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Digital Financial Services and Performance of Deposit Money Banks in Nigeria

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Abstract: *This study evaluates the impact of digital financial services on customer retention in Nigerian deposit money banks, with a focus on mobile banking, internet banking, Point of Sale (POS) terminals, and Automated Teller Machines (ATMs). The study was conducted in Lagos and Abuja, Nigeria, using a stratified random sampling technique to select 350 respondents from five top-ranked deposit money banks. Data were collected through structured questionnaires and analyzed using multiple regression to determine the relationship between digital financial services and customer retention. The findings reveal that mobile banking has the most significant effect on customer retention ($\beta = 0.558$, $p < 0.001$), followed by POS terminals ($\beta = 0.365$, $p < 0.001$). Internet banking ($\beta = 0.089$, $p < 0.001$) and ATMs ($\beta = 0.065$, $p = 0.001$) also contribute positively, though to a lesser extent. Collectively, these variables account for 83.7% of the variation in customer retention ($R^2 = 0.837$). The study concludes that digital financial services are critical to sustaining customer loyalty in Nigeria's banking sector. Key recommendations include prioritizing investments in robust digital infrastructure, improving system reliability, and enhancing customer support and education. Policymakers are encouraged to collaborate with banks to promote financial inclusion and innovation, ensuring the sustained growth of digital financial services.*

Keywords: digital financial services, customer retention, mobile banking, pos terminals, deposit money banks.

INTRODUCTION

The financial landscape in Nigeria has undergone a significant transformation over the past two decades, driven by rapid advancements in technology and the increasing adoption of digital financial services by deposit money banks. These services, which include mobile banking, internet banking, Point of Sale (POS) terminals, and automated teller machines (ATMs), have reshaped how customers interact with banks and conduct financial transactions. This evolution is aligned with global trends where digital financial services are becoming pivotal to improving operational efficiency, expanding financial inclusion, and enhancing customer satisfaction (Akani & Obiosa,

2020; Gbanador, 2023). In Nigeria, where financial accessibility and efficiency have been long-standing challenges, the adoption of digital financial services presents both opportunities and critical areas for performance evaluation among banks.

Digital financial services have become essential for addressing the diverse needs of customers, particularly in the wake of Nigeria's transition towards a cashless economy. The Central Bank of Nigeria (CBN) has been instrumental in promoting this shift through policies that encourage financial institutions to innovate and enhance digital service delivery. Consequently, deposit money banks have invested significantly in technology-driven solutions to retain customers and expand their market base (Isa-Olatinwo, Uwaleke, & Ibrahim, 2022). Mobile banking, for instance, provides a convenient platform for executing transactions, while internet banking offers access to comprehensive financial services from the comfort of homes or offices. Similarly, the integration of POS terminals into retail environments and advancements in ATM functionalities are pivotal in extending banking services to underserved populations (Okonkwo & Ekwueme, 2022; Madugba, Egbide, & Jossy, 2021).

Despite these strides, significant challenges persist. Many Nigerian banks struggle with service reliability, technological constraints, and cybersecurity issues, which often undermine customer trust and satisfaction (Fabian & Emeka, 2022). For example, technical glitches in mobile banking platforms or network failures in POS terminals can lead to transactional delays, eroding customer confidence. Similarly, ATMs with limited functionality or frequent downtimes are common complaints among customers. These issues, coupled with competition within the banking sector, compel deposit money banks to continuously innovate and improve their digital offerings (Efanga & Obinne, 2020). The effectiveness of these efforts is often reflected in customer retention rates a non-monetary performance metric that signals the quality of services and customer loyalty.

Customer retention is a critical success factor for banks in an increasingly competitive financial environment. Retaining existing customers not only reduces the cost of customer acquisition but also fosters long-term profitability through sustained patronage and cross-selling opportunities (Akande & Kwarbai, 2022). Digital financial services play a central role in this process by providing customers with seamless, efficient, and accessible banking experiences. For instance, mobile banking enables customers to perform transactions at their convenience, while internet banking enhances service accessibility beyond physical branch hours. Likewise, POS terminals and ATMs extend banking services to more locations, reducing the reliance on traditional banking infrastructure (Ashiru, Balogun, & Paseda, 2023). Understanding the specific impact of these services on customer retention is therefore crucial for banks aiming to optimize their digital strategies.

The significance of this study lies in its ability to bridge existing gaps in the literature by focusing specifically on the relationship between digital financial services and customer retention in Nigerian deposit money banks. While previous studies have extensively examined the impact of digital services on banks' financial performance (Musa & Abubakar, 2022; Yua & Akwam, 2021), there remains limited research exploring how these services influence customer loyalty and satisfaction—key factors for long-term success in the banking sector. By addressing this gap, this study provides valuable insights for policymakers, bank managers, and financial technology providers seeking to enhance service delivery and foster customer loyalty in an increasingly digital banking landscape.

This research stems from the dichotomy between the rapid adoption of digital financial services and the persistent challenges in achieving customer satisfaction and retention. While digital platforms have enabled banks to serve customers more efficiently, issues such as system downtimes, transactional errors, and security breaches often hinder the desired outcomes (Chukwu & Molokwu, 2022). These challenges raise critical questions about the effectiveness of mobile banking, internet banking, POS terminals, and ATMs in fostering customer loyalty among Nigerian deposit money banks. Moreover, the extent to which these digital innovations influence customer retention remains underexplored, necessitating empirical investigation to provide data-driven insights. Therefore, this study sought to assess the Impact of Digital Financial Services on the Performance of Deposit Money Banks in Nigeria. Specifically, the study had the following objectives;

i. assess the impact of Mobile Banking on customer retention among Nigerian deposit money banks in Nigeria.

ii. examine the impact of Internet Banking on customer retention among Nigerian deposit money banks in Nigeria.

iii. investigate the impact of Point of Sale (POS) Terminals on customer retention among Nigerian deposit money banks in Nigeria.

iv. determine the impact of Automated Teller Machines (ATMs) on customer retention among Nigerian deposit money banks in Nigeria.

Equally, the following hypotheses were tested;

$H0_1$: Mobile banking have no significant impact on customer retention among Nigerian deposit money banks.

$H0_2$: Internet banking have no significant impact on customer retention among Nigerian deposit money banks.

$H0_3$: Point of Sale (POS) terminals have no significant impact on customer retention among Nigerian deposit money banks.

$H0_4$: Automated Teller Machines (ATMs) have no significant impact on customer retention among Nigerian deposit money banks.

LITERATURE REVIEW

Conceptual Clarification

Digital Financial Services

Digital financial services (DFS) encompass a range of electronic and mobile-based solutions designed to facilitate financial transactions and services without requiring physical bank visits. These include mobile banking, internet banking, ATMs, and POS systems, all of which contribute to improving the accessibility and efficiency of financial services. In Nigeria, DFS plays a critical role in driving the shift towards a cashless economy and bridging the gap in financial inclusion (Okonkwo & Ekwueme, 2022). By offering real-time transaction capabilities and broader reach, digital financial services cater to diverse customer needs, enabling banks to retain and attract customers. However, challenges such as infrastructure limitations, security threats, and service reliability remain prevalent, necessitating continuous investment in technology and customer-focused innovations to fully realize the potential of DFS in the banking sector (Ashiru, Balogun, & Paseda, 2023).

Mobile Banking

Mobile banking refers to the use of mobile devices to access banking services, such as fund transfers, account inquiries, bill payments, and loan applications. It has transformed traditional banking by offering convenience, accessibility, and efficiency. Mobile banking empowers customers to perform transactions without visiting physical branches, making it a critical tool for enhancing customer experience and retention (Okonkwo & Ekwueme, 2022). Nigerian deposit money banks have adopted mobile banking to cater to the increasing demand for digital solutions. Studies suggest that mobile banking fosters customer satisfaction through its ease of use and immediacy, which are vital for retaining customers (Fabian & Emeka, 2022). However, challenges such as network failures, security concerns, and usability issues can negatively affect customer loyalty, highlighting the need for continuous improvements.

Internet Banking

Internet banking enables customers to access banking services through web-based platforms, offering features such as account management, funds transfers, and online payments. This service eliminates geographical constraints, providing 24/7 access to banking operations (Ashiru,

Balogun, & Paseda, 2023). For Nigerian deposit money banks, internet banking is a critical component of digital financial services aimed at enhancing customer retention. Research shows that customers value the convenience and speed of internet banking, which strengthens their loyalty to the bank (Isa-Olatinwo, Uwaleke, & Ibrahim, 2022). However, user concerns about security breaches and system downtimes pose significant risks. Thus, banks must ensure robust cybersecurity and reliable platforms to maximize the benefits of internet banking.

Point of Sale (POS) Terminals

POS terminals facilitate cashless transactions in retail and service environments, bridging the gap between banks and customers in underbanked regions. The proliferation of POS terminals in Nigeria has played a pivotal role in driving financial inclusion and enhancing banking accessibility (Gbanador, 2023). Customers benefit from the ease of payments without cash, making POS an effective tool for building customer loyalty. Studies show that the reliability and availability of POS terminals significantly influence customer satisfaction and retention (Efanga & Obinne, 2020). However, issues like network failures and transaction errors can undermine their effectiveness, requiring banks to focus on system reliability and user support.

Automated Teller Machines (ATMs)

ATMs have long been a cornerstone of banking convenience, providing customers with round-the-clock access to cash withdrawals, deposits, and other banking services. Nigerian banks have increasingly enhanced ATMs with digital features, such as cardless withdrawals and bill payments, to remain competitive (Chukwu & Molokwu, 2022). Reliable ATMs contribute to customer satisfaction by reducing dependence on branch visits. However, frequent downtimes and limited cash availability can frustrate users, affecting their loyalty (Madugba, Egbide, & Jossy, 2021). Ensuring ATM functionality and availability is, therefore, critical for retaining customers in a digitalized banking ecosystem.

Performance of Deposit Money Banks

The performance of deposit money banks is a multifaceted concept often evaluated using financial and non-financial indicators (Efanga & Obinne, 2020). Financial performance encompasses metrics like profitability, return on assets, and return on equity, while non-financial performance measures include customer satisfaction, operational efficiency, and market share (Akani & Obiosa, 2020). In the Nigerian banking sector, the adoption of digital financial services has become a critical driver of performance, as it enhances service delivery, reduces transaction costs, and improves customer accessibility. Researchers argue that technological innovations such as mobile banking and internet banking have a transformative effect on operational efficiency and competitiveness, leading to better overall performance (Isa-Olatinwo, Uwaleke, & Ibrahim, 2022).

Customer Retention

Customer retention refers to a bank's ability to maintain its customer base over time through consistent delivery of satisfactory services (Madugba, Egbide, & Jossy, 2021). It is a critical non-monetary measure of performance that reflects the strength of customer loyalty and satisfaction with the bank's offerings. Retaining customers is significantly less costly than acquiring new ones and often leads to increased revenue through repeat transactions and cross-selling opportunities (Akande & Kwarbai, 2022). In the context of deposit money banks, digital financial services play a pivotal role in driving customer retention. Features such as convenience, accessibility, and seamless transactions are essential for enhancing customer experience and loyalty. Despite the benefits, challenges such as technical issues, poor service delivery, and cybersecurity concerns can negatively impact customer retention (Chukwu & Molokwu, 2022).

Theoretical Review

The Technology Acceptance Model (TAM) serves as the theoretical framework for this study, as it provides a comprehensive basis for understanding how customers adopt and engage with digital financial services. Developed by Davis (1989), TAM posits that two key factors perceived usefulness and perceived ease of use determine the acceptance and utilization of a technology. Perceived usefulness refers to the degree to which customers believe that using digital financial services, such as mobile banking or internet banking, enhances their convenience and efficiency. Perceived ease of use addresses the extent to which customers feel that these platforms are intuitive and free from effort. In the context of Nigerian deposit money banks, TAM is instrumental in analyzing how these perceptions influence customer satisfaction and, ultimately, retention.

This framework aligns seamlessly with the objectives of the study, which focus on evaluating the effects of mobile banking, internet banking, Point of Sale (POS) terminals, and automated teller machines (ATMs) on customer retention. TAM underscores the importance of user-centric design, system reliability, and perceived benefits in fostering loyalty among customers. By integrating TAM, this study not only explores the adoption of digital financial services but also sheds light on how these technologies impact customer behavior, thereby offering actionable insights for banks to optimize their digital strategies.

Empirical Review

Boateng (2020) highlights the transformative effects of digital banking on profitability, emphasizing how services like mobile and internet banking improve operational efficiency and customer access in Ghanaian banks. Similarly, Akani and Obiosa (2020) analyze Nigerian banks, finding a significant positive relationship between financial innovations and profitability, particularly in urban centers. Both studies underscore the need for banks to prioritize investments in digital infrastructure to maintain competitiveness and address evolving customer demands.

Expanding on the theme of digital finance's benefits, Efanga and Obinne (2020) examine its impact on Nigeria's money supply. Their findings indicate that mobile banking enhances liquidity and supports financial stability. Complementing this, Chukwuekwu (2021) observes that electronic banking in Nigerian banks improves transaction speed and operational efficiency, although challenges with customer adaptation persist. Together, these studies highlight the dual role of digital banking in improving operational performance and fostering financial inclusion, particularly in underserved communities.

Ibekwe (2021) and Madugba et al. (2021) focus on the operational efficiency driven by electronic banking and point-of-sale systems in Nigeria. While Ibekwe emphasizes profitability through improved customer access, Madugba et al. reveal that electronic banking enhances transaction processing and customer satisfaction. Both studies conclude that further investment in digital platforms is essential for improving service delivery and operational metrics, supporting broader financial inclusion efforts.

Osakwe (2022) and Fabian and Emeka (2022) investigate the effects of digital innovations such as the e-naira digital currency. Osakwe identifies significant improvements in transaction processing due to electronic banking, while Fabian and Emeka explore how the e-naira reduces cash-handling costs and supports Nigeria's cashless policy. These findings demonstrate the potential of digital currencies and e-banking to modernize financial systems, despite initial adoption challenges, such as user adaptation and system integration.

The role of customer satisfaction in driving digital banking performance is central to the studies by Akande and Kwarbai (2022) and Yusuf and Islam (2022). Akande and Kwarbai find that convenience and accessibility in digital banking are critical determinants of customer satisfaction and loyalty, positively influencing bank performance. Yusuf and Islam reinforce this by demonstrating that fintech innovations enhance service delivery through speed and reliability, further boosting customer engagement. These insights suggest that a customer-centric approach is vital for leveraging the benefits of digital financial services.

The influence of financial product diversity is examined by Yua and Akwam (2021), who reveal that electronic and mobile banking expand customer reach and improve profitability. Similarly, Ogunleye and Oni (2023) emphasize the importance of comprehensive digital transformation strategies, noting that digital tools like online banking channels enhance operational efficiency and reduce costs. Together, these studies highlight the strategic advantage of diversifying digital offerings to address varied customer needs and maintain a competitive edge.

Several studies, including those by Musa and Abubakar (2022) and Abdulmalik and Lamino (2021), underscore the efficiency gains from adopting digital financial services. Musa and Abubakar focus on the operational benefits of ATMs and mobile banking, while Abdulmalik and

Lamino highlight improvements in productivity through reduced manual processing. These findings align with the broader consensus that digital tools are critical for achieving long-term growth and operational excellence in Nigeria's banking sector.

Adamu and Mohammed (2022) and Okonkwo and Eze (2023) explore customer adoption of digital banking. Both studies find that increased use of digital channels enhances customer satisfaction and bank profitability. While Adamu and Mohammed emphasize mobile banking as a tool for accessibility, Okonkwo and Eze advocate for targeted marketing and education campaigns to increase digital awareness and broaden adoption. These strategies are pivotal for maximizing the benefits of digital transformation across diverse customer segments.

Further, Ashiru et al. (2023) and Chukwu and Molokwu (2022) focus on the relationship between financial innovation and bank performance. Ashiru et al. observe that innovation-driven services like ATMs and mobile banking improve service accessibility and reduce costs, while Chukwu and Molokwu emphasize the efficiency and productivity gains from digital banking. Both studies advocate for continuous innovation to align with the growing trends in digital banking and meet customer expectations.

Equally, the comparative study by Beloke et al. (2021) examines the impact of digital financial services in Cameroon, offering insights relevant to Nigeria. The findings indicate that digital finance enhances customer accessibility and profitability in both contexts, suggesting that shared lessons across emerging markets can strengthen digital banking strategies. These insights complement the recommendations of Fabian and Emeka (2022) and Osakwe (2022) on the strategic importance of digital transformation for operational modernization.

METHODOLOGY

The study adopted a stratified random sampling technique to ensure a representative selection of bank branches and staff. Five top-ranked Nigerian deposit money banks (Based on Nigerian Exchange Group 2023 rating) were selected. These banks were; Access Bank, Zenith Bank, First Bank, United Bank for Africa (UBA), and Guaranty Trust Bank (GTB). Branches of these banks in Lagos and Abuja were chosen as the study locations, given their status as the country's commercial nerve centers. The branches were stratified by their geographic location (Lagos or Abuja), and a proportionate sample was drawn from each city based on the total number of branches per bank. For instance, branches with a higher representation in Lagos received a proportionally larger sample to reflect their distribution. A random selection of 10% of the branches from each stratum was made, resulting in a total of 50 branches (30 in Lagos and 20 in Abuja). This approach ensured balanced representation across geographic and institutional contexts.

Within each selected branch, the study further stratified staff into key categories: customer service representatives, IT/digital banking personnel, operations/branch managers, and other relevant staff involved in banking performance. From each branch, 20%-30% of the total staff were randomly selected across these categories to capture diverse insights into the impact of digital financial services. In total, 385 staff members were sampled, with proportional representation from the selected banks based on their staff size and branch distribution. This two-level stratified sampling technique ensured inclusivity of both institutional and individual perspectives, providing robust data for analyzing the impact of digital financial services on the performance of Nigerian deposit money banks. The data collected was analysed using Ordinary Least Square (OLS) regression. A 95% level of confidence was used to assess the statistical significance of the outcome of the multiple regression analysis. As a result, a 95% confidence level was established for the association between the research variables where p values associated with a specific coefficient are at most 0.05.

The Model is specified as follows;

CR= f(MIPA)

$CS= F(MB,IB, PS, AT)$ …… *(1)*

$PER=\alpha 0+\alpha_1 MB +\alpha_2 IB +\alpha_3 PS + \alpha_4 AT +\varepsilon$

where;

CR= Customer Retention; **MB**=Mobile banking; **IB=**Internet banking; **PS**= Point of Sale (POS); **AT=** Automated Teller Machines (ATMs)

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Distribution of the Respondents' Biodata (n=350)

Variables	Frequency	Percentage (%)
Gender		
Male	241	68.9
Female	109	31.1
Age Group		
18-25 years	34	9.7
26-35 years	105	30.0
36-45 years	127	36.3
46-55 years	84	24.0
Level of Education		
Diploma	41	11.7

HND/Degree	210	60.0
Master's degree	99	28.3
Working Experience		
1 – 10 years	90	25.7
11 – 20 years	118	33.7
21 – 30 years	67	19.1
More than 30 years	75	21.4
Official Cadre		
Junior Cadre	265	75.7
Senior Cadre	85	24.3

Source; Field Survey, 2024

The demographic profile of respondents in Table 1 reveals that males constituted the majority, representing 68.9% of the sample, while females accounted for 31.1%. In terms of age distribution, the largest group of respondents (36.3%) fell within the 36–45 years category, followed by 26–35 years (30.0%), 46–55 years (24.0%), and 18–25 years (9.7%). Educational qualifications showed that most respondents (60.0%) held an HND/Degree, while 28.3% possessed a Master's degree, and 11.7% had a Diploma. Regarding working experience, a significant proportion (33.7%) reported having 11–20 years of experience, followed by those with 1–10 years (25.7%), more than 30 years (21.4%), and 21–30 years (19.1%). Equally, an analysis of official cadre revealed that the majority of respondents (75.7%) were in the junior cadre, while the remaining 24.3% were in the senior cadre. The distribution also highlights a diverse pool of participants in terms of age, education, experience, and professional ranking.

Table 2: **Descriptive Statistics of the Variables**

	N	Minimum	Maximum	Mean	Std. Deviation
Customer Retention	350	2	5	3.10	.764
Mobile banking	350	1	5	4.25	.795
Internet banking	350	1	5	3.10	.873
Point of Sale (POS)	350	1	5	4.14	.804
Automated Teller Machines (ATMs)	350	1	5	4.12	.985

Source: Authors' Computation, 2024

The descriptive statistics in Table 2 reveal high levels of customer satisfaction across all evaluated variables. Mobile banking exhibited the highest mean score (4.25, SD = 0.795), indicating its widespread usage and acceptance among respondents. Internet banking and customer retention followed closely, each recording a mean score of 3.10, with standard deviations of 0.873 and 0.764, respectively. Point of Sale (POS) services had a mean score of 4.14 (SD = 0.804), while Automated

Teller Machines (ATMs) had a mean of 4.12 (SD = 0.985). The relatively small standard deviations across all variables suggest consistency in respondents' perceptions and experiences with these digital banking channels.

Table 3: Regression Output

Model	Variable	Coefficient	Std. Error	t-Statistic	Prob.
1	(Constant)	.210	.106	1.985	.048*
	Mobile banking	.558	.031	17.842	.000*
	Internet banking	.089	.023	3.814	.000*
	Point of Sale (POS)	.365	.030	12.267	.000*
	Automated Teller Machines (ATMs)	.065	.019	3.384	.001*

Source: SPSS Output from Author's Computation using the original Data
*: Significant at 5% Level of Significance

The regression analysis in Table 3 underscores the significant contributions of all independent variables mobile banking, internet banking, Point of Sale (POS) services, and Automated Teller Machines (ATMs) to customer retention. The regression constant was also significant ($\beta = 0.210$, $t = 1.985$, $p = 0.048$), indicating the baseline influence on the dependent variable. Among the predictors, mobile banking had the highest impact on customer retention ($\beta = 0.558$, $t = 17.842$, $p < 0.001$), highlighting its dominant role in driving customer satisfaction. POS services followed with a substantial contribution ($\beta = 0.365$, $t = 12.267$, $p < 0.001$), emphasizing its importance in facilitating seamless in-person transactions. Internet banking also exhibited a positive and significant relationship ($\beta = 0.089$, $t = 3.814$, $p < 0.001$), demonstrating its growing relevance in remote banking activities. ATMs, while having the smallest impact among the predictors, still showed a statistically significant effect on customer retention ($\beta = 0.065$, $t = 3.384$, $p = 0.001$).

The diagnostic tests affirmed the reliability of the model, with all Variance Inflation Factor (VIF) values below 3, suggesting no multicollinearity concerns. Mobile banking (VIF = 2.236) and POS services (VIF = 2.067) showed slightly higher VIF values, reflecting their robust influence on the dependent variable. These findings highlight the importance of digital banking channels in enhancing customer satisfaction and loyalty.

Multiple Regression Diagnostic Tests

The study used several diagnostic tests to ensure that all the assumptions of multiple regression were not violated in any way.

Table 4: Multi collinearity Diagnostics Result

S/N	Variable	Tolerance	VIF
1.	Mobile banking	.447	2.236
2.	Internet banking	.672	1.487
3.	Point of Sale (POS)	.484	2.067
4.	Automated Teller Machines (ATMs)	.773	1.294

Source: Authors' Computation, 2024

In Table 4, the multicollinearity diagnostics confirm the absence of significant multicollinearity among the independent variables. Tolerance values ranged from 0.447 for mobile banking to 0.773 for Automated Teller Machines (ATMs), all within acceptable limits (greater than 0.1). Similarly, the Variance Inflation Factor (VIF) values were well below the critical threshold of 10, further affirming no multicollinearity issues. Mobile banking had the highest VIF (2.236), followed by POS services (2.067), internet banking (1.487), and ATMs (1.294). These results indicate that the variables are independently contributing to the regression model without redundancy. The diagnostics validate the reliability of the regression analysis, ensuring the robustness of the results and the soundness of the model in explaining customer retention.

Table 5: Model Summary of the Relationship between the Independent Variables and the Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.915[a]	.837	.835	.311	1.857

a. Predictors: (Constant), Automated Teller Machines (ATMs), Point of Sale (POS), Internet banking, Mobile banking

b. Dependent Variable: Customer Retention

Source: Authors' Computation, 2024

The model summary in Table 5 demonstrates a strong relationship between the independent variables mobile banking, internet banking, POS services, and ATMs and customer retention. The R value of 0.915 indicates a high degree of correlation between the predictors and the dependent variable. The R-square value of 0.837 implies that 83.7% of the variation in customer retention is explained by the combined influence of the independent variables. The adjusted R-square (0.835) further confirms the model's reliability by accounting for the number of predictors included. The standard error of the estimate (0.311) suggests a relatively low margin of error in the model's

predictions, indicating precise estimates of customer retention. The Durbin-Watson statistic (1.857) falls within the acceptable range, indicating no significant autocorrelation in the residuals.

Table 6: Analysis of Variance (ANOVA[a]) Test for the Models

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	170.432	4	42.608	441.791	.000[b]
	Residual	33.273	345	.096		
	Total	203.705	349			

a. Predictors: (Constant), Automated Teller Machines (ATMs), Point of Sale (POS), Internet banking, Mobile banking

b. Dependent Variable: Customer Retention

Source: Authors' Computation, 2024

The ANOVA results in Table 6b validate the overall significance of the regression model. The total variance (Sum of Squares = 203.705) is predominantly explained by the regression model (Sum of Squares = 170.432), with the residual accounting for only 33.273. The model achieved a highly significant F-statistic of 441.791 ($p < 0.001$), confirming that the independent variables mobile banking, internet banking, POS services, and ATMs jointly have a significant impact on customer retention. The mean square for regression (42.608) is substantially higher than that for the residual (0.096), further underscoring the model's predictive strength. These results demonstrate that the predictors effectively explain variations in customer retention, reinforcing the importance of digital banking channels in retaining customers and enhancing satisfaction.

DISCUSSION OF FINDINGS

The regression results (Table 3) highlight the significant contributions of mobile banking, internet banking, Point of Sale (POS) services, and Automated Teller Machines (ATMs) to customer retention. Mobile banking emerged as the most influential variable ($\beta = 0.558$, $t = 17.842$, $p < 0.001$), emphasizing its dominant role in enhancing customer convenience and accessibility. This aligns with Adamu and Mohammed (2022), who found that mobile banking improves customer satisfaction by providing a seamless platform for financial transactions, particularly in a fast-paced, digital-oriented economy. Akani and Obiosa (2020) also underscored the importance of mobile banking, emphasizing its capacity to expand financial inclusion and customer engagement. The rising adoption of mobile banking reflects its user-friendly features and ability to meet diverse

customer needs, from real-time payments to account management, reinforcing its critical role in fostering customer loyalty in Nigeria's banking sector.

POS services also demonstrated a significant impact on customer retention ($\beta = 0.365$, $t = 12.267$, $p < 0.001$), reflecting their importance in enabling efficient and convenient in-person transactions. Ibekwe (2021) highlighted that POS systems bridge gaps in financial accessibility, particularly in urban centers, by providing immediate transaction processing and reducing customer reliance on physical bank branches. The positive reception of POS services indicates their ability to enhance customer satisfaction, especially in retail and service sectors where quick payments are essential. These findings are further supported by Akande and Kwarbai (2022), who identified ease of use and accessibility as key drivers of customer satisfaction in digital banking. The substantial role of POS services underlines their effectiveness in addressing customer expectations for fast and reliable payment solutions, making them a vital tool for enhancing retention.

Internet banking, while contributing less than mobile and POS services ($\beta = 0.089$, $t = 3.814$, $p < 0.001$), remains a significant predictor of customer retention. This channel provides secure remote banking options, allowing customers to perform transactions from the comfort of their homes or offices. Boateng (2020) found that internet banking improves operational efficiency and broadens customer access to financial services, positioning it as a crucial digital innovation in the banking industry. Internet banking's smaller coefficient compared to mobile and POS services may reflect its appeal to specific customer segments, such as corporate clients or individuals seeking higher transaction limits and advanced account management features. Its ongoing relevance lies in its ability to complement other banking channels by offering secure, high-capacity services tailored to a digitally savvy clientele.

ATMs, while having the smallest impact on customer retention among the variables ($\beta = 0.065$, $t = 3.384$, $p = 0.001$), continue to play a critical role in banking operations. Musa and Abubakar (2022) observed that ATMs improve operational efficiency by reducing manual transaction processing and offering round-the-clock access to cash and account services. Although digital channels like mobile and internet banking increasingly dominate, ATMs remain indispensable for addressing the needs of customers who prefer traditional banking methods or require immediate access to cash. Their continued relevance is bolstered by their widespread availability and integration with other digital banking innovations, ensuring they remain an important component of a holistic banking strategy.

Hence, the findings emphasize the pivotal role of digital banking services in enhancing customer retention and satisfaction. Mobile banking and POS services stand out as the most influential predictors, reflecting their alignment with customer expectations for convenience, accessibility, and efficiency. Internet banking and ATMs, though slightly less impactful, complement these

services by catering to specific customer needs and preferences. These results align with recommendations from Ogunleye and Oni (2023), who emphasized the importance of prioritizing investments in digital infrastructure to meet evolving customer demands. By leveraging these digital banking platforms effectively, banks can enhance customer experiences, foster loyalty, and maintain a competitive edge in Nigeria's dynamic banking sector.

CONCLUSION AND RECOMMENDATIONS

The study highlights the profound impact of digital financial services on customer retention within Nigerian deposit money banks. Mobile banking emerged as the most influential driver, offering unparalleled convenience and accessibility, which align with the expectations of a digitally savvy clientele. Point of Sale (POS) terminals also played a critical role by facilitating seamless and reliable in-person transactions, particularly in retail environments. Internet banking and Automated Teller Machines (ATMs), while slightly less impactful, provided complementary benefits, addressing specific customer preferences for secure remote banking and immediate cash access, respectively. Overall, the integration of these services has significantly enhanced customer satisfaction, contributing to increased loyalty and competitiveness among deposit money banks.
To capitalize on the benefits of digital financial services, Nigerian deposit money banks should adopt a multi-faceted strategy. First, substantial investments in technological infrastructure are essential to enhance the reliability and security of all digital platforms. This includes deploying advanced cybersecurity measures and ensuring minimal system downtimes. Second, banks should prioritize customer education and support to improve the usability and trustworthiness of these services. This can be achieved through targeted training programs and responsive customer service channels.

Additionally, banks should continue to expand the coverage of POS terminals and enhance mobile banking functionalities to address the diverse needs of their customer base effectively. Policymakers and financial regulators, such as the Central Bank of Nigeria, should collaborate with banks to create an enabling environment for innovation in digital banking. This includes offering incentives for technological upgrades and implementing policies that encourage financial inclusion. By addressing these recommendations, Nigerian deposit money banks can sustain their growth and strengthen customer loyalty in an increasingly digital financial ecosystem.

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