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DISRUPTIVE TECHNOLOGY AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

The study examined the effect of technological disruption on the financial performance of Deposit Money Banks (DMBs) in Nigeria for the period of 2015-2023 (8 years). Technological innovation was proxy Automated Teller Machine (ATM), Point of Sales (POS) and Mobile Banking Transactions (MTs) while bank performance was proxy with Return on Equity (ROE) and Earnings Per Share (EPS)}. Secondary data was obtained from annual accounts of the deposit money banks, CBN Statistical Bulletin and Nigeria Deposit Insurance Corporation (NDIC) Annual Reports for the period 2015-2023. Multiple Regression analysis was employed with the aid of SPSS version 9.0 for the purpose of testing the research hypotheses. The finding revealed that Automated Teller Machine (ATM), Point of Sales (POS) and Mobile Banking Transactions (MBTs) have positive and significant effect on Return on Equity (ROE) and Earnings Per Share (EPS) of deposit money banks in Nigeria. Hence, the study concluded that technological disruption has significant positive effects on deposit money banks financial performance in Nigeria. Based on the findings, the study recommends that deposit money bank management should pay more attention on the activities that will improve the technological disruption channels of their banks if they wish to increase the ROE and EPS value of their banks as this will lead to high customers' satisfaction and patronage.

Key words: *Automated Teller Machine, Deposit Money Bank, Earnings Per Share, Point of Sales, Return on Equity*

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1. INTRODUCTION

The world of finance is changing at an unprecedented pace, driven by disruptive technologies that are transforming the way we live, work, and interact with money.The finance industry in the world of today is at the centre of technological metamorphosis. As the financial services industry continues to evolve through the application of various technologies, executives need to understand the market dynamics and how to leverage these innovations for their own success. Disruptive technology is an innovation that significantly alters the way that consumers, industries, or businesses operate. A disruptive technology sweeps away the systems or habits it replaces because it has attributes that are recognizably superior. Today, the application of digital technologies that seek to improve and automate the delivery and use

of financial services are generally referred to as Financial Technology, better known as Fintech (Kagan, 2022). Fintech is the application of new technological advancements to products and services in the financial industry and aims at improving & automating the delivery and use of financial services (Allied Market Research, 2021). Initially, Fintech only described the technology employed at the back-end systems of established financial institutions. However, there has been a shift to more consumer-oriented services and therefore has a more consumer oriented definition. Fintech now includes different sectors and industries such as education, retail banking, fundraising & non-profit, and investment management, to name a few (Kagan, 2022). According to PricewaterhouseCoopers (PWC, 2016), areas identified by FinTech for most disruption include consumer banking, fund transfer and payments, investment and wealth management, brokerage services, market operations and exchanges, commercial banking, insurance intermediation and investment banking among others.New solutions instruments of digital financial services include distributed ledger technologies such as mobile payments, crypto-assets and peer-to-peer application among others (Agur, Peria & Rochon, 2020). Digital currency (cryptocurrency) is one of such disruptive technologies which according to Seetharaman, Saravanan, Patwa and Mehta (2017), could render paper currency as a thing of the past and as argued by Devries (2016), cryptocurrency could be pushed into acceptance by investors who simply want a refuge from sinking global markets. The hysterical advent of the earliest known form of cryptocurrency (Bitcoin) presaged the need for accountants to recognize unpredictable upsurge to the global financial system.

In Nigeria, investments in and impact of financial technology have been massive. Driven either by their own interests or by the implementation of cashless policies by the Central Bank of Nigeria, a rapidly increasing number of consumers and business are letting go of the traditional financial practices and adopting new digital ways to carry out their financial transactions. According to financial reports of commercial banks in Nigeria, the first half of 2022 saw 10 commercial banks spend N81.92 billion on ICT services, a 58.7 per cent increase from the N51.62 billion spent by the banks in 2021 (Jaiyeola, 2022). The introduction of the cashless policy by the Apex bank, Central Bank of Nigeria brought technological disruption products like the use of Automated Teller Machines (ATM), Point of Sales(POS),mobile banking, internet banking Nigeria Interbank Settlement System Electronic Fund Transfer (NEFT), Nigeria Interbank Settlement System Instant Payment (NIP) transfers, and others to the fore (Okeke & Ezeala, 2023). Technological disruption in Nigeria banks is still plagued with some challenges such as long queue in some banking halls, network failure, lack

or inadequate awareness of available e-banking products and services, lack of understanding of e-banking products and services, frustration of customers at ATM centers, wrong debiting of accounts, fraudulent practices, loss of jobs because of technological advancement occasioned by electronic banking, among others.

Financial performance is measured by how much an institution is able to achieve greater efficiency and effectiveness in the use of resources in its objectives. Financial performance of Deposit Money Banks is based primarily on interest on loans and other advances availed to it numerous customers and any fall in the quality of loan portfolio exposes the institution to financial risks (credit risk, market risk and liquidity risks). Financial performance which measures how well a firm can generate value for the owners can be measured through various financial measures such as profit after tax, Return on Assets (ROA), Return on Equity (ROE), earnings per share, loan to deposit ratio and any market value ratio. As financial intermediaries, deposit money banks are decisive in development and growth of the economy. The banks must have adequate amount of deposit mobilization to be able to play the intermediation role. Indicators of financial performance are return on equity, liquidity ratios, asset management ratios, profitability ratios, loan to deposit ratio and market value ratios. Technological disruptions like ATMs, internet banking, debit and credit cards, agency banking and smartcard applications are taking place at an astronomical rate in the banking industry globally (Bett & Bogonko, 2017). Banking is an information-intensive business, and large modern day's banking business are information technology (IT) driven. The use of internet and mobile technologies in banking business have necessary implications banks' internal operations, the financial industry's value chain, and bank/customer relationship (Roger, Bons, Alt, Lee & Weber, 2016).These challenges are a pointer to the fact that no development initiative is perfect, especially when the objective is to make life better for the people by promoting efficient service delivery. If disruptive technologies or indeed Fintech are applied in the correct way, they could be used to overcome the social and economic gaps that exist worldwide (Schmidt & González, 2020).This thus makes technological disruption in banking more participatory and broad-based as it is a complete departure from the traditional/old media of the use of print materials or hard copies, particularly in the banking industry.

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1.1 Objectives

The purpose of this work is to determine the impact of disruptive Technologies on the Financial Sector which is the Deposit Money Banks. In specific terms, it intends to:

1. ascertain the effect of ATM deployment on earnings per share of Deposit Money Banks (DMBs) in Nigeria.
2. investigate the effect of ATM deployment on return on equity of Deposit Money Banks ((DMBs) in Nigeria.
3. evaluate the benefit of Mobile Banking on earning per share of Deposit Money Banks (DMBs) in Nigeria.
4. determine the benefit of Mobile Banking on return on equity of Deposit Money Banks (DMBs) in Nigeria.

1.2 Hypotheses

Based on the objectives of the study, the following null hypotheses guided the study:.

H_{o1}: The deployment of ATM has no significant effect on earnings per share of Deposit Money Banks.

H_{o2}: The deployment of ATM has no significant effect on return on equity of Deposit Money Banks.

H_{o3}: The introduction of Mobile Banking has no significant effect on earnings per share of Deposit Money Banks.

H_{o4}: The introduction of Mobile Banking has no significant effect on return on equity of Deposit Money Banks.

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Technological Disruption

Financial technology (FinTec)h has garnered the interest of the public, industry practitioners, regulators, researchers and policy makers worldwide. Its disruptive and transformative potential transcends country borders and is having real impact on the way financial services are provided. FinTech is forcing existing financial institutions to adapt. Consequently, financial institutions are investing and collaborating with those innovative start-ups who threaten traditional banking models. An amalgamation of 'finance' and 'technology', FinTech continues to capture the imagination and interest of consumers of all ages, financial sector firms, governments, regulators, supranational agencies and standard setters worldwide. The word FinTech broadly refers to technological innovations applied to the finance sector and

the word has gained entry to major dictionaries over the last few years—albeit no single definition exists. The Merriam-Webster dictionary defines FinTech as 'products and companies that employ newly developed digital and online technologies in the banking and financial services industries'. Fintech disruption period has being from 2008 during the global financial crisis. The global financial crisis (GFC) of 2007-2009, triggered by subprime mortgage events, instigated a deep crisis of confidence in traditional financial institutions and a change in consumer preferences. The latter is also the factor that feeds, together with the technological development and the availability of advanced technologies, the birth of the digital economy (Schena et al., 2018). Fintech disruption is in fact, not just the application of technological tools in the production and provision of financial services or products but technology has become the enabling tool to disrupt the financial industry landscape, facilitating change in the nature firms offering financial services (FSB, 2019).Electronic money, mobile financial services, online financial services, i-teller, and branchless banking, whether through banks or non-banks, are technologically disruptive advances according to the OECD (2018).

2.1.2 Automated Teller Machine (ATM)

Automated Teller Machine (ATM) is an electronic banking terminal that enables consumers to conduct simple transactions without the assistance of a teller or branch personnel. In the usage of ATMs, anyone with a creditor debit card can get cash. ATMs are convenient because they allow customers to do self-service operations like cash withdrawals, bill payments, and account transfers. The widespread acceptance of ATM financial engineering is attributed to the 2004 bank reforms and the country's earlier establishment of the Inter switch network in 2003. In cementing the reform program, deposit money banks installed ATMs in their premises and different critical areas to develop a cashless economy and ensure the efficiency of banks. Consequently, Olatokun and Igbinedion (2009), referenced in Backjena and Gundimeda (2018), observed that bank transactions increased by 93 percent between January 2005 and March 2006, owing to aggressive roll-out initiatives by banks, powered by Inter-switch Network. As a result, transactions volume increased from N1.6 million in 2006 to over N500 million in 2009, and the total number of ATMs increased dramatically from 500 in 2006 to over 8,000 in 2009. The number of ATMs was also 10,221 at the end of June 2012, with the value of ATM transactions increasing by 34.3 percent to N937.39 billion from N698.19 billion. From the initial N937.39 billion in June 2012, this sum had risen to N1.3 trillion by the end of the year. CBN recently announced that the number of financial transactions carried out through ATMs was N1.7 trillion in June 2014, up from N1.3 trillion in 2012. The number

of ATMs increased from 10,727 in 2012 to 15,000 in June 2014. Rapid ATM transactions in Nigeria are, however, not linked to DMBs' heavy attention on the promotion of ATM awareness through several ATM promotional schemes. Banks have even gone so far as to penalize their clients for not using ATM cards by debiting their account for withdrawing less than a particular amount across the counter, (Memba and Njeru, 2018). Consequently, CBN's Bankers Committee recommended the immediate abolition of the N100 penalty for clients who used a different bank's ATM from November 6, 2012. In a recent development, the CBN reintroduced ATM charges on September 1, 2014, and banks now charge consumers N65 for using remote-on-us ATMs after the third withdrawal within a month. Withdrawals performed from ATMs other than the bank where the account is domiciled are known as remote-on-us ATM withdrawals (Kumari, 2017). According to CBN N65reintroduction was necessary since bank customers now use ATMs indiscriminately resulting in to decrease in profits and increased overhead costs. As a result, the reintroduction of the fee will assist to reduce bank costs.

2.1.3 Mobile Banking in Nigeria

Mobile Banking is usually defined as carrying out banking business with the help of mobile devices such as mobile phones or personal digital assistant(s) (PDAs) (Georgi and Pinkl, 2005). Mobile banking is an emerging facet of electronic banking which simply means "carrying out various banking services from any mobile equipment which is in the form of mobilephone, tablet or any mobile device" (Drexelius and Herzig, 2001; Halabi et al., 2014; Khan et al., 2015). As consumers became deeply engrossed with these mobile devices, their features got highly refined from the remote and initial function of a phone to technologically advanced phone with a computer. The tablet and smart phone boom has changed the mobile device to a means that the consumers use to engage service providers in real-time and with an array of choices (Chaturvedi, 2013; Verma, 2013; Pehrsson and Svensson, 2013).

2.1.4 Financial Performance

Financial performance which assesses the fulfillment of a firm's financial goals has long being a problem of hobby in managerial researches. Financial performance refers to a firm's ability to achieve planned financial results as measured against its intended outputs.Banks have introduced a variety of innovative products and services over the years, all with the goal of improving efficiency, effectiveness, and economy. According to Ezeala, Nzewi and Ezekwesili (2022), financial performance indicators can be categorized into (1) those that measure profitability- this includes Return on capital employed (ROCE), Gross profit margin,

Net profit margin, Asset turnover (2) those that measure liquidity- this includes Current ratio, Quick ratio (acid test) (3) those that measure company risk- this includes financial gearing and Interest cover and (4) those that measure investors' interest-this includes Earnings Per Share (EPS), Return on Equity, Dividend cover, Dividend yield and Earnings yield. Our study is focused on performance based on investors interest particularly on Earnings Per Share and Returns on Equity.

2.1.5 Earnings of Per Share

Earnings per share (EPS) is a measure of a company's profitability that indicates how much profit each outstanding share of common stock has earned. Earnings per share or EPS is an important financial performance measure, which indicates the profitability of a banks. It is calculated by dividing the bank's net income with its number of outstanding shares. It is a tool that market participants use frequently to gauge the profitability of a bank before buying its shares. Earnings per share can be represented as follows:

1. Earning per share: Net Income after Tax/Total Number of Outstanding Shares.
2. Weighted earnings per share: (Net Income after Tax – Total Dividends)/ Total Number of Outstanding Shares.

2.1.6 Return on Equity

Return on Equity (ROE) is a measure of a bank's financial performance. It is calculated by dividing net income by shareholders' equity. The return on equity (ROE) is a measure of the profitability of a business in relation to its equity, where: ROE = Net Income/ Average Shareholders' Equity Thus, ROE is equal to a fiscal year's net income (after preferred stock dividends, shares), expressed as a percentage. Because shareholder's equity can be calculated by taking all assets and subtracting all liabilities, ROE can also be thought as a return on Net Asset Value, or assets less liabilities.

2.2.0 Theoretical Framework

2.2.1 Theory of Innovation Diffusion (IDT)

Rogers explains diffusion as "the procedure by which advancement is debated through definite networks among persons from a common gathering after some time" (Rogers, 1995). According to Rogers (1995), comparative benefit (the degree to which a technology advances on presently existing tools), compatibility (its steadiness with societal does and standards among its users), complexity (its easiness of usage or learning), trialability (the ability to attempt an innovation prior to obliging to use it), and adequacy (the ability to try an innovation

before committing to use it) are all factors that influence the diffusion of an innovation. Because these factors aren't mutually exclusive, it's impossible to forecast the degree or rate of innovation spread. This hypothesis is important to this research because it explains how innovation spreads from one sector of the economy to another, or from one department within a company to another. It explains how companies across the industry adopt new technologies. The banking industry, in particular, is characterized by shifting client demands and the necessity for fast service delivery. As a result, the theory explains why electronic money transfers and mobile banking have come to be common in the banking industry. Electronic money transfer allows a client to conduct business devoid of physically visiting a bank. On the other hand, mobile banking is quick and includes the transfer of mobile technology from the telecommunication industry to the banking sector. One of the reasons why banks obtain specialized advancements is to achieve a relevant cost and benefit competitive edge. This means that banks who embrace specialized innovations have a little financial competitive advantage over those that do not. The banking industry is defined by changing client demands and the necessity for fast service delivery. As a result, the theory sheds light on how ATMs, POS terminals, mobile banking, and electronic financial transfers have grown commonplace in the banking business. For example, mobile banking has spread mobile technology from the telecommunications industry to the banking industry. Financial innovation will trail the procedure of acceptance, dissemination, and utilization by an organization, regardless of the degree of financial innovation. Several studies have examined the impact of internet adoption on financial firms' performance. Ghose and Maji (2022) utilize data of 67 commercial banks operating in India over a 9-year period to examine the impact of internet banking intensity on performance. They find that the volume and value of internet banking exert an upward effect on the banks' profitability. From the view of the bank-customer, customer satisfaction is the most common theme in the literature on internet banking (Keskar& Pandey, 2018). Rahi, Othman-Mansour, Alharafsheh, and Alghizzawi (2021) develop a theoretical framework based on the well-known of internet adoption by users namely: expectation-confirmation theory, self-determination theory and the commitment trust theory to investigate user continuance of internet banking and find that the underpinning factors to the three theories have significant impact on user continuance.

2.3 Empirical Reviews

Abdulmalik and Lamino (2021) examined how financial innovation (FI) affects Nigerian Deposit Money Banks. The study was retrospective. Since the population is tiny, the sample size is 13 listed DMBs in Nigeria. Financial statements and the 2019 CBN statistical bulletin

provided data (6-12months). Analysis included descriptive statistics, correlation, unit root tests, and regression. Data envelopment analysis (DEA) estimates DMBs efficiency non-parametrically. The study used multiple regressions to examine the efficiency ratio and found that financial innovation (Unstructured Supplementary Service Data–USSD) improves DMBs efficiency in Nigeria. Board size affects DMBs efficiency in Nigeria negatively and insignificantly.

Nigerian DMBs were investigated by Ibekwe (2021). ATM, mobile banking, internet banking, and POS are examined to determine their influence on DMBs in Nigeria. The CBN Statistical Bulletin, CBN Annual Report, and Statement of Accounts from 2006 to 2019 were analyzed using OLS regression. ATM, mobile banking, and POS showed positive ROA, however internet banking had negative and modest returns. Thus, financial innovation boosts Nigerian DMBs' ROI. Okeke and Ezeala (2023) examined the effect of financial innovation on the performance of deposit money banks in Nigeria. They proxy financial innovation using automated teller machine, mobile banking and point of sale transactions while financial performance of deposit money banks was proxy with liquidity ratio and loan to deposit ratio. Using multiple regression analysis, findings from their study indicated that point of sale transactions (POS) have significant effect on the performance of deposit money banks using Liquidity ratio as a proxy while automated teller machine and mobile banking have insignificant effect on banks liquidity. On the second hypothesis which used Loan to deposit ratio as a proxy to the performance of deposit money banks, their findings showed that the automated teller machine, mobile banking and point of sales have insignificant effect on performance of deposit money banks in Nigeria. The study recommends that Banks should encourage the use of POS so as to further boost banking transactions beyond the limitation of the banking hall, explore other sources of revenue for profitability enhancement and general performance and adopt financial innovations to foster performance, increase their tentacles and also increase market share. Akwam and Yua (2021) studied how financial goods affected selected Nigerian deposit money institutions. The study explored whether banks' products launched in response to severe rivalry influenced performance. 2010–2019 Nigerian Stock Exchange fact books and annual reports incorporated secondary data. Multiple regressions analysed data. Mobile banking, point of sale, and ATMs improved ROA, ROE, and EPS.

Nwakoby, Chukwu, and Okoh (2020) examined how cashless policy affected Deposit Money Banks profitability in Nigeria from 2009 to 2019. The Auto-regressive Distributed lag (ARDL) model was used to analyze secondary data from the CBN Statistical Bulletin. POS

Terminal, ATM, Mobile Banking, and Web Payment explain Profit before Tax. Cashless policy negatively and insignificantly affected DMBs' profit before tax in Nigeria during the study period. Muotolu and Nwadialor (2019) examined how the CBN Cashless Policy affected Nigerian DMBs' FP. Panel data were collected from 14 banks from 2012, when the policy was established in Nigeria, through 2017. The study used ATM, POS, Internet Banking, NIP, and NEFT value transactions to proxy cashless policy and ROA to mimic bank performance. We used Descriptive Statistic Analysis, Multicolinearity, Correlation, and Herteroskadaticity tests to validate and verify our data. The study concluded that ATMV has a positive and substantial influence on ROA of Nigerian banks, while, POSV, WEBV, NIPV, and NEFV had a positive but negligible effect. The study found that E-banking products as a proxy for cashless policy improve Nigerian DMBs FP.

3. MATERIAL AND METHODS

The study adopted expos facto research design because it set out to assess the conditions that already existed without interference with the variables of the study. Kothari, (2008) opinioned that the choice of research design is determined by the focused objectives of the study. The study aimed at assessing the effect of technological innovation on performance of deposit money banks in Nigeria. The population of this study comprises of twenty-two (22) operational Deposit Money banks. However, owing to the small number of DMBs in Nigeria, the study made use of ten (3) banks operating presently in Nigeria. Time series data on the study variables was obtained from Central Bank of Nigeria (CBN) Supervisory Annual Report and Nigeria Deposit Insurance Corporation (NDIC) Annual Reports for the period 2015-2023 (8years). As a result, the data from this source will be regarded to be reliable and accurate for use in the study. The study adopted the econometric model in evaluating the disruptive technologies and financial sector of financial performance of deposit money banks in Nigeria. The model used for the study will be the adoption and modifications from the work of Okeke & Ezeala (2023) where they analyzed financial innovation and performance of deposit money banks in Nigeria. The model is stated thus

ROE = f(ATM, MB,POS, ITB) ……..Eqn 1.

The estimation equation:

ROE = $\beta 0 + \beta 1$ ATM + $\beta 2$MB+ $\beta 3$ POS + $\beta 4$ ITB + μ ……..Eqn 2

EPS = $\beta 0 + \beta 1$ ATM + $\beta 2$MB+ $\beta 3$ POS + $\beta 4$ ITB + μ …….Eqn 3

Where: ROE = Return on Equity

EPS = Earnings Per Share

ATM= Automated Teller Machine

MB= Mobile Banking

POS=Point of Sales

ITB= Internet Banking

The model was adapted and modified into two models

$EPS = \beta0 + \beta1\ ATM + \beta2POS + \beta3\ MB + \mu$ ……Eqn 4

$ROE = \beta0 + \beta1\ ATM + \beta2POS + \beta3\ MB + \mu$ ……..Eqn 5

Where: EPS = Earnings Per Shareratio

ROE = Return on Equity ratio

ATM= Automated Teller Machine

MB = Mobile Banking Transactions

POS =Point of Sales/Service

$\beta0$ and μ are the constant and error term respectively while $\beta1$, $\beta2$, $\beta3$, and $\beta4$ are the coefficient of financial innovation on the performance of deposit money banks in Nigeria. The time series data on Value of ATM Transactions (ATM), Value of Electronic Mobile Banking Transactions (MB), Value of POS Transactions (POS), Liquidity ratio and loan to deposit ratio are represented in table i.

Dependent Variable:

EPS-----Earning Per Share

ROA-----Return on Equity

Independent Variable:

ATM---- Value of Automated Teller Machine transaction

POS---- Value of Point on Sales transaction

MB---- Value of Mobile Banking transaction

4. RESULTS AND DISCUSSION

4.1 Data Presentation

This study examined the effect of disruptive technology on the performance of deposit money banks in Nigeria from year 2015 to year 2023. The sources of data are mainly from Central Bank of Nigeria (CBN) Quarterly Statistical Bulletin, Nigeria Deposit Insurance Corporation (NDIC) Quarterly Report for the relevant years and annual financial reports of the deposit money banks. Data so obtained on volume of ATM transaction, volume of mobile phone transactions, Return on equity, earnings per share are presented under appendix 1 in this study.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

H_o: Automated Teller machine has no significant effect on return on equity of the Deposit Money Banks s in Nigeria.

H_i: Automated Teller machine has significant effect on return on equity of the Deposit Money Banks in Nigeria.

Table 1. Regression Analysis result

Dependent Variable: ROE

Method: Least Squares

Date: 08/26/24 Time: 02:32

Sample: 2015Q1 2023Q4

Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.211383	3.007468	0.402792	0.0003
ATM	3.54E-09	3.88E-08	-0.091169	0.0080
R-squared	0.163592	Mean dependent var		2.018437
Adjusted R-squared	0.039680	S.D. dependent var		4.045389
S.E. of regression	3.964315	Akaike info criterion		5.735144
Sum squared resid	424.3265	Schwarz criterion		5.964166
Log likelihood	-86.76231	Hannan-Quinn criter.		5.811058
F-statistic	1.320228	Durbin-Watson stat		2.085263
Prob(F-statistic)	0.000703			

Source: Regression Result from Eview

The results of the regression analysis in Table 1 with Return on equity (ROA) as the dependent variable showed a significant effect. The coefficient for the constant term is 1.211383 with a p-value of 0.0003. This is statistically significant, indicating that when the independent variable (ATM) are zero, the average ROE is expected to be approximately 1.2114. The coefficient is 3.54E-09, which suggests a positive relationship with ROE. However, the very small coefficient indicates a minimal effect. The p-value of 0.0080 shows that this effect is statistically significant, implying that as ATM transactions increase, ROE tends to increase,

albeit slightly. The adjusted R-squared is even lower at 0.039680, reflecting that the model's explanatory power decreases after adjusting for the number of predictors. The P- value of 0.000703 is less than the significance value of 0.05, hence we reject the null hypothesis and conclude that there is a significant relationship between Automated Teller machine and return on equity of the banks.

4.2.2 Hypothesis Two

H_o: Mobile money has no significant effect on return on equity of the DMBs in Nigeria.

H_i: Mobile money has a significant effect on return on equity of the DMBs in Nigeria.

Table 2. Regression Analysis result

Dependent Variable: ROE

Method: Least Squares

Date: 08/26/24 Time: 02:42

Sample: 2015Q1 2023Q4

Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	48101.40	18269.29	2.632910	0.0138
MBNK	8.65E-05	0.000155	0.556510	0.0024

R-squared	0.183644	Mean dependent var	6291.667
Adjusted R-squared	0.062703	S.D. dependent var	24874.27
S.E. of regression	24081.80	Akaike info criterion	23.15890
Sum squared resid	1.57E+10	Schwarz criterion	23.38792
Log likelihood	-365.5424	Hannan-Quinn criter.	23.23482
F-statistic	1.518456	Durbin-Watson stat	2.648781
Prob(F-statistic)	0.004828		

Source: Regression Result from Eview

The results of regression analysis in Table 2, with ROE (representing Return on equity") as the dependent variable. The constant term has a coefficient of 48101.40 with a p-value of 0.0138. This is statistically significant, suggesting that when the independent variable (MBNK) is zero, the expected value of ROE is approximately 48,101.40 units (whatever the unit of measurement is for ROE). The prob value of MBNK was less than 0.05, thereby

signifying significance of the independent variables on the dependent variable and was positive. The Durbin-Watson coefficient of 2.648781 shows no autocorrelation problem. The P-value (F-stat) is less than 0.05, and in line with the decision rule, we reject the null hypothesis and conclude that mobile money has a significant effect on return on equity of the DMBs in Nigeria.

4.2.3 Hypothesis Three

H_o: Automated Teller machine has a significant effect on earnings per share of the DMBs in Nigeria.

H_i: Automated Teller machine has a significant effect on earnings per share of the DMBs in Nigeria.

Table 3. Regression Analysis result

Dependent Variable: EPS

Method: Least Squares

Date: 08/26/24 Time: 02:50

Sample: 2015Q1 2023Q4

Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	276694.2	93068.29	2.973023	0.0061
ATM	0.002939	0.001201	-2.447312	0.0212

R-squared	0.225497	Mean dependent var	33859.22
Adjusted R-squared	0.110756	S.D. dependent var	130094.3
S.E. of regression	122678.6	Akaike info criterion	26.41513
Sum squared resid	4.06E+11	Schwarz criterion	26.64415
Log likelihood	-417.6420	Hannan-Quinn criter.	26.49104
F-statistic	1.965265	Durbin-Watson stat	2.010447
Prob(F-statistic)	0.000424		

Source: Regression Result from Eview

The regression results in Table 3 with earnings per share (EPS) as the dependent variable. The constant term has a coefficient of 276694.2 with a p-value of 0.0061, which is statistically significant. This suggests that when all other variables (ATM) is zero. The coefficient for

ATM transactions is 0.002939 with a p-value of 0.0212. This is statistically significant and indicates a positive relationship between ATM transactions and EPS. As ATM transactions increase by one unit, EPSis expected to increase by approximately 0.002939 units, though the impact is quite small.

The Durbin-Watson statistic is 2.010447, which is close to the value of 2. This suggests that there is little to no autocorrelation in the residuals, meaning the residuals are likely independent of each other. The P-value of 0.000424 is less than 0.05, hence we reject the null hypothesis and conclude that Automated Teller machine has a significant effect on earnings per share of the DMBs in Nigeria.

4.2.4 Hypothesis Four

H_o: Mobile money has no significant effect on earnings per share of the DMBs in Nigeria.

H_i: Mobile money has a significant effect on earnings per share of the DMBs in Nigeria.

Table 4. Regression Analysis result

Dependent Variable: ROE

Method: Least Squares

Date: 08/26/24 Time: 02:59

Sample: 2015Q1 2023Q4

Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.176440	18269.29	2.632910	0.0100
MBNK	2.65E-05	0.000155	0.556510	0.0004

R-squared	0.183644	Mean dependent var	6291.667
Adjusted R-squared	0.062703	S.D. dependent var	24874.27
S.E. of regression	24081.80	Akaike info criterion	23.15890
Sum squared resid	1.57E+10	Schwarz criterion	23.38792
Log likelihood	-365.5424	Hannan-Quinn criter.	23.23482
F-statistic	1.518456	Durbin-Watson stat	2.038781
Prob(F-statistic)	0.000000		

Source: Regression Result from Eview

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The results of regression analysis in Table 4, with EPS (representing earnings per share) as the dependent variable. The constant term has a coefficient of 3.176440 with a p-value of 0.0100. This is statistically significant, suggesting that when the independent variable (MBNK) is zero, the expected value of earnings per share is approximately 3.176440 units (whatever the unit of measurement is for earnings per share). The prob value of MBNK was less than 0.05, thereby signifying significance of the independent variables on the dependent variable and was positive. The Durbin-Watson coefficient of 2.603781 shows no autocorrelation problem. The P-value (F-stat) is less than 0.05, and in line with the decision rule, we reject the null hypothesis and conclude that mobile money has a significant effect on earnings per share of the DMBs in Nigeria.

CONCLUSSION AND RECOMMENDATIONS

Based on the results from the data analysis and the summary discussed above, in hypothesis one (1) and two(2) we conclude that financial technologies specifically ATM and Mobile Banking transactions have significant effect on earnings per share of deposit money banks in Nigeria. Based on this, we accept the alternative hypothesis which states that ATM and Mobile Banking have some significant effect on earnings per share of deposit money banks in Nigeria. In hypothesis three (3) and four (4), the results from data analysis and the summary discussed, we conclude that financial technologies specifically ATM and Mobile banking transactions have significant effect on return on equity of deposit money banks in Nigeria. Based on the above assertion, we reject the null hypothesis which states that financial technologies like ATMs and Mobile Banking has no significant effect on earnings per share and return on equity of deposit money banks in Nigeria.

The above conclusion showed that one of the few innovations in banking that has blossomed in Nigeria is ATM and the Mobile Banking, they have significantly contributed to the performance of Banks in Nigeria. The study thereby recommends as follows:

i. That Banks should invest more on ATM and Mobile Banking services so as to enhance liquidity while providing better services to its numerous customers.
ii. Deposit money banks should invest more on financial technology in order to foster performance, increase their tentacles and also increase market share.
iii. Banks should explore other sources of revenue as to enhance the general performance of deposit money banks since it has been found that financial technology on its own cannot guarantee profitability and improved performance.

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APPENDIX 1

Volume of Transactions on ATM, Mobile Banking, Return on Equity and Earnings per share of Deposit Money Banks from 2015-2023

Year	Quarters	ATM (Million)	Mobile Banking (Million)	ROE (%)	EPS (%)
2015	Quarter 1	34,472,254	3,915,185	0.87	21.67
	Quarter 2	36,005,723	4,530,683	0.55	21.44
	Quarter 3	355,572,008	5,342,705	0.48	21.32
	Quarter 4	40,856,945	7,449,828	0.45	28.43
2016	Quarter 1	41,596,729	4,697,335	0.57	24.98
	Quarter 2	45,463,562	2,881,173	0.72	25.59
	Quarter 3	51,055,678	3,621,863	-0.20	26.93
	Quarter 4	58,630,343	4,484,047	1.48	24.00
2017	Quarter 1	59,654,903	4,203,235	0.48	24.00
	Quarter 2	62,601,810	3,853,036	0.60	34.37
	Quarter 3	64,695,576	3,787,693	0.48	38.60
	Quarter 4	79,897,410	4,090,889	0.60	18.37
2018	Quarter 1	70,790,284	5,084,892	0.32	18.83
	Quarter 2	72,472,654	6,895,622	0.64	17.78
	Quarter 3	73,423,457	8,299,316	0.24	71.95
	Quarter 4	75,153,374	11,271,319	0.88	28.16
2019	Quarter 1	67,653,244	13,824,335	0.41	27.35
	Quarter 2	73,886,648	21,100,309	0.57	28.29
	Quarter 3	70,942,146	37,689,111	0.57	19.12
	Quarter 4	67,457,936	53,141,314	0.57	19.12
2020	Quarter 1	175,510,149	57,783,659	0.57	20.81
	Quarter 2	134,133,958	52,163,185	0.57	20.81
	Quarter 3	176,676,352	65,698,585	0.57	26.97
	Quarter 4	151,753,014	80,767,467	15.09	26.88
2021	Quarter 1	112,427,867	59,426,444	11.10	20.38

	Quarter 2	142,120,143	65,724,973	15.98	34.38
	Quarter 3	147,802,729	74,738,361	0.33	32.62
	Quarter 4	130,711,707	77,290,434	0.48	35.38
2022	Quarter 1	122,740,439	119,472,943	0.32	35.47
	Quarter 2	115,155,511	138,567,416	0.32	35.11
	Quarter 3	135,167,700	161,731,032	0.32	44.0
	Quarter 4	129,266,984	200,682,937	1.51	43.27
2023	Quarter 1	80,974,933	372,874,368	0.70	43.73
	Quarter 2	92,198,509	404,105,890	2.60	42.74
	Quarter 3	82,038,736	444,098,385	2.60	42.74
	Quarter 4	82,213,816	532,080,549	2.60	42.74

Source: Central Bank of Nigeria Banking Quarterly Statistical Bulletin 2023