to one that primarily depends on massive amounts of data and technology in addition to highly skilled human resources. Prior to then, there was a growing degree of interdependence between banks and markets, as more intermediate activity was shifting to the free-market environment (Ehiedu et al., 2022). In addition to increased disruptions from financial technologies in their fundamental activities, such as payment and financial advisory services, banks are now experiencing increased rivalry from other financial service providers. A change in the application of financial disruptive innovations in creating novel products and business models has been observed with the growth of the industry of FinTech, which can be defined as the application of groundbreaking information and computerization technologies for financial services (Vives, 2016).

The most significant innovative improvements in the Nigerian banking industry have been financial disruptive technologies like the ATM, POS, EFT, and internet banking (Akpokerere & Obonofiemro, 2022). But more and more FDTs are showing up in the finance industry in recent times. In an effort to establish themselves as middlemen in the fields of deposits, cards, payments, and loans to consumers and small businesses, these technologically advanced other types of financial services providers usually develop these innovations (Ighoroje & Akpokerere, 2021). Meanwhile, conventional banks face challenges from tighter regulations, declining earnings, and unstable economies worldwide (Bamidele, 2017). Strict rules were put in place to shield banks against foreign direct investments (FDIs) in the aftermath of the financial system crisis of 2008. This was done to avoid further shocks to the system. Global and national regulators, however, are beginning to recognise that highly regulated financial systems are a barrier to innovation and transformation (Bett & Bogonko, 2017). As a result, tight regulations are being loosened in an effort to make room for new businesses and boost competition in the financial services sector. Due to the combined impact of insolvent bank closures, the economic crisis, and the development in

online transactions, we can see a falling trend in the number of bank workers and branches in the Nigerian market. This has resulted in a consistent increase in online and mobile banking quarter over quarter (NBS, 2017).

Both the number of new financial disruptive technologies being adopted and the number of consumers being acquired via them have increased significantly. Because of the financial disruptive improvements in the industry, competitors may have overextended branch networks and antiquated outdated equipment (such mainframes) to meet the increasing service demands of their competitors. This is, in fact, the biggest shift that has occurred in the industry today. Customers now anticipate new levels of service, particularly in terms of clarity and usability of the interface. Financial disruptive technologies are going to be a huge deal when it comes to improving contestability and competition in the banking markets. The banking industry will change to a platform-based, customer-focused model, necessitating restructuring for current players (Vives, 2019). According to Ehiedu et al. (2020), financial disruptive inventions have the potential to greatly enhance DMBs growth via innovation, a more diverse pool of suppliers, and a more resilient monetary system that leads to financial inclusion and market expansion. These disruptive financial advances will force incumbents to take on more risk by applying pressure to their margins, which will lead to a scramble to capture the sector's rents. In order to realise the efficiency potential, new rivals must join the market at the same time as incumbents must reorganise, and new dominating positions cannot emerge. FinTech and BigTech are two examples of recent entrants that should acquire market share based on performance benefits rather than by ignoring regulations or controlling the user interface. Additionally, regulators need to focus on identifying new systemic risk types that represent a threat to financial stability (Philippon, 2018).

Human endeavours now need financial disruption, especially in the fields of productivity, economic growth, business dealings, and service excellence (Vives, 2019). Financial disruptive innovation is the process of managing and communicating information via speech, data, and video via the use of software, hardware, services, and supporting infrastructures (Uduji, 2013). Unprecedented changes to the business environment have resulted from the implementation of financial disruptive inventions (Uduji, 2013). For instance, the banking sector has profited greatly

from an internet business strategy(Vives, 2019). According to Oluwatolani et al. (2015), electronic transactions is one category of financial disruptive technologies that are often used to create, invent, and improve the performance and attractiveness of the banking sector.

According to Idowu et al. (2016), old delivery methods (manual techniques) have been supplanted by contemporary finance disruptive technologies such ATM, POS, Internet banking, NEFT, NIP, and mobile banking transactions. The degree to which the financial industry can improve the economy relies on the sort and amount of financial revolutionary products and services it delivers to clients (Ehiedu et al., 2022).

Obiekwe and Anyanwaokoro (2017) state that the banking sector has had serious risk exposure problems as a result of the adoption of financial disruptive technologies, especially in the covid-19 and post-covid-19 periods. Since its introduction into the market, both the amount of deposits and the fraudulent activities that Nigerian banks must deal with have expanded. Nigerian banks still struggle to modernise their operations to boost productivity, enhance service quality, cut average operating costs and time, even with the swift adoption of financial disruptive innovations tools like SMS, Internet, online banking, and real-time gross settlement. Previous research has yielded varying results in its attempts to understand the relationship between innovative technology and the financial performance of Nigerian banks. Examples of these studies include Umanhonlen et al. (2016) and Taiwo et al. (2017), Adeosun et al. (2021), Owonye and Obonofiemro (2022), and Mbagwu and Obonofiemro (2023). Due to this mixed outcome, this study aims examine the effect of disruptive innovation on the financial performance of deposit money banks in Nigeria by using four selected financial disruptive innovations tools and the net interest margin (NIM) of deposit money banks in Nigeria.

2. Literature Review

2.1 Conceptual Review

Financial disruptive technologies include i-tellers, branchless banking (via banks or non-bank entities), online and mobile financial services, electronic money, and mobile financial services (Organisation for Economic Cooperation and Development, 2018).

As per Michelle (2016), financial disruptive innovations are characterized as "a predetermined combination of payment and financial benefits delivered and managed through online or mobile technologies and a network of professionals." Furthermore, a myriad of technological advancements, including electronic funds transfers, mobile money, card payments, and e-money, have streamlined the process, enabling a broader range of providers to offer financial services to a more extensive client base..

Disruptive innovation, according to Christensen et al. (2018), is the formation of new value networks and marketplaces that, by upending established alliances and markets, eventually weaken established value networks and market leaders. It refers to any new technology or enterprise that seeks to disrupt and alter long-standing competitive trends. According to Mount (2012), disruptive innovations are those that alter how markets function now and boost customer expectations for greater performance levels. According to Christensen and Overdorf (2000) and Christensen and Raynor (2003), disruptive innovation is the phrase used to characterise developments in products, services, operations, and business models that pose a threat to conventional operational and commercial practices. In situations when disruptive change puts a firm at risk, it is often utilised to encourage the adoption of creative ideas. Mount (2012; Henderson, 2006).

Amidst the COVID-19 pandemic, there was an implementation of innovative financial strategies in emerging markets. This discussion delves into the evolving market trends that could amplify the influence of revolutionary technologies in emerging markets post-crisis. Additionally, it explores the associated risks and opportunities tied to the accelerated adoption of disruptive technologies in these markets, as outlined in a report by the International Finance Corporation (IFC, 2020).

Examples of disruptive financial technology include financial services accessible through mobile wallets, desktop computers, the internet, and debit or credit cards integrated with a secure digital payment system, along with smartphone-based services (Durai & Stella, 2019; Shofawati, 2019). This encompasses a broad spectrum of commodities, services, infrastructure, and technology facilitating individuals and organizations to borrow, save, and conduct online financial transactions

without the need for physical visits to a bank or direct interactions with financial service providers (Shofawati, 2019).

Profitability ratios are used to assess the financial performance of banks. These figures indicate the general efficacy and performance of a bank. Profitability ratios are useful tools for financial analysis since they help determine the bank's bottom line. Profitability ratios, which display a bank's total efficiency and performance, are essential knowledge for managers and owners to have in order to evaluate financial performance and make wise decisions. The two primary constituents of profitability measurements are margin and returns. Margin-related profitability metrics show how well a company can convert sales into profits at various quantitative levels. On the other hand, profitability ratios that display returns demonstrate how effectively a company can assess overall effectiveness and efficiency to produce profits for the owners. To evaluate the financial performance of a bank, profitability ratios are used. These figures indicate the general efficacy and performance of a bank. Profitability ratios are useful tools for financial analysis since they show how profitable a bank is. Margin-related profitability metrics focus on the company's ability to turn revenues into profits at different phases of assessment. However, profitability ratios that display returns demonstrate how effectively the business can assess overall effectiveness and efficiency in order to generate profits for its shareholders. Ratios are heavily scrutinised when assessing bank returns for profitability evaluation.

2.2 Theoretical Review

Innovation Diffusion Theory (IDT)

The innovation diffusion theory, put forward by Roger in 1983, was the foundation for this investigation. This hypothesis explains why people wish to use technology in a different way to do tasks that are often completed by hand. An invention's popular acceptance is largely determined by its relative utility, compatibility, trialability, observability, and complexity. It focuses on the process of creating a novel technological idea, technique, or creative application of an already-existing one to its farthest extent (Kim, 2016). According to the notion of innovation diffusion, participants of a social system share technical innovations throughout time via certain channels. A

technical innovation passes through the following phases: persuasion (creating a favourable attitude towards it), knowledge (realising it exists and knowing how it functions), decision (committing to adopting it), implementation (using it), and confirmation (reinforcing based on positive outcomes). The theory is relevant to the study because it highlights how technological disruptions, delivered through particular channels (such as mobile, internet, ATMs, and point of sale), have gradually ensured the effectiveness and efficiency of service delivery in the banking sector, improving the performance of Nigerian banks.

2.3 Empirical Review

The primary financial tools that banks have used to enhance their financial performance were examined by Baker et al. in 2023. Commercial banks listed on the Amman Stock Exchange and the Abu Dhabi Securities Exchange make up the study population. The financial facts and statistics span the years 2012 through 2020. The 115 questionnaires that were sent to the study population in Jordan and the United Arab Emirates had five questions per bank. Financial performance is the dependent variable, while FinTech, or financial technology, is the independent variable. An study of multiple linear regression was done to assess the concepts. The findings demonstrated that net profitability and total deposits are positively impacted by fintech.

The influence of financial technology (FINTECH) on the financial services offered by deposit money banks in Nigeria was studied by Islam et al. in 2022. The annual reports and accounts of deposit money banks published on the Nigerian Stock Exchange (NSE) are used in the research. The banks' financial reports, which were included into the annual reports and accounts for the ten-year period from 2012 to 2021, provided the secondary data. The data are analysed using descriptive statistics, regression analysis, and correlation analysis. The findings showed that the financial services provided by Nigeria's listed deposit money banks were significantly impacted by point-of-sale, online, and mobile banking.

Owonye and Obonofiemro (2022) studied the performance of deposit money banks (DMBs) in Nigeria during a 21-year period, from 2000 to 2020, as well as the covid-19 epidemic and financial disruptive technologies. The Nigeria Deposit Insurance Corporation (NDIC) Annual Reports for

the years 2000–2020, the CBN Statistical Bulletin, and the CBN Bank Supervisory Annual Report provided the information. The analysis of multiple regression was used. According to the results, POS systems and ATMs had a positive, considerable influence on the ROE of DMBs in Nigeria, whereas MB and INTB had a negative, minor impact.

The factors influencing micro-entrepreneurs' access to financing in informal settings were examined by Adeosun et al. in 2021. 300 carefully chosen micro-entrepreneurs at the University of Lagos in Nigeria received a structured questionnaire as part of the study, which used a survey research methodology. Out of all the completed surveys, only 291 have been found. Multiple regression analysis was also used in the research to estimate the empirical model. The research revealed that among young micro-entrepreneurs working in informal surroundings, knowledge of both official and informal finance possibilities is substantial. Among them, credit history and assets-based financing are significant factors of formal financing alternatives, whereas gender and network capacity are significant determinants of informal financing possibilities.

Financial innovation (FI) has an influence on Nigerian DMBs, according to research by Abdulmalik and Lamino (2021). That analysis was completed in the past. The sample size in Nigeria comprises of 13 listed DMBs due to the small population. The data (6–12 months) were from financial accounts and the 2019 CBN statistics bulletin. Regression, unit root tests, correlation, and descriptive statistics were all used in the research. The non-parametric technique known as Data Envelopment Analysis (DEA) is used to calculate the DMBs' efficiency. The research discovered that financial innovation—more specifically, Unstructured Supplementary Service Data, or USSD—improves DMB efficiency in Nigeria by using multiple regressions to assess the efficiency ratio. Board size has a negative and negligible impact on DMB efficiency in Nigeria. Ibekwe investigated DMBs in Nigeria in 2021. Research is done on how Nigerian DMBs are affected by POS, online, mobile, and ATM banking. OLS regression was used to analyse the CBN Statistical Bulletin, CBN Annual Report, and Statement of Accounts from 2006 to 2019. The returns on assets (ROA) of online banking were low to negative, whereas those of point-of-sale systems, mobile banking, and ATMs were all favourable. Financial innovation, thus, increases Nigerian DMBs' return on investment.

A research on the impact of financial commodities on certain deposit money institutions in Nigeria was carried out by Akwam and Yua in 2021. The research examined the potential effects on performance of bank products introduced in response to fierce competition. From 2010 to 2019, Nigerian Stock Exchange fact books and yearly reports featured secondary data. On the data, multiple regression analysis was performed. ROA, ROE, and EPS were enhanced by mobile banking, point of sale systems, and ATMs.

Adegbie et al. (2021) used a few Nigerian telecom network operators to examine how disruptive technology affected tax collection in Nigeria. Sixty-seven (67) data observations were submitted between 2001 and 2018 by Federal Inland Revenue Services and other communications network providers. Both descriptive and inferential statistics—panel ARDL in particular—were used to examine the data. The outcome demonstrated that disruptive technology had a favourable and significant impact on the value added tax that telecom network providers in Nigeria were required to pay.

The impact of banking innovations on the financial performance of commercial banks with listings in Nigeria was examined by Gambo (2020). A correlational research technique was used in this study. Between 2008 and 2019, secondary data was gathered from all Nigerian commercial banks that were listed. The information was taken from the listed commercial banks in Nigeria's annual reports. To evaluate the connection between variables, correlation analysis is used. To be more precise, multiple regression analysis was used by the researcher to determine if the independent and dependent variables were related. According to the research, MB, IB, and ATM all significantly impacted the FP.

Nwakoby, Chukwu, and Okoh (2020) looked at the impact of Nigeria's cashless policy on DMB profitability between 2009 and 2019. Secondary data from the CBN Statistical Bulletin were assessed using the Auto-regressive Distributed lag (ARDL) model. Profit before taxes is impacted by mobile banking, online payments, ATMs, and point-of-sale systems. Throughout the research period, DMBs' pre-tax earnings in Nigeria were negatively and negligibly impacted by the cashless policy.

In 2019, Muotolu and Nwadialor examined the impact of Nigerian DMBs' FP on the CBN Cashless Policy. The policy was implemented in 2012, and from that year until 2017, panel data were gathered from banks in Nigeria. The research modelled bank performance and cashless policies using value transactions from ATMs, point of sale systems, Internet banking, NIP, and NEFT. The research discovered that although ATMV had a significant and favourable influence on the return on assets (ROA) of Nigerian banks, the impacts of POSV, WEBV, NIPV, and NEFV were only somewhat beneficial. The study argues that e-banking products improve Nigerian DMBs' financial performance by taking the place of cashless policies.

Olaiya and Adeleke (2019) employed secondary data from the Central Bank of Nigeria's (CBN) Statistical Bulletin and CBN Financial Stability Reports to investigate the relationship between electronic banking and the profitability of deposit money banks (DMBs) in Nigeria from 2010 to 2018. Utilizing unit root and cointegration bound tests with Autoregressive Distributed Lags, the study assessed commercial banks' performance through returns on assets (ROA). Transactions conducted through automated teller machines (ATMTV), points of sale (POSTV), mobile banking (MBTV), and internet banking (IBTV) were used as proxies for electronic banking transactions. The results indicated a negative association between ROA and IBTV and MBTV, while ATMTV and POSTV showed a positive correlation.

Muotolu and Nwadialor (2019) examined the impact of the Central Bank of Nigeria's Cash-less Policy on the financial performance of DMBs in Nigeria. They used return on assets (ROA) as a proxy for bank performance and considered transactions through POS, ATM, Internet Banking, NIP, and NEFT platforms (E-banking Products) as indicators of cashless policies. The study found that ATMV had a significant positive effect on the ROA of Nigerian banks, while POSV, WEBV, NIPV, and NEFV had a positive but negligible impact.

Andabai and Bina (2019) investigated the relationship between DMBs' performance in Nigeria and the implementation of the cashless policy using Ordinary Least Square (OLS) and secondary data

from the Central Bank of Nigeria Statistical Bulletin spanning 2000–2018. They used ATM, POS, and MB as proxies for the cashless policy, replacing DMBs' performance with return on assets. The study highlighted the significant impact of automated teller machines, point-of-sale terminals, and mobile banking on DMBs' return on assets.

Ikpefan et al. (2018) assessed the impact of electronic banking tools on Nigeria's cashless policy over a ten-year period (2006-2015) by analyzing data from the Nigerian Interbank Settlement System (NIBSS) website and the Central Bank of Nigeria (CBN) annual report, employing the ordinary least square method. Contrary to expectations, the findings indicated that the usage of electronic banking tools had no discernible effect on the amount of money in circulation.

Ahmed-Ishmel et al. (2018) looked at how financial technology affected the way small and medium-sized businesses (SMEs) in Nigeria operated. A total of 120 small and medium-sized businesses from Lagos State's four (4) geographical zones were surveyed as part of the research. These small and medium-sized businesses (SMEs) are employed by a wide range of industries, including fashion, education, pharmaceuticals, internet merchants, automotive, cosmetics, agro-allied, printing, baking, dining establishments, IT companies, and retail. Their labour teams range from two to ten persons. With thirty (30) SMEs on each axis, this was done to symbolise the four axes. Eighty-three percent (100) of the available questions were deemed to be suitable for the study's objectives. Inferential statistics were used in the analysis of the data. According to the report, financial technology, or FinTech, has a beneficial economic effect and notably advances national development. Adoption and financing of fintech: advantages and disadvantages were also covered

3. Methodology

Ex-post facto research design was employed for the study with the scope spanning from 2012 to 2022, which is an eleven years' scope. The data were drawn from the Central Bank of Nigeria Statistical Bulletin and Global Financial Data Indicators. The study's model was adapted from the study of Islam et al. (2022). The adapted is presented in equation 3.1.

NIM = f(POS, NET, MOB, ATM)……(3.1)

Where:

NIM – Net Interest Margin

POS – Point of Sales

NET – Net Electronic Fund Transfer

MOB – Mobile Banking

ATM – Automatic Teller Machine

The study employed multiple regression as its main estimation technique; thus, regression model is presented in equation 3.2.

$$NIM_t = \beta_o + \beta_1 POS_t + \beta_2 NET_t + \beta_3 MOB_t + \beta_4 ATM_t + \mu_t \ldots (3.2)$$

Where:

β_o – Intercept

$\beta_1 - \beta_5$ – Coefficients of the regressors

μ – Error Term

The model was validated through serial correlation test, heteroscedasticity test, normality test, and stability test. The data were described using descriptive statistics, while the stationarity of the variables were determined using Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root test.

4. Result

Table 4.1 Descriptive Statistics

	NIM	POS	NET	MOB	ATM

Mean	6.434266	7002.163	145275.8	175098.68	93422.287
Std. Dev.	1.620852	13301.83	197571.7	34899.48	9448.054
Skewness	0.006466	1.909672	0.889278	2.041053	1.640701
Kurtosis	2.691033	5.081558	1.943941	5.836685	4.447834
Jarque-Bera	0.039845	8.671791	1.960990	11.32559	5.819591
Probability	0.980275	0.013090	0.375125	0.003473	0.054752

Source: Author's Compilation, 2025.

The average of NIM is 6.434 with a standard deviation of 1.620852 suggesting that the observations of NIM are clustered around the mean. NIM is rightly skewed and it's a platykurtic variable. NIM is normally distributed. POS has an average of 7002.163 with a standard deviation of 13301.83 which is shows that its observations are closer to the mean. POS is positively skewed, its leptokurtic variable, and it's not normally distributed. NET has mean value of 145275.8 and a standard deviation of 197571.7, this indicates that the observations of NET are spread out from the mean; It's skewed to the right and platykurtic in nature. NET id normally distributed. MOB

and ATM have average values of 17598.68 and 9342.287 respectively, similarly, both have standard deviation coefficients of 34899.48 and 9448.054 respectively; this shows that both variables have observations spread out from the mean; similarly, both MOB and ATM are positively skewed and are leptokurtic variables. MOB is normally distributed while ATM is normally distrusted.

Table 4.2 Unit Root Test

UNIT ROOT TEST RESULTS TABLE (KPSS)					
Null Hypothesis: the variable is stationary					
At Level					
	LNIM	LPOS	LNET	LMOB	LATM
t-Statistic	0.4734	0.5017	0.4041	0.4898	0.4856
Prob.	**	**	*	**	**
At First Difference					
	d(LNIM)	d(LPOS)	d(LNET)	d(LMOB)	d(LATM)

t-Statistic	0.1648	0.4500	0.2356	0.1555	0.1758
Prob.	**	***	***	**	**

Source: Author's Computation, 2025.

The unit root test indicates that all the variables are stationary at levels although at different significant levels; hence, this satisfies the condition to employ multiple regression for this study.

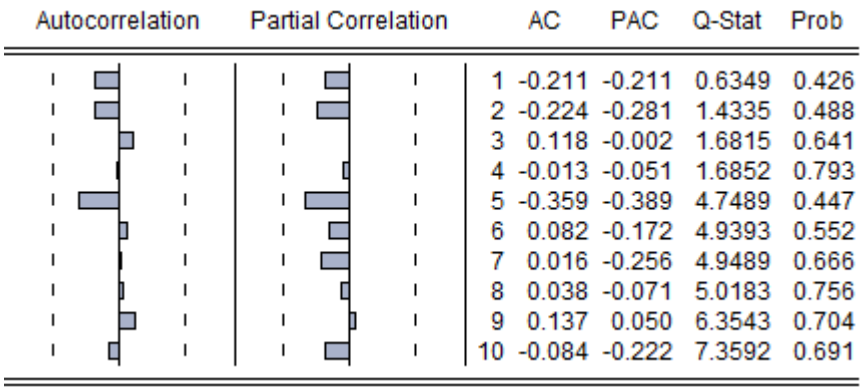
Table 4.3 Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LPOS	0.314564	0.055567	5.660985	0.0105
LNET	-0.177456	0.967532	-0.183411	0.8605
LMOB	0.463015	0.251850	1.838455	0.0539
LATM	-8.163532	2.416870	-3.377729	0.0225
C	38.32735	15.52009	2.469531	0.0431
R-squared	0.885436	Durbin-Watson stat		2.164838
Adjusted R-squared	0.809059			
F-statistic	11.59307			
Prob(F-statistic)	0.005498			

Source: Author's Computation, 2025.

Table 4.1 shows that POS has a positive effect of 0.314564 on NIM with a *p*-value 0.0105, indicating a statistically considerable effect; thus, a unit growth in POS will lead to a 0.314564 increase in NIM. NET exerted a -0.177456 negative influence on NIM, which suggests that a unit increase in NET will lead to a 0.177456 decline in NIM; the *p*-value of 0.8605 indicates that the influence of NT on NIM in statistically inconsiderable. MOB influences NIIM positively with a coefficient of 0.463015 with a statistically insignificant effect of *p*-value of 0.0539; this thus means that a unit increase in MOB will lead result in a 0.463015 rise in NIM. ATM has a negative effect of -8.163532 on NIM with a *p*-value 0.0225, indicating a statistically considerable effect; thus, a unit growth in ATM will lead to an 8.163532 reduction in NIM. The coefficient of determination (R-sq) indicates that 88.54 per cent of the variation in NIM is attributable to the regressors. D-W stat with a coefficient of 2.164838 indicates that there is absence of autocorrelation in the model. The model is statistically fit with an F-stat probability value of 0.005498.

Figure 4.1 Autocorrelation Test

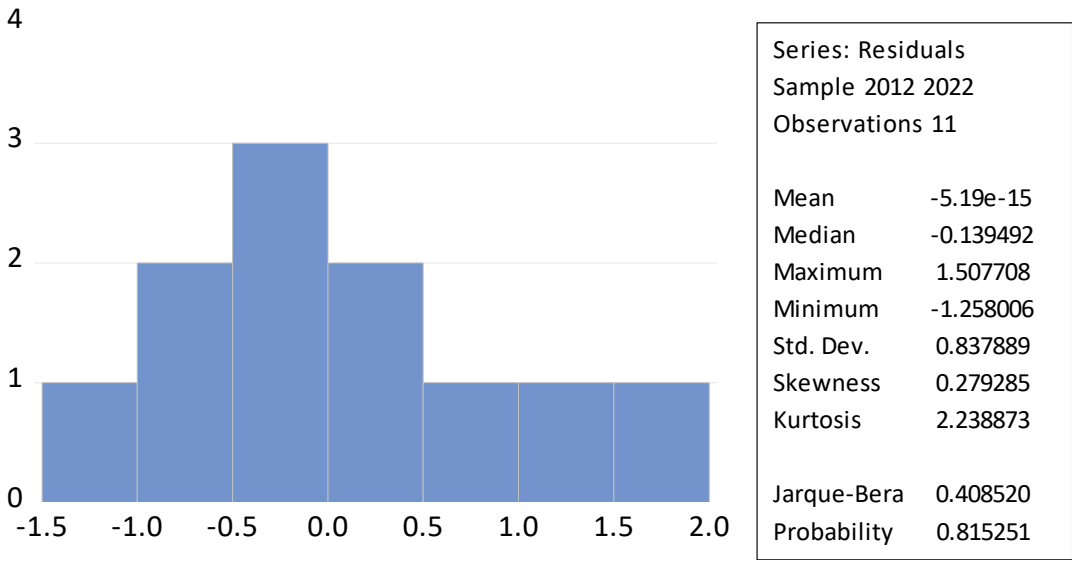


Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.211	-0.211	0.6349	0.426
		2	-0.224	-0.281	1.4335	0.488
		3	0.118	-0.002	1.6815	0.641
		4	-0.013	-0.051	1.6852	0.793
		5	-0.359	-0.389	4.7489	0.447
		6	0.082	-0.172	4.9393	0.552
		7	0.016	-0.256	4.9489	0.666
		8	0.038	-0.071	5.0183	0.756
		9	0.137	0.050	6.3543	0.704
		10	-0.084	-0.222	7.3592	0.691

Source: Author's Computation, 2025.

The autocorrelation test indicates that the model's residuals do not suffer from autocorrelation with the probability values of all the lags greater than 0.05.

Figure 4.2 Normality Test



Source: Author's Computation, 2025.

The normality test shows JB *p*-value of 0.815251; this is an indication that model's residuals are normally distributed.

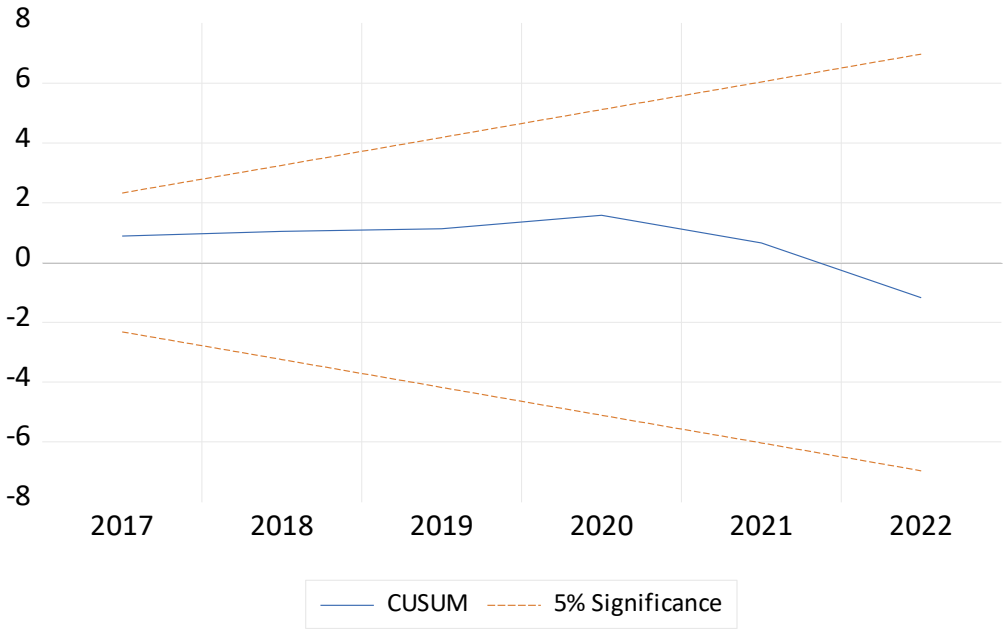
Table 4.4 Heteroscedasticity Test

F-statistic	2.129373	Prob. F(4,6)	0.1949
Obs*R-squared	6.453760	Prob. Chi-Square(4)	0.1677
Scaled explained SS	1.189397	Prob. Chi-Square(4)	0.8798

Source: Author's Computation, 2025.

The heteroscedasticity test has a *p*-value of 0.1949; this is greater than 0.05 significance level; thus, the model's residuals are homoscedastic.

Figure 4.3 Stability Test



Source: Author's Computation, 2025.

The model is stable with the CUSUM line not straying out of the 5% significance boundary

4.1 Discussion

The study discovered that point of sale and mobile banking have beneficial influence on the net interest margin of deposit money banks in Nigeria. This means that increase in the transaction carried out with point of sale and mobile banking will lead to a growth in net interest margin of deposit money banks. The findings are clear indication of the recent surge in the usage of POS terminals across the nation and likewise mobile banking since the COVID-19 period. This agrees with the study Hafez et al. (2023), Islam et al. (2022), and of Akwam and Yua (2021). Conversely, net electronic fund transfer and automatic teller machine have detrimental effect on net interest margin of deposit money banks in Nigeria; thus, increase net electronic fund transfer and automatic teller machine usage will lead to a decline in the net interest margin of deposit money banks in Nigeria. These findings could be due the reduction in the usage of ATMs due to other easier form transactions not involving the use of cash; the discovery of the study of Olaiya and Adeleke (2019) is in disharmony with the findings of this study.

5. Conclusion

The study examined how the financial performance of deposit money banks in influenced by disruptive innovations. From the findings, point of sale and mobile banking are positive determinants of deposit money banks financial performance while net electronic fund transfer and automatic teller machine are negative determinants. Thus, this study concludes that not all disruptive innovations influence the financial performance of deposit money banks positively. Based on these findings, the study recommends that banks introduce more accessible innovations that would make transaction easier for their customer and also strive to provide more automatic teller machines in rural locations.

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