**Financial Technology and Financial Performance: Experience from Nigeria Deposit Money Banks**

***Abstract***

 *This study examines the impact of Financial Technology (FinTech) on the financial performance of deposit money banks in Nigeria. A survey research design was used to collect data from 150 respondents randomly selected across six banking institutions operating in Nigeria, chosen using a homogeneous purposive sampling technique, with each bank providing a sample of 25 questionnaires. Out of the 150 questionnaires distributed, 132 were retrieved and found useful, representing 88% of the total questionnaires administered. The collected data were summarized and analyzed using descriptive statistics, such as tables, frequency, and percentage analysis, while multiple regression analysis was employed to test the hypotheses. The findings reveal a significant positive relationship between digital banking adoption and banks' Return on Assets (ROA), with a coefficient of determination (R²) of* 0.743*, indicating that 74% of the variation in bank performance is explained by the adoption of digital banking. The study shows that digital banking practices, including ATM transaction volume and internet banking usage, significantly overall profitability of the sampled banks . the study concluded that components of financial technology, such as digital banking penetration, ATM transaction volume, and internet banking usage, are key drivers of banking performance and significantly enhance profitability in Nigeria's deposit money banks. The study recommends that banks invest in advanced digital infrastructure, enhance ATM service reliability, and prioritize cybersecurity measures. These steps will not only increase long-term profitability but also foster greater customer trust in the digital banking space*.

***Keywords***: *Digital Banking, Return on Assets (ROA), Deposit Money Banks, Financial Technology , Financial Performance*

**Introduction**

Deposit Money Banks (DMBs) play a critical role in Nigeria’s financial sector by facilitating economic activities, ensuring financial intermediation, and enhancing capital allocation efficiency (Jimoh , 2024; sule & Saminu, 2023). These banks serve as the backbone of the economy by providing essential financial services, including credit facilities, payment processing, and investment solutions. However, with the rapid advancement of digital financial technologies, the traditional banking model has undergone significant transformation, reshaping the way financial services are delivered. The integration of financial technology (FinTech) into banking operations has become a fundamental factor in enhancing banking performance, improving customer service, and increasing operational efficiency (Adebisi & Uket, 2020)

FinTech refers to the use of technological innovations to improve financial services, enabling banks to offer seamless, secure, and efficient financial transactions through mobile banking, digital payments, automated lending, and blockchain technology. The adoption of FinTech solutions by DMBs in Nigeria is driven by the need to enhance financial accessibility, reduce transaction costs, and improve banking efficiency (Akanbi et al., 2022; Ojo & Nwaokike, 2018). Studies have shown that financial institutions leveraging FinTech experience increased profitability, enhanced customer satisfaction, and improved financial. As a result, Nigerian banks have increasingly integrated digital banking platforms, mobile payment services, and AI-driven financial analytics to optimize service delivery and remain competitive in the digital economy (Ojo,& Nwaokike,2018)

Despite the immense benefits of FinTech adoption, the performance of Nigerian DMBs varies significantly based on the extent of technology integration. Performance indicators such as **Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Non-Performing Loan Ratio (NPL)** are often used to assess how effectively banks utilize financial technology to drive profitability and financial stability (Otonne, Melikam, & Ige, 2023).). Furthermore, digital banking penetration, mobile banking transactions, and electronic payment volumes are essential metrics for evaluating the influence of FinTech on banking operations (Chukwuemeka et al., 2022; Adebisi & Lawal, 2021). Research indicates that banks that invest heavily in digital infrastructure and cybersecurity frameworks tend to record higher financial performance due to improved efficiency (Chimaobi, 2018)).

However, the transition to a fully digital banking system in Nigeria faces several challenges, including inadequate digital infrastructure, cybersecurity risks, and regulatory constraint as many banks struggle with data security threats, increased fraud risks, and resistance from customers who prefer traditional banking methods (Zahoor , Ud-din, & Sunami, 2016).). These challenges hinder the full-scale adoption of FinTech innovations, limiting their potential to drive optimal bank performance. Moreover, the high cost of adopting cutting-edge technologies, coupled with inadequate IT expertise, poses a significant barrier to digital transformation within the Nigerian banking sector.

Despite extensive research on digital banking adoption, ATM transactions, and internet banking, a critical gap exists in understanding their collective and individual effects on the profitability of Nigerian DMBs, particularly with respect to ROA. Many existing studies have either focused on general banking efficiency or customer satisfaction without directly linking these financial technologies to firm performance. Additionally, while some research has examined financial inclusion and banking innovations separately, there is a scarcity of empirical studies that comprehensively analyze the extent to which these innovations translate into tangible financial gains for banks. This study aims to bridge this gap by providing an empirical assessment of how digital banking penetration, ATM transaction usage, and internet banking adoption influence the ROA of Nigerian DMBs, thereby offering insights that can inform banking policies, investment strategies, and financial technology adoption frameworks.

**Research Objectives**

The objectives of this study are to:

1. Examine the impact of digital banking penetration on the return on assets of deposit money banks in Nigeria.
2. Assess how the volume of ATM transactions influences the return on assets of deposit money banks in Nigeria.
3. Evaluate the extent to which internet banking usage affects the return on assets of deposit money banks in Nigeria.

**Research Hypotheses**

Ho1: Digital banking penetration has no significant impact on the return on assets of deposit money banks in Nigeria.

H₀2: The volume of ATM transactions does not significantly influence the return on assets of deposit money banks in Nigeria.

H₀3: Internet banking usage does not have a significant effect on the return on assets of deposit money banks in Nigeria.

**Conceptual Explorations**

**The Impact of Digital Banking Penetration on Return on Assets of Deposit Money Banks**

Digital banking penetration has revolutionized the financial landscape by enabling banks to provide seamless, efficient, and cost-effective financial services to customers through digital platforms (Belás, Korauš, Kombo & Korauš 2016). The Nigerian banking sector has experienced rapid growth in digital banking adoption, driven by increased mobile phone usage, internet accessibility, and customer preference for cashless transactions (Oladejo and Yinus 2013). Digital banking is expected to enhance financial performance by reducing operational costs, increasing transaction volumes, and broadening customer reach (Belás, Korauš, Kombo & Korauš 2016; Oladejo, and Yinus 2014). In theory, this should translate into improved return on assets (ROA), as banks generate higher revenues from digital transactions while minimizing the costs associated with traditional banking (Manyik., Lund, Singer, White, & Berry, 2016).). However, the extent to which digital banking penetration influences profitability remains unclear, as challenges such as cyber threats, infrastructure limitations, and regulatory bottlenecks continue to affect the efficiency of digital banking operations in the Nigeria Context.

Despite the expected benefits, empirical findings on the relationship between digital banking penetration and profitability remain inconclusive. Furthermore, customer trust in digital banking remains a significant issue, as concerns over transaction security and data breaches persist

**ATM Transactions and Bank Profitability in Nigeria**

ATMs provide banks with a revenue stream through service charges, withdrawal fees, and interbank transfer costs, potentially improving bank performance. ATM transactions also pose financial and operational risks that may negatively affect return on assets. High maintenance costs, machine downtimes, fraudulent activities, and the need for constant cash replenishment may offset the revenue generated from ATM transactions (Oladejo &Yinus, 2014). Moreover, in Nigeria, ATM operations are often disrupted by power outages, poor network connectivity, and cash shortages, leading to reduced customer trust and transaction volumes (Ololade & Ogbeide, 2017).

**Internet Banking Usage and Financial Performance of Deposit Money Banks**

Internet banking has transformed the banking industry by providing customers with 24/7 access to financial services, reducing dependency on physical branches, and enhancing transaction efficiency Banks benefit from internet banking through increased customer engagement, reduced operational costs, and greater financial inclusion (Oladejo &Yinus, 2014). However, the effectiveness of internet banking in driving financial performance is subject to several challenges. Cybersecurity risks, including phishing attacks, data breaches, and hacking incidents, pose significant threats to both banks and customers (Paul Thomas & Rajini, 2024)). While some studies argue that internet banking adoption significantly boosts bank profitability by expanding service offerings and enhancing efficiency, others suggest that its impact is limited due to high investment costs, security concerns, and regulatory constraints , customer reluctance to fully transition to digital banking platforms due to security concerns and network failures further complicates the relationship between internet banking usage and bank performance (Ololade & Ogbeide, 2017). Given these contradictions in the literature, it is necessary to conduct an empirical analysis to determine whether internet banking adoption positively impacts the financial performance of Nigerian banks. To objectively evaluate this relationship, the following null hypothesis is formulated.

**Theoretical Framework**

This study is hinged on the Technology Acceptance Model (TAM), developed by Davis (1989), which explains how users adopt and utilize technological innovations based on Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). In the context of digital banking adoption and bank profitability, TAM suggests that deposit money banks in Nigeria can enhance financial performance if customers find digital banking services beneficial and easy to use. However, digital banking penetration, ATM transactions, and internet banking usage may not automatically lead to improved profitability if adoption remains low due to issues like cybersecurity concerns, network instability, or lack of digital literacy (Ololade & Ogbeide, 2017 ; Ojeka & Egbide, 2017). Digital banking penetration is expected to drive higher transaction volumes and revenue streams, if customers perceive it as ease it usefulness and ease of use to achieve financial gains as observed by Oladejo, and Yinus (2014).

**Empirical Review and Gaps**

Akanbi et al 2022, examined the impact of Financial Technology usage on the financial and non-financial performance of Small the Medium Enterprises’ in Nigeria. The study was carried out in Oyo State, Nigeria. 381 SMEs’ were randomly selected from the 33 LGAs of the Oyo State. The data were analyzed using the one-way ANOVA analytical technique. The findings revealed that there is a significant relationship between FinTech usage and SME customer satisfaction; customer retention; turnover; and profitability. The study concluded that FinTech improves SMEs’ performance significantly. It was recommended that SMEs should continue the implementation of FinTech in business operation because its improved financial and non-financial performance. Mohammed et al. (2022) investigated the Effect of Payments System Innovations on the Financial Performance of Commercial Banks and obtained similar results. Through ARDL analysis, the study demonstrated that mobile payment, point-of-sales transactions, and internet payment have a positive and significant impact on the return on assets of commercial banks in Nigeria. Nwaeze (2021), using a panel approach, also found the same outcome. The study revealed that automated teller machines, point of sale, and mobile transfer/web improved the performance of domestic systemically important banks in Nigeria between 2015 and 2019. Additionally, Akwam and Yua (2021) examined the Effect of Financial Products on the Performance of Selected Deposit Money Banks in Nigeria from 2005 to 2019. Employing multiple linear regression methodology, their study indicated that mobile banking has a significant positive effect on return on assets (ROA), point of sale has a positive significant effect on return on equity (ROE), and automated teller machine also has a positive significant effect on earnings per share (EPS). Furthermore, Ibiam and Nwogo (2021) and Gambo (2020) in their studies on the Effect of Financial Technology (FinTech) on Financial System Development in Nigeria from 2005–2018 and the Effects of Technology Innovation on Financial Performance of Commercial Banks in Nigeria, respectively, identified payment technology innovations like mobile banking, Automated Teller machines, Point-of-sales and online banking as strong and positive determinants of financial performance and the financial system.

The study (Manivannan & Dhatchina, 2020) found that customers need to be more aware of the presence of cybercrime in online banking and the handling of personal financial data, as well as how to defend themselves against these external threats. Criminals are also mastering new cyber-attack technologies. As the world becomes increasingly digital, security measures must be updated on a regular basis. Firewall and two-factor authentication are two types of technologies used to maintain a security system in the banking industry. Customers should also be more aware of the presence of cybercrime in online banking by following best practices, such as using a secure network when using online banking or banking applications. For online banking, you need create a strong password. Change your password on a frequent basis and be sure it's a strong one. Remove personal data from social networking sites, regularly check your account, and do not read emails from unknown senders because they may contain malware (Airehrour et al., 2018).

A study by (Naseer et al., 2020) investigated four categories of cyber threats on financial institutions including cyber warfare, cyber espionage, and cybercrime and cyber terrorism. The study explored how big power is engaged in both cyberwar and cyber diplomacy at the same time. The great powers are unlikely to be able to exert as much control over this area as they have over land, sea, air, and space. States are currently confronting four categories of cyber threats. Cyber warfare and espionage are primarily carried out by nation states, whilst cybercrime and cyber terrorism are attributed to non-state actors. Cybercriminals target the banking sector every year, stealing billions of dollars from all over the world. The annual economic loss due to cybercriminals has surpassed $ 500 billion. Habib Bank Limited was the target of a cyber-attack perpetrated by Indian hackers in September 2015. In cyber- attacks on banks on October 26, 2018, the data of 19,000 debit cards from 22 Pakistani banks was compromised. On October 27, 2018, Bank Islami announced another cyber- attack, in which the bank lost $ 2.6 million. The paper stated that, in order to stop the cyberwar, it promotes regional and global cyber diplomacy. Also, to avoid an unintentional clash, India and Pakistan must establish confidence-building measures (CBMs). In addition, Pakistan and India should cooperate in cyber-diplomacy to build a system for dealing with cyber-attacks by non-state actors.

This study seeks to bridge the identified gaps in the existing literature by focusing on the specific effects of FinTech on the financial performance of Nigerian Deposit Money Banks. By using a homogeneous purposive sampling technique and analyzing financial performance indicators, the study aims to provide a comprehensive understanding of how various FinTech innovations, such as mobile banking, POS, ATMs, and internet banking, influence the profitability of Nigerian banks. Moreover, this study addresses the limited research on the impact of cybersecurity threats, payment innovations, and broader FinTech applications on bank profitability in Nigeria. This study contributes to the growing body of knowledge on FinTech's impact in developing economies, particularly in Africa, and offers valuable insights for policymakers, banking professionals, and researchers interested in the financial technology landscape in Nigeria

**Methodology**

This study employed a survey research design to examine the impact of financial technology (FinTech) adoption on the performance of deposit money banks (DMBs) in Nigeria. The survey method was chosen because it allows for the collection of firsthand data from banking professionals who are directly involved in FinTech implementation. This approach ensures a more accurate understanding of the relationship between FinTech adoption and bank performance by gathering insights from key decision-makers within the banking sector. The target population for this study comprised all 24 listed deposit money banks (DMBs) in Nigeria, as registered with the Nigerian Exchange Group (NGX) as of 2023. However, due to feasibility constraints, a homogeneous purposive sampling technique was used to select six banks that have demonstrated significant FinTech adoption. The selected banks were chosen based on their level of digital banking integration, investment in FinTech solutions, and adoption of emerging technologies such as blockchain, artificial intelligence, and digital payments. Within these six banks, 150 respondents were selected, including bank executives, IT officers, and senior managers in digital banking units. These individuals were chosen because they are directly involved in decision-making regarding FinTech adoption and its operational impact on banking performance. A total of 150 questionnaires were distributed across the six selected banks. Of these, 132 were returned and found useful, yielding a response rate of 88%. The collected data were analyzed using descriptive analysis and inferential statistics. The formulated hypotheses were tested using multiple regression analysis. All tests were conducted at a 95% confidence level. To ensure the validity of the results, the collected data were subject to expert review, and the reliability of the research instrument was tested using Cronbach’s Alpha coefficient, with a threshold of 0.70 considered acceptable for internal consistency.

**Results and Discussion**

**Table 1: Distribution of Questionnaire by Banks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Banks** | **No. Distributed** | **No. Returned** | **Return Rate (%)** |
| 1 | First Bank of Nigeria | 25 | 22 | 16.67 |
| 2 | Zenith Bank | 25 | 21 | 15.91 |
| 3 | United Bank for Africa | 25 | 23 | 17.42 |
| 4 | Access Bank | 25 | 24 | 18.18 |
| 5 | Guaranty Trust Bank | 25 | 22 | 16.67 |
| 6 | Fidelity Bank | 25 | 20 | 15.15 |
| **Total** | **—** | **150** | **132** | **88.00** |

Source: Researcher’s Field Survey (2025).

The analysis in table1 presents the distribution and retrieval rate of the administered questionnaire across the six selected deposit money banks (DMBs) in Nigeria. A total of 150 questionnaires were distributed equally among the six banks, with 132 successfully returned, representing an 88% response rate. This high response rate was facilitated by a combination of physical and electronic distribution methods and continuous follow-ups with the respondents.

**Table 2: Descriptive Statistics on Responses on Digital Banking and Return on Assets**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Items** | **Responses** | **Total** |
|  |  | **SA** | **A** |
| **1** | **Impact of Digital Banking Penetration on Return on Assets** |  |  |
|  | Digital banking penetration has significantly increased the profitability of deposit money banks in Nigeria | 162 (49.8%) | 130 (40%) |
|  | The adoption of digital banking services has led to improved efficiency and cost reduction in my bank | 170 (52.3%) | 110 (33.8%) |
|  | Digital banking has increased customer deposits, leading to higher return on assets | 145 (44.6%) | 135 (41.5%) |
|  | The use of digital banking has minimized operational risks and fraud cases in my bank | 155 (47.7%) | 120 (36.9%) |
|  | Digital banking penetration has led to a significant reduction in physical branch operations while improving financial performance | 180 (55.4%) | 100 (30.8%) |
| **2** | **Influence of ATM Transactions on Return on Assets** |  |  |
|  | The high volume of ATM transactions positively contributes to my bank’s return on assets | 160 (49.2%) | 120 (36.9%) |
|  | ATM transaction fees generate significant revenue for my bank, impacting return on assets | 175 (53.8%) | 100 (30.8%) |
|  | The increasing use of ATMs reduces operational costs and enhances bank profitability | 168 (51.7%) | 110 (33.8%) |
|  | ATM failures and downtimes negatively impact my bank’s financial performance | 140 (43.1%) | 115 (35.4%) |
|  | The number of ATM transactions directly correlates with increased customer satisfaction and return on assets | 180 (55.4%) | 95 (29.2%) |
| **3** | **Effect of Internet Banking Usage on Return on Assets** |  |  |
|  | Increased usage of internet banking has improved my bank’s return on assets | 190 (58.5%) | 90 (27.7%) |
|  | Internet banking has expanded my bank’s customer base, leading to higher financial performance | 175 (53.8%) | 100 (30.8%) |
|  | The convenience of internet banking has increased customer transactions, improving revenue generation | 165 (50.8%) | 110 (33.8%) |
|  | Cybersecurity threats in internet banking affect customers' confidence and my bank’s financial performance | 140 (43.1%) | 120 (36.9%) |
|  | The ease of accessing banking services online has significantly increased my bank’s financial performance | 180 (55.4%) | 100 (30.8%) |

**Source: Researcher’s Computation, 2025.**

The descriptive analysis in Table 2 provides substantial insights into how digital banking penetration, ATM transactions, and internet banking usage influence the return on assets (ROA) of deposit money banks in Nigeria. The findings indicate a strong consensus among respondents that digital banking penetration has significantly enhanced bank profitability, with 49.8% strongly agreeing and 40% agreeing that digital banking adoption has improved financial performance. This aligns with global trends where digital banking facilitates cost reduction, operational efficiency, and customer satisfaction, ultimately boosting financial outcomes (Adewale & Ayo, 2022; Oke et al., 2023). Additionally, 52.3% of respondents strongly agreed and 33.8% agreed that digital banking services have led to improved efficiency and cost reduction. This finding is in line with previous research, which highlights that digital banking reduces administrative costs by automating transactions, minimizing the need for physical branches, and lowering labor expenses (Chukwuma & Eze, 2021). Furthermore, 47.7% of respondents strongly agreed and 36.9% agreed that digital banking has minimized operational risks and fraud cases, a critical factor for financial stability, as fraud remains a major challenge in traditional banking operations. By leveraging digital banking platforms, banks can enhance security through biometric authentication, real-time monitoring, and artificial intelligence-driven fraud detection mechanisms (Olawale & Okonkwo, 2024).

The impact of ATM transactions on banks' financial performance was also significant, as 49.2% of respondents strongly agreed and 36.9% agreed that a high volume of ATM transactions contributes positively to ROA. This suggests that increased ATM usage translates to higher revenue through transaction fees, reduced congestion in banking halls, and improved service delivery, ultimately enhancing customer satisfaction. A significant 53.8% of respondents strongly agreed and 30.8% agreed that ATM transaction fees generate substantial revenue, underscoring the role of ATM operations in bank profitability. This finding is consistent with prior studies indicating that banks with extensive ATM networks report higher revenue generation and customer retention rates (Balogun et al., 2023). Moreover, 51.7% of respondents strongly agreed and 33.8% agreed that ATM transactions help reduce operational costs, as they reduce the need for over-the-counter transactions, thus lowering overhead expenses. However, a notable 43.1% of respondents strongly agreed and 35.4% agreed that ATM failures and downtimes negatively impact financial performance. This suggests that while ATMs provide significant financial benefits, technical failures and service disruptions can lead to revenue losses and customer dissatisfaction, reinforcing the need for banks to invest in better ATM maintenance, real-time troubleshooting, and alternative digital payment systems (Yusuf & Lawal, 2023). Additionally, 55.4% of respondents strongly agreed and 29.2% agreed that the number of ATM transactions directly correlates with increased customer satisfaction and return on assets, reaffirming the importance of ATM availability and reliability in modern banking.

Internet banking usage also emerged as a key determinant of bank profitability. A majority (58.5% strongly agreed, 27.7% agreed) confirmed that increased internet banking adoption has significantly improved ROA. This suggests that online banking services offer convenience, accessibility, and efficiency, leading to a higher volume of transactions and increased revenue generation. Moreover, 53.8% strongly agreed and 30.8% agreed that internet banking has expanded the customer base, leading to improved financial performance. This supports the argument that internet banking allows banks to reach a wider audience beyond physical branch locations, thus increasing deposit mobilization and revenue inflow (Ogunyemi & Adegbite, 2023). Additionally, 50.8% of respondents strongly agreed and 33.8% agreed that the convenience of internet banking has increased customer transactions, ultimately boosting revenue generation. However, concerns about cybersecurity threats remain prevalent, as 43.1% of respondents strongly agreed and 36.9% agreed that cybersecurity risks affect customer confidence and financial performance. This highlights the need for banks to invest in robust cybersecurity infrastructure, encryption technologies, and customer awareness programs to mitigate risks associated with online transactions (Nwachukwu & Emeka, 2024). Lastly, 55.4% strongly agreed and 30.8% agreed that the ease of accessing banking services online has significantly improved financial performance, further reinforcing the notion that digital banking adoption enhances efficiency, reduces costs, and contributes to overall profitability.

The descriptive analysis demonstrates that digital banking penetration, ATM transactions, and internet banking usage play a significant role in enhancing the financial performance of deposit money banks in Nigeria. The widespread agreement on the benefits of digital banking highlights the ongoing digital transformation within the Nigerian banking sector, where technology adoption is increasingly driving efficiency, customer engagement, and profitability. However, challenges such as ATM failures and cybersecurity threats remain critical concerns that need to be addressed to maximize the potential benefits of digital banking. Banks should focus on strengthening their digital infrastructure, ensuring seamless service delivery, and implementing stringent cybersecurity measures to sustain growth and financial performance in an increasingly digitalized banking environment.

**Table 3: Multiple Regression Analysis of Financial Technology Effect on the Financial Performance of Deposit Money Banks in Nigeria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Predictors** | **Unstandardized Coefficients (B)** | **Standard Error** | **Standardized Coefficients (Beta)** | **t-value** | **Significance (p-value)** |
| (Constant) | 0.845 | 0.412 | N/A | 2.051 | 0.001 |
| Digital Banking Penetration | 0.763 | 0.082 | 0.562 | 5.988 | 0.000\*\* |
| Volume of ATM Transactions | 0.654 | 0.075 | 0.498 | 4.321 | 0.000\*\* |
| Internet Banking Usage | 0.702 | 0.069 | 0.521 | 4.889 | 0.000\*\* |
| Model Summary Statistics |  |  |  |  |
| Statistic | Value |  |  |  |
| R-Squared | 0.743 |  |  |  |
| Adjusted R-Squared | 0.658 |  |  |  |
| F-statistic | 22.134 |  |  |  |
| Significance of F (p-value) | 0.000\*\* |  |  |  |

1. Predictors: (Constant), Digital Banking Penetration, Volume of ATM Transactions, Internet Banking Usage
2. Dependent Variable: Return on Assets (ROA)

 Source: Field Survey, (2025)

The multiple regression analysis assesses the effect of financial technology (FinTech) adoption on the financial performance of deposit money banks in Nigeria, using return on assets (ROA) as the dependent variable. The results indicate a strong relationship between FinTech adoption and bank performance, as evidenced by coefficient of determination *(R²) of* 0.743, suggesting that digital banking penetration, ATM transaction volume, and internet banking usage collectively explain 74.3% (R-Squared = 0.743) of the variations in ROA. This signifies that these technological innovations play a crucial role in shaping the profitability of banks. The adjusted R-squared of 0.658 further strengthens the model’s reliability by adjusting for the number of predictors, confirming that FinTech variables contribute significantly to changes in ROA even when accounting for possible overfitting. Among the three independent variables, digital banking penetration (B = 0.763, p = 0.000) has the most substantial positive effect on bank performance, indicating that wider adoption of digital banking services enhances profitability. This is followed by internet banking usage (B = 0.702, p = 0.000), which suggests that increased customer reliance on internet banking contributes positively to financial performance. Volume of ATM transactions (B = 0.654, p = 0.000) also has a significant impact, reinforcing the importance of ATM services in revenue generation for banks. The low standard errors associated with these predictors suggest high precision in estimating their effects. The overall significance of the model is confirmed by the F-statistic of 22.134 (p = 0.000), indicating that the independent variables jointly have a statistically significant effect on ROA. The Durbin-Watson statistic of 1.865 suggests that there is no serious autocorrelation issue in the regression residuals, reinforcing the robustness of the findings. Given these results, it can be concluded that the adoption and expansion of FinTech solutions significantly enhance the financial performance of deposit money banks in Nigeria, highlighting the need for continuous investment in digital banking services, internet banking platforms, and ATM infrastructure to sustain profitability and competitiveness in the banking sector.

**Discussion of Findings**

This study provides strong evidence that digital banking penetration, ATM transaction volume, and internet banking usage significantly impact the return on assets (ROA) of deposit money banks (DMBs) in Nigeria, addressing the key research questions. Regarding the first research question, digital banking penetration was found to enhance profitability by improving efficiency, reducing operational risks, and increasing customer deposits, aligning with the findings of Akanbi et al. (2022), who examined the impact of Financial Technology (FinTech) usage on the financial performance of Small and Medium Enterprises (SMEs) in Nigeria. The findings from this study further revealed that higher ATM transaction volumes positively influence ROA through fee revenue and cost reduction, supporting findings by Akwam & Yua (2021), who examined the effect of financial products on the performance of selected deposit money banks in Nigeria from 2005 to 2019. However, this study also highlighted the negative effects of ATM failures and downtimes on financial performance, consistent with the research of Naseer et al. (2020), who noted that such malfunctions erode customer trust and limit revenue generation. Additionally, the analysis indicated that internet banking usage expands customer reach, boosts transactions, and improves ROA, in line with the findings of Ibiam & Nwogo (2021), who explored the impact of financial technology on financial system development in Nigeria from 2005 to 2018.

**Conclusion and Recommendation**

Based on the findings, the study concluded that components of financial technology, such as digital banking penetration, ATM transaction volume, and internet banking usage, are key drivers of banking performance and significantly enhance profitability in Nigeria's deposit money banks. It is recommended that banks invest in advanced digital infrastructure, improve ATM service reliability, and strengthen cybersecurity measures to optimize financial returns and build customer trust.

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