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# Digital Banking Adoption and Customer Satisfaction in Deposit Money Banks in Enugu State

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## Abstract

*The study evaluated the digital banking adoption and customer satisfaction in Deposit Money Banks in Enugu State. The specific objectives are to: Examine the relationship between mobile banking apps and transaction reliability and ascertain the relationship between online banking platforms and responsive customer service availability in Deposit Money Banks in Enugu State. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of 254 staff of the banks understudy was used. Two hundred and forty-eight (248) returned the questionnaire and accurately filled. Data was presented and analyzed. The hypotheses were tested using Z - test. The findings indicated that Mobile banking apps had significant positive relationship with transactions reliability, Z(8.382, P. < .05). Online banking platforms had significant positive relationship with responsive customer service availability in Deposit Money Banks in Enugu State, Z(10.859, P. < .05). The study concluded that Mobile banking apps and Online banking platforms had significant positive relationship with transactions reliability and responsive customer service availability in Deposit Money Banks in Enugu State.The recommended among others that Deposit Money Banks should invest in intuitive and user-friendly mobile app interfaces. Simple navigation, clear transaction steps, and attractive designs to enhance usability and encourage continued usage.*

***Keywords:*** *Digital banking adoption, Mobile banking applications, Online banking platforms, Customer satisfaction, Transaction reliability, Responsive customer service, Deposit Money Banks, Financial technology (FinTech), Nigeria banking sector, Enugu State.*

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**Introduction**

In recent years, the banking landscape has undergone a significant transformation driven by advancements in digital technologies. Digital banking, encompassing mobile banking, internet banking, and other electronic banking services, has redefined how customers interact with financial institutions. This transformation is particularly evident in Deposit Money Banks (DMBs), where the adoption of digital banking has become a strategic imperative aimed at enhancing operational efficiency, service delivery, and customer satisfaction (Ogbuji et al., 2021).

Digital banking adoption refers to the extent to which bank customers utilize digital platforms and services provided by financial institutions for their banking needs. This shift is influenced by factors such as technological advancements, increasing smartphone penetration, improved internet connectivity, and changing consumer preferences for more convenient, fast, and secure banking experiences (Adeleke, 2020). For DMBs, digital banking offers benefits such as cost reduction, expanded service reach, and increased customer engagement (Obi et al., 2022).

Customer satisfaction, on the other hand, is a crucial determinant of customer loyalty and long-term business success in the banking sector. It refers to the level of contentment experienced by customers in relation to the services received, which is influenced by service quality, responsiveness, accessibility, reliability, and user experience (Awotunde & Martins, 2021). The integration of digital technologies in banking has the potential to enhance these service dimensions, thus improving overall customer satisfaction.

However, the successful adoption of digital banking does not automatically translate to customer satisfaction. Studies have shown that while digital banking provides convenience, it also introduces challenges such as technical glitches, security concerns, and limited digital literacy among some customers (Eze & Nwankwo, 2023). Therefore, DMBs must not only invest in digital infrastructure but also ensure that digital services are user-friendly, secure, and tailored to meet the expectations of diverse customer segments.

In Nigeria, the Central Bank has continued to drive the adoption of digital financial services through regulatory policies and infrastructure development. This policy direction, coupled with increasing competition among DMBs, has heightened the focus on digital innovation and customer-centric service delivery (Ibrahim et al., 2022). The ability of banks to align their digital banking strategies with customer needs is therefore pivotal to enhancing customer satisfaction and maintaining competitiveness in the financial services industry.In light of the foregoing, this study seeks to examine the relationship between digital banking adoption and customer satisfaction in Deposit Money Banks, with a focus on understanding how digital service delivery impacts customer experience and loyalty.

**Statement of the Problem**

Digital banking adoption plays a pivotal role in enhancing customer satisfaction in deposit money banks by transforming how financial services are accessed and delivered. Digital banking enables customers to perform banking transactions such as fund transfers, bill payments, and balance inquiries from any location at any time. This 24/7 access significantly increases convenience, meeting customer expectations for speed and availability. Adopting digital platforms reduces the time spent on banking activities and offers a seamless, user-friendly interface. These

features reduce frustration and enhance customer satisfaction by providing quick, error-free services. Digital banking eliminates the need for physical interaction in basic services, reducing queues and waiting time in banking halls.

Despite the growing investment in digital banking platforms by Deposit Money Banks (DMBs), many customers still report dissatisfaction with the quality and reliability of digital services. While digital banking is intended to provide convenience, speed, and accessibility, issues such as system downtimes, poor user interface, inadequate customer support, security concerns, and limited awareness among users have continued to affect its adoption and the level of satisfaction derived from it. This raises critical concerns about the effectiveness of digital banking in meeting customer expectations and improving service delivery.

The consequences of these if not solved might lead toReduced Convenience and Accessibility, Longer Transaction Times, Limited-Service Availability, Poor Customer Experience,Increased Operational Costs,Loss of Competitive Advantage,Customer Attrition, and Lower Financial Inclusion.Customers may experience difficulties accessing banking services outside of traditional banking hours or from remote locations. This inconvenience can lead to frustration and dissatisfaction. Without digital options, customers must rely on in-branch services, resulting in longer queues, lack of responsive customer service availability,poor transaction reliability increased waiting time, and slower transaction processing. Based on this, the study evaluated the Digital banking adoption and customer satisfaction in Deposit Money Banks in Enugu State.

**Objectives of the Study**

The main objective of the study is to evaluate digital banking adoption and customer satisfaction in Deposit Money Banks in Enugu State. The specific objectives are to:

i. Examine the relationship between mobile banking apps and transaction reliability in Deposit Money Banks.
ii. Ascertain the relationship between online banking platforms and responsive customer service availability in Deposit Money Banks.

**Research Questions**

The following research questions guided the study.

i. What is the relationship between mobile banking apps and transactionreliability in Deposit Money Banks in Enugu State?
ii. What is the relationship between online banking platforms and responsive customer service availability in Deposit Money Banks in Enugu State?

**Statement of the Hypotheses**

The following Hypotheses guided the study.

i. Mobile banking apps have relationship with transactions reliability in Deposit Money Banks in Enugu State.
ii. Online banking platforms has relationship with responsive customer service availability in Deposit Money Banks in Enugu State.

**Scope of the Study**

The scope of the study was on digital banking adoption and customer satisfaction in Deposit Money Banks in Enugu State. The key issues include mobile banking apps and online banking platforms as independent variables while transaction reliability and responsive customer service availability as dependent variables in Deposit Money Banks in Enugu State.

**Review of Related Literature**

**Conceptual Review**

**Digital**

Digital in DMBs represents a transformational shift from traditional brick-and-mortar operations to tech-enabled banking. It includes leveraging digital platforms to deliver real-time, customer-centric services while reducing operational costs. According to Adewoye and Ayo (2020), digital banking entails the use of ICT tools by DMBs to enhance service delivery, transaction speed, and market competitiveness(Adewoye,& Ayo, 2020). DMBs use AI-driven chatbots, fraud detection systems, and credit scoring algorithms as part of their digital transformation. According to Yusuf and Sanni (2023), the integration of AI and machine learning has enabled banks to automate back-office operations, improve customer service, and detect suspicious activity faster (Yusuf, & Sanni,2023).

**Digital Banking Adoption**

Digital banking adoption refers to the process by which Deposit Money Banks (DMBs) embrace and implement digital technologies to deliver financial services through electronic channels such as mobile apps, internet banking, automated teller machines (ATMs), and other digital platforms. This transformation is aimed at enhancing service delivery, increasing efficiency, expanding customer reach, and improving financial inclusion.Digital banking adoption is the integration of digital technologies into all areas of banking operations, resulting in fundamental changes to how banks operate and deliver value to customers. It enables real-time transactions, mobile payments, and online customer service, thus reducing dependence on physical branches(Onaolapo&Akinyemi, 2021).Digital banking adoption involves the deployment of technological solutions that enhance customer interaction, simplify access to financial services, and tailor offerings to customer needs, thereby promoting loyalty and satisfaction in DMBs(Agboola et al.,2022).

**Components of Digital Banking Adoption used in the Study**

**Mobile Banking Apps**

Banking apps also known as mobile banking applications are digital platforms developed by deposit money banks (DMBs) that enable customers to perform financial transactions and access banking services using smartphones or other mobile devices. These apps are designed to enhance customer experience by providing convenience, speed, and accessibility to core banking functions such as fund transfers, bill payments, account monitoring, loan requests, and more. Banking apps are mobile software solutions that allow users to carry out banking operations remotely without the need to visit a physical branch. According to Ozili (2021), banking apps represent a core component of digital banking transformation, allowing deposit money banks to expand their service delivery channels and improve operational efficiency (Ozili, 2021).

**Online Banking Platforms**

**Platforms** in Deposit Money Banks (DMBs) refer to the technological and infrastructural systems both physical and digital that enable the delivery of banking products and services to customers. These platforms facilitate core banking operations such as deposits, withdrawals, fund transfers, loan processing, digital payments, and customer relationship management. Platforms in DMBs primarily denote digital interfaces such as internet banking portals, mobile banking apps, automated teller machines (ATMs), point-of-sale (POS) terminals, and agency banking systems. Platforms in DMBs have evolved into sophisticated ecosystems that support seamless banking transactions and financial inclusion through mobile and internet-based services (Olowe and Akanbi2021). Banking platforms now serve as critical enablers of financial transactions and customer interaction, particularly as Deposit Money Banks leverage mobile and digital technology to reach under banked populations (Olowe & Akanbi, 2021).

**Customer Satisfaction**

In the context of DMBs, it involves evaluating how well the bank fulfills customer needs through service delivery channels and personal interactions (Adewoye & Salau, 2021).Satisfaction in Deposit Money Banks is defined as the **degree to which customers perceive that their banking needs and expectations are met or exceeded** through service delivery. It is a psychological outcome that results from the comparison of expectations with actual service performance (Ogunnaike & Ojeifo, 2020). Satisfaction also involves **emotional and functional dimensions**, where customers feel valued and their problems are resolved in a timely and professional manner. This emotional connection builds trust and strengthens bank-customer relationships (Nwankwo & Ajemunigbohun, 2018).

**Components of Customer Satisfaction**

**Transactions Reliability**

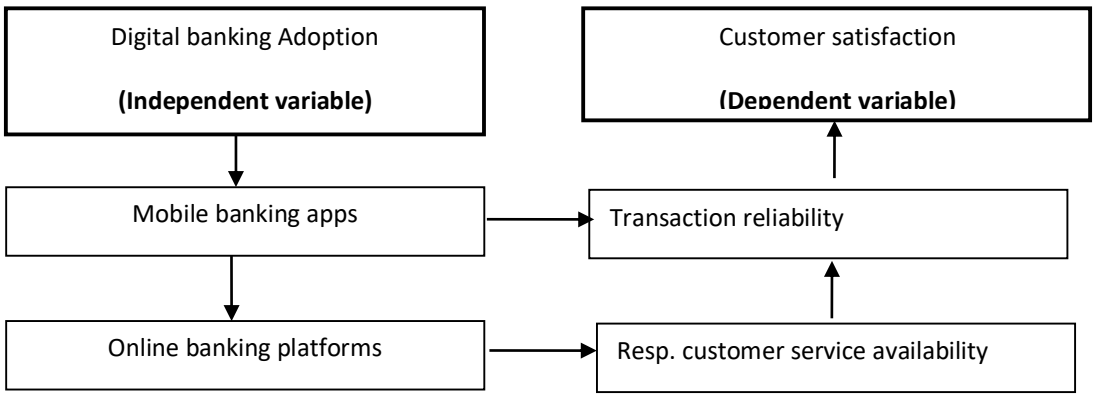
Transaction reliability refers to the bank's ability to ensure that customer and institutional transactions are processed accurately, consistently, and in a timely manner. Reliable transactions prevent issues such as double debits, unauthorized transfers, or transaction reversals, which can damage customer trust and bank reputation (Oseni & Salami, 2020).The financial activities and operations that involve the exchange ormovement of money, goods, services, or assets between parties. These transactions can range from deposits and withdrawals to loans, payments, transfers, and the provision of various banking services. Below is a comprehensive understanding of "transactions" in deposit money banks, supported by recent scholarly references. A banking transaction refers to any monetary exchange that occurs between a bank and its clients. This could include activities such as account deposits, withdrawals, fund transfers, and loan disbursements. The volume and frequency of such transactions are key indicators of a bank's operational efficiency and customer satisfaction (James et al. 2019).

**Responsive Customer Service Availability**

Responsive customer service availability in Deposit Money Banks (DMBs) refers to the ability of a bank to provide timely, effective, and accessible assistance to its customers across various service channels, addressing their inquiries, complaints, and needs efficiently. This includes the use of physical branches, call centers, online platforms, and mobile apps to ensure customers receive prompt resolutions to their issues and concerns. Responsive customer service availability in DMBs involves providing services that meet customers' expectations by offering quick

responses to inquiries, resolving issues with minimal delays, and ensuring that customers can access assistance at their convenience. This responsiveness enhances customer satisfaction and loyalty (Akinyemi & Alabi, 2021).

**Conceptual Framework**




***Source: Researchers' Model, 2025***

**Fig. 2.1: Researchers' Model, 2025**

The diagram above shows the linkages between the various components of digital banking adoption and customer satisfaction in Deposit Money Banks in Enugu state. Digital banking adoption has mobile banking apps and online banking platforms as the components of the independent variable while customer satisfaction has transactions reliability and responsive customer service availability as the components of dependent variables in Deposit Money Banks in Enugu State.

**Theoretical Framework**

The following theories guided the study:

i. Technology Acceptance Model (TAM) - (Fred Davis, 1986)

ii. Diffusion of Innovation (DOI) Theory- (Everett Rogers, 1962)

Technology Acceptance Model (TAM) anchors the study because Banks use TAM to evaluate why customers may or may not use mobile apps. Improving perceived usefulness (e.g., adding bill payment and loan features) and ease of use (e.g., clean interface) boosts adoption.

**Technology Acceptance Model (TAM)developed by Fred Davis in 1986**

Technology Acceptance Model (TAM), developed by Fred Davis in 1986, focuses on how individuals decide to adopt and use new technology based on two key perceptions: usefulness and ease of use. It emphasizes the role of personal attitudes in influencing technology adoption and how these attitudes affect job performance. In the case of banking industries, TAM is applied to understand and improve customer adoption of digital banking services, mobile apps, ATMs, internet banking, and other technological innovations.

**Diffusion of Innovation (DOI) Theory**, introduced by Everett Rogers in 1962, explains the process by which innovations spread through a social system over time. It considers factors such as the perceived benefits of the innovation, its compatibility with existing practices, and the influence of social networks. This theory is useful in examining how digital banking adoption is encouraged within banking institutions and how it gradually becomes accepted across different levels of societies.

**Empirical Review**

**Mobile Banking Apps and Transaction Reliability in Deposit Money Banks**

Recent studies on electronic and mobile banking in Nigeria and Ethiopia highlight predominantly positive impacts on user experience, loyalty, technical efficiency, and bank performance, though with nuanced variations across channels and time horizons. Babatunde (2020) analyzed 37,460 mobile banking app reviews from Nigeria (2012–2020), finding an average rating of 3.5 out of 5, with positive sentiment words (17.8%) more than doubling negative ones (7.7%) and dominant emotions of trust, anticipation, and joy; key topics centered on banks' responsiveness, app functionalities, and operational issues, underscoring the need for better user education and feedback handling. Okon (2020) demonstrated a significant positive relationship between electronic banking and e-loyalty among deposit money banks in Port Harcourt, with network service acting as a significant moderator enhancing this link. Hordofa (2023) employed a stochastic frontier model on Ethiopian commercial banks (2010–2022), revealing a small but significant positive effect of mobile banking adoption on technical efficiency, while noting unaccounted factors also play a role. Gbanador (2023) found that, in the short run, electronic banking systems had no significant impact on Nigerian deposit money banks' performance (2019–2021), but long-run analysis showed mobile banking exerting a positive and significant influence, alongside cointegration evidence between e-banking and performance. Chukwuekwu (2025) confirmed that electronic banking channels (ATMs, POS, internet, and mobile banking) positively and significantly affected the performance of listed Nigerian deposit money banks (2011–2020), as measured by ROE and ROA, though with no significant effect on EPS. Collectively, these findings affirm the growing efficacy of digital banking in enhancing satisfaction, loyalty, efficiency, and financial performance in African banking contexts, tempered by implementation challenges and the need for supportive infrastructure like reliable networks.

**Online Banking Platforms and Responsive Customer Service Availability**

Recent studies across Nigeria and Nepal consistently demonstrate that electronic and online banking services significantly enhance customer satisfaction, with varying emphases on specific dimensions and channels. Uwabor et al. (2021) found a significant positive relationship between e-service quality aspects—particularly customization and customer support—and outcomes like repurchase intention and referral among customers of Nigerian deposit money banks, using Spearman correlation on survey data from 384 respondents. Gautam and Sah (2023) applied the E-S-QUAL model in Nepal, revealing that website efficiency and e-customer service were the most influential dimensions of online banking service quality, with e-satisfaction mediating the strong link to e-customer loyalty, based on structural equation modeling from 384 usable questionnaires. Mohammed et al. (2025) reported a significant positive effect of mobile banking on customer satisfaction in selected deposit money banks in Gombe State, Nigeria, analyzed via structural equation modeling on 399 respondents. Okeke et al. (2025) identified price, security, perceived risk, responsiveness, and assurance as key significant service quality dimensions driving customer satisfaction with Nigerian banks' online services, while reliability and tangibility were insignificant, per multiple linear regression on 258 responses. Osuma et al. (2025) confirmed that electronic banking channels significantly positively affected customers' satisfaction in telecommunication contexts among deposit money banks in Ota, Ogun State, Nigeria, using regression analysis. Overall, these findings affirm the pivotal role of reliable, secure, user-friendly, and responsive digital banking features in boosting satisfaction and loyalty in developing markets, while

highlighting the need for banks to prioritize service quality improvements, risk reduction, and timely support to sustain customer trust and engagement.

**Gap in the Reviewed Related Literature**

The few studies done were carried outside Digital Banking Adoption and Customer Satisfaction in Deposit Money Banks in Enugu State and did not focus to best of my knowledge on the mobile banking apps and transactions reliability; online banking platforms and responsive customer service availability in Deposit Money Banks. Most of the studies reviewed analysed their data through a purposeful sampling technique, Descriptive statistics and appropriate inferential statistics, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA) method, and Pearson correlation coefficient (r) while the present study made use of Z test to test the hypotheses. Therefore, the study aimed at filling this research gap by evaluating the Digital Banking Adoption and Customer Satisfaction in Deposit Money Banks in Enugu State.

**Methodology**

**Research Design**

The descriptive sample survey was employed as the researcher's strategy for answering research questions using empirical data. It is a research design where a sample of population or item is chosen and data collected, analyzed and reported based on the sample.

**Area of the study**

The area of the study was Enugu State, Nigeria. One was chosen to be representative of others in the state. The financial institutions understudy includes; Fidelity Bank, United Bank of Africa (UBA) and Access Bank. The regional offices were used for study for better collection of Data. These banks were chosen because they have international authorization and high number of staff.

**Sources of Data**

Sources of data for the empirical study were primary and secondary sources.

**Primary Sources**

The primary sources were the staff of the banks under study and through the use of structured questionnaire administered.

**Secondary Data**

The researcher's secondary data were obtained from many sources, including literature, industry surveys, compilations from computerized databases and information systems, computerized or mathematical models of environmental processes and other established sources (textbooks, journals internet, websites, internal records).

**Population of the Study**

The target population of the study consists of three (3) selected out of seven (7) banks with international authorization in Nigeria for the study. The total population for the study was two hundred and fifty-four (254). (See table for population distribution of the relevant deposit money banks under study). For ease of questionnaire administration and proximity, the regional offices of these selected banks were used for the collection of data.

**Table 3.1 Population of the banks understudy**

| S/N | Names of the Banks | Staff Strength | Percent |
|---|---|---|---|
| 1 | Fidelity Bank | 77 | 30 |
| 2 | United Bank of Africa (UBA) | 84 | 33 |
| 3 | Access | 93 | 37 |
| | **Total** | **254** | **100** |

***Source: Human Resources Department of the selected financial institutions in May, 2025***

**Sample Size Determination**

The whole population was used due to small number.

**Instrument for Data Collection**

Given the objectives and the nature of the study, the study made use of questionnaire administration. The questionnaires were designed and administered on the selected respondents. The responses generated were used thereafter for data analysis.

**Validity of the Instrument**

The researcher also gave other validators some copies and requested them to assist him in using their expertise to validate the instrument regarding its clarity, appropriateness of language used and of instruction to the respondents. In the end, some of the items were modified, discarded and new ones introduced. Thus, an instrument with better items emerged which the study utilized in collecting the much-needed data for the study.

**Reliability of the Instrument**

A test- method of reliability was adopted for the study in which 10 copies of the questionnaire was distributed to other two (2) selected banks; five copies to each bank. The outcome was subjected to consistency test using Cronbach's Alpha Coefficient testing tool.

The formula is as follows:

**Scale: ALL VARIABLES**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 10 | 100.0 |
| | Excluded | 0 | 0 |
| | Total | 10 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | No. of Items |
|---|---|
| .86 | 10 |

Scale reliabilities were calculated using Cronbach's Alpha; the result obtained was 0.86. This shows that the internal consistency of the scale is good for the purpose of this study because it is 0.86 which was good.

**Methods of Data Analysis**

Data from the questionnaire were collected and analyzed using simple percentages and mean. To determine the nature and strength of relationship between the research variables, Z – test was used to test the hypotheses with aid of Special Package for Statistical Software (SPSS). For the 5-point Likert scale questions, the scale and decision rule stated below was used in analyzing the findings.

**Z –Test**

**Z –** $\frac{\chi-\mu}{\frac{\sigma}{\sqrt{n}}}$

Where;

$\overline{\chi}$ = Population mean
$\mu$ = Sample mean
$\sigma$ = Standard deviation
$n$ = Sample size

**Scale**

Strongly Agree (SA) - 5
Agree (A) - 4
Neutral(N) - 3
Disagree (D) - 2
Strongly Disagree (SD) - 1

**Decision Rule**

If Mean> 3.0, the respondents agree
If mean $\leq$3.0, the respondents disagree

**Data Presentation and Analyses**

In this chapter, data relating to the study were presented, analyzed and interpreted. However, this section commenced with the questionnaire distributed and returned.

**Distribution and Return of Questionnaire**

The questionnaire was distributed to various respondents in the organizations under study were showed in table 4.1, the number of questionnaires distributed, the number returned and not returned and their percentages. The questionnaires were filled in by the employees of the banks under study. Thus, the returned questionnaires were used for the analyses.

**Table 4.1 Distribution and Return of the Questionnaire**

| Firms | Distributed | No Returned | Percent | No. not Returned | Percent |
|---|---|---|---|---|---|
| Fidelity Bank | 77 | 76 | 30 | 1 | - |
| United Bank of Africa (UBA) | 84 | 81 | 32 | 3 | 1 |
| Access | 93 | 91 | 36 | 2 | 1 |
| **Total** | **254** | **248** | **98** | **6** | **2** |

***Source: Field Survey, 2025***

Table 4.1 indicated that total copies of questionnaire distributed were 254, the number of the questionnaire returned was 248 which constitute 98 percent of the respondents, and the number not returned was 6 representing 2 percent of the respondents. This implies that the number of the questionnaire returned was more than those not returned. Hence the study made use of the returned questionnaire for data analyses.

**Data Presentation**

**Table 4.2.1.1: Responses on the relationship between mobile banking apps and transactions reliability in Deposit Money Banks in Enugu State.**

| | | 5<br>SA | 4<br>A | 3<br>N | 2<br>DA | 1<br>SD | ∑FX | -<br>X | SD | Decision |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | With 24/7 availability, mobile apps reduce dependency on banking hours, thereby **ensuring consistent service delivery**. | 570<br>114<br>46.0 | 164<br>41<br>16.5 | 174<br>58<br>23.4 | 28<br>14<br>5.6 | 21<br>21<br>5.6 | 957<br>248<br>100.0 | 3.86 | 1.292 | Agree |
| 2 | Customers can initiate and complete transactions anytime, which increases the perceived and actual reliability of the bank's transaction system | 635<br>127<br>51.2 | 164<br>41<br>16.5 | 45<br>15<br>6.0 | 28<br>14<br>5.6 | 51<br>51<br>20.6 | 923<br>248<br>100.0 | 3.72 | 1.607 | Agree |
| 3 | Mobile banking enhances **transaction speed** and reduces delays, which contributes to **higher reliability** of services | 570<br>114<br>46.0 | 164<br>41<br>16.5 | 156<br>52<br>21.0 | 28<br>14<br>5.6 | 27<br>27<br>10.9 | 945<br>248<br>100.0 | 3.81 | 1.359 | Agree |
| 4 | Modern mobile banking applications are equipped with **multi-factor authentication, end-to-end encryption, and fraud monitoring tools,** and this reinforces customers' confidence. | 600<br>120<br>48.4 | 296<br>74<br>29.8 | 45<br>15<br>6.0 | 18<br>9<br>3.6 | 30<br>30<br>12.1 | 989<br>248<br>100.0 | 3.99 | 1.336 | Agree |
| 5 | Automated transaction confirmations, instant balance updates, and real-time alerts improve the **accuracy and dependability** of transactions | 660<br>132<br>53.2 | 188<br>47<br>19.0 | 27<br>9<br>3.6 | 14<br>7<br>2.8 | 53<br>53<br>21.4 | 942<br>248<br>100.0 | 3.80 | 1.605 | Agree |
| | **Total Grand mean and standard deviation** | | | | | | | **3.836** | **1.4398** | |

***Source: Field Survey, 2025***

Table 4.2.1.1, 155 respondents out of 248 representing 62.5 percent agreed that with 24/7 availability, mobile apps reduce dependency on banking hours, thereby ensuring consistent service delivery with the mean score of 3.86 and standard deviation of 1.292. 168 respondents representing 67.7 percent agreed that Customers can initiate and complete transactions anytime, which increases the perceived and actual reliability of the bank's transaction system with mean score of 3.72 and standard deviation of 1.607. 155 respondents representing 62.5 percent agreed that Mobile banking enhances transaction speed and reduces delays, which contributes to higher reliability of services with mean score of 3.81 and standard deviation of 1.359. 194 respondents representing 78.2 percent agreed that Modern mobile banking applications are equipped with multi-factor authentication, end-to-end encryption, and fraud monitoring tools**,** and this reinforces customers' confidence with mean score of 3.99 and standard deviation of 1.336. 179 respondents representing 72.2 percent agreed that automated transaction confirmations, instant balance updates, and real-time alerts improve the accuracy and dependability of transactions with a mean score of 3.80 and standard deviation 1.605.

**Table 4.2.1.2: Responses on the relationship between online banking platforms and responsive customer service availability in Deposit Money Banks in Enugu State.**

| | | 5 SA | 4 A | 3 N | 2 DA | 1 SD | ∑FX | - X | SD | Decision |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Online banking platforms offer services such as funds transfers, account monitoring, bill payments, and loan applications, allowing customers to perform financial transactions without visiting a physical branch | 330<br>66<br>26.6 | 320<br>80<br>32.3 | 27<br>9<br>3.6 | 82<br>41<br>16.5 | 52<br>52<br>21.0 | 811<br>248<br>100.0 | 3.27 | 1.526 | Agree |
| 2 | Customer online banking platforms enhances the overall user experience, builds customer loyalty, and sustains the competitive edge of Deposit Money Banks in the digital era. | 450<br>90<br>36.3 | 344<br>86<br>34.7 | 27<br>9<br>3.6 | 10<br>5<br>2.0 | 58<br>58<br>23.4 | 889<br>248<br>100.0 | 3.58 | 1.556 | Agree |
| 3 | A failure in responsive support can lead to frustration, loss of trust, and eventual migration to competitor banks offering more reliable service experiences | 565<br>113<br>45.6 | 460<br>115<br>46.4 | 27<br>9<br>3.6 | 4<br>2<br>.8 | 9<br>9<br>3.6 | 1065<br>248<br>100.0 | 4.29 | .876 | Agree |
| 4 | Responsive customer service, shows the bank's ability to provide prompt and effective assistance, as a essential for resolving technical issues and transaction errors | 500<br>100<br>40.3 | 532<br>133<br>53.6 | 12<br>4<br>1.6 | 16<br>8<br>3.2 | 3<br>3<br>1.2 | 1053<br>248<br>100.0 | 4.29 | .760 | Agree |
| 5 | The effectiveness of customer online banking platforms is inherently dependent on the availability and responsiveness of customer service. | 470<br>94<br>37.9 | 392<br>98<br>39.5 | 12<br>4<br>1.6 | 70<br>35<br>14.1 | 17<br>17<br>6.9 | 961<br>248<br>100.0 | 3.88 | 1.252 | Agree |
| | **Total Grand mean and standard deviation** | | | | | | | **4.862** | **1.194** | |

***Source: Field Survey, 2025***

Table 4.2.1.2, 146 respondents out of 248 representing 58.9 percent agreed that Online banking platforms offer services such as funds transfers, account monitoring, bill payments, and loan applications, allowing customers to perform financial transactions without visiting a physical branch with the mean score of 3.27 and standard deviation of 1.526. 176 respondents representing 71.0 percent agreed that Customer online banking platforms enhances the overall user experience, builds customer loyalty, and sustains the competitive edge of Deposit Money Banks in the digital era with mean score of 3.58 and standard deviation of 1.556. 228 respondents representing 50.0 percent agreed thata failure in responsive support can lead to frustration, loss of trust, and eventual migration to competitor banks offering more reliable service experiences with mean score of 4.29 and standard deviation of .876. 233 respondents representing 93.9 percent agreed thatResponsive customer service, shows the bank's ability to provide prompt and effective assistance, as a essential for resolving technical issues and transaction errors with mean score of 4.29 and standard deviation of .760. 192 respondents representing 77.4 percent agreed that the effectiveness of customer online banking platforms is inherently dependent on the availability and responsiveness of customer service with a mean score of 3.88 and standard deviation 1.252

**Test of Hypotheses**

**4.3.1 Hypotheses One: Mobile banking apps have relationship with transactions reliability in Deposit Money Banks in Enugu State.**

**One-Sample Kolmogorov-Smirnov Test**

| | | With 24/7 availability, mobile apps reduce dependency on banking hours, thereby ensuring consistent service delivery. | Customers can initiate and complete transactions anytime, which increases the perceived and actual reliability of the bank's transaction system | Mobile banking enhances transaction speed and reduces delays, which contributes to higher reliability of services | Modern mobile banking applications are equipped with multi-factor authentication, end-to-end encryption, and fraud monitoring tools,and this reinforces customers' confidence. | Automated transaction confirmations, instant balance updates, and real-time alerts improve the accuracy and dependability of transactions |
|---|---|---|---|---|---|---|
| N | | 248 | 248 | 248 | 248 | 248 |
| Uniform Parameters[a,b] | Minimum | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 5 | 5 | 5 | 5 | 5 |
| Most Extreme Differences | Absolute | .460 | .512 | .460 | .532 | .532 |
| | Positive | .085 | .206 | .109 | .121 | .214 |
| | Negative | -.460 | -.512 | -.460 | -.532 | -.532 |
| Kolmogorov-Smirnov Z | | 7.239 | 8.065 | 7.239 | 8.382 | 8.382 |
| Asymp. Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 |

a. Test distribution is Uniform.

b. Calculated from data.

**Decision Rule**

If the calculated Z-value is greater than the critical Z-value (i.e$Z_{cal}$>$Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

**Result**

With Kolmogorov-SmirnonZ – value ranges from 7.239<8.382 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of most of the respondent mobile banking apps had significant positive relationship with transactions reliability in Deposit Money Banks in Enugu State.

**Decision**

Furthermore, comparing the calculated Z- value ranges from 7.239<8.382against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus, the alternative hypothesis was accepted which states that mobile banking apps had significant positive relationship with transactions reliability in Deposit Money Banks in Enugu State.

**Hypotheses Two: Online banking platforms has relationship with responsive customer service availability in Deposit Money Banks in Enugu State.**

**One-Sample Kolmogorov-Smirnov Test**

| | | Online banking platforms offer services such as funds transfers, account monitoring, bill payments, and loan applications, allowing customers to perform financial transactions without visiting a physical branch | Customer online banking platforms enhances the overall user experience, builds customer loyalty, and sustains the competitive edge of Deposit Money Banks in the digital era. | A failure in responsive support can lead to frustration, loss of trust, and eventual migration to competitor banks offering more reliable service experiences | Responsive customer service, shows the bank's ability to provide prompt and effective assistance, as a essential for resolving technical issues and transaction errors | The effectiveness of customer online banking platforms is inherently dependent on the availability and responsiveness of customer service. |
|---|---|---|---|---|---|---|
| N | | 248 | 248 | 248 | 248 | 248 |
| Uniform Parameters[a,b] | Minimum | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 5 | 5 | 5 | 5 | 5 |
| Most Extreme Differences | Absolute | .339 | .460 | .669 | .690 | .524 |
| | Positive | .210 | .234 | .036 | .012 | .069 |
| | Negative | -.339 | -.460 | -.669 | -.690 | -.524 |
| Kolmogorov-Smirnov Z | | 5.334 | 7.239 | 10.541 | 10.859 | 8.255 |
| Asymp. Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 |

a. Test distribution is Uniform.

b. Calculated from data.

**Decision Rule**

If the calculated Z-value is greater than the critical Z-value (i.e$Z_{cal}$>Zcritical), reject the null hypothesis and accept the alternative hypothesis accordingly.

**Result**

With Kolmogorov-SmirnonZ – value ranges from 5.334<10.859 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of most of the respondent that online banking platforms had significant positive relationship with responsive customer service availability in Deposit Money Banks in Enugu State.

**Decision**

Furthermore, comparing the calculated Z- value ranges 5.334<10.859 against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus, the alternative hypothesis was accepted which states thatonline banking platforms had significant positive relationship with responsive customer service availability in Deposit Money Banks in Enugu State.

**Discussion of Findings**

**Mobile banking apps has relationship with transactions reliability in Deposit Money Banks in Enugu State.**

The result presents empirical evidence from the study, demonstrated a significant positive relationship between mobile banking apps and transactions reliability in deposit money banks, as indicated by calculated Z-values ranging from 7.239 to 8.382, which far exceed the critical Z-value of 0.000 (typically implying strong statistical significance at conventional levels). This finding aligns with supporting literature on electronic banking's impact on bank performance. Gbanador (2023) analyzed electronic banking systems' influence on Nigerian deposit money banks using time-series data from 2019–2021, concluding no significant short-run effect on performance overall, yet revealing a positive and significant long-run impact specifically from mobile banking, while ATMs and POS showed positive but insignificant effects. Similarly, Chukwuekwu (2025) examined electronic banking channels—including ATMs, POS, internet banking, and mobile banking—on listed Nigerian deposit money banks from 2011–2020, finding positive and significant effects on performance metrics such as return on equity (ROE) and return on assets (ROA), though no significant impact on earnings per share (EPS). Collectively, these results reinforce the growing role of mobile banking as a key driver of reliability, efficiency, and financial performance in Nigerian banking, particularly over the longer term, amid broader digital transformation trends.

**Online banking platforms has relationship with responsive customer service availability in Deposit Money Banks in Enugu State.**

The empirical finding from a study, showed a significant positive relationship between online banking platforms and responsive customer service availability in deposit money banks, evidenced by calculated Z-values ranging from 5.334 to 10.859, which substantially exceed the critical Z-value of 0.000 (indicating strong statistical significance). This result is supported by related literature emphasizing the role of digital banking in improving service responsiveness and overall customer outcomes. Gautam and Sah (2023), in their study on online banking service practices in Nepal, utilized the E-S-QUAL model and structural equation modeling to identify website efficiency and e-customer service as the most influential dimensions driving e-customer satisfaction and loyalty, followed by user-friendliness, security/privacy, and organizational site aspects, with e-satisfaction mediating the path to e-loyalty. Similarly, Osuma et al. (2025) examined electronic banking's effects on customer satisfaction in the context of telecommunication services among selected deposit money banks in Ota, Ogun State, Nigeria, applying regression analysis via SPSS and concluding that electronic banking channels significantly positively influenced customer satisfaction. Together, these studies reinforce the value of responsive, efficient, and service-oriented online/digital banking features in enhancing customer experiences and satisfaction in developing banking markets, particularly through improved responsiveness and reliability.

**Summary of Findings, Conclusion, Recommendations and Contribution to Knowledge**

**Summary of Findings**

i. Mobile banking apps had significant positive relationship with transactions reliability in Deposit Money Banks in Enugu State, Z( 8.382, P. < .05)

ii. Online banking platforms had significant positive relationship with responsive customer service availability in Deposit Money Banks in Enugu State, Z(10.859, P. < .05)

**Conclusion**

Mobile banking apps and Online banking platforms had significant positive relationship with transactions reliability and responsive customer service availability in Deposit Money Banks in Enugu State. Digital banking adoption in Nigerian banks has significantly transformed the financial services landscape by enabling faster, more convenient and accessible banking operations. It involves the use of digital platforms such as mobile banking apps, internet banking, USSD codes, and ATMs to carry out banking transactions. Digital banking offers 24/7 access to services, reduces the need for physical visits to branches, and enhances transaction speed, leading to higher customer satisfaction. Customers benefit from lower transaction costs and reduced waiting times, which increases loyalty and trust in banks.

**Recommendations**

Based on the findings, the following recommendations were proffered:

i. Deposit Money Banks should invest in intuitive and user-friendly mobile app interfaces. Simple navigation, clear transaction steps, and attractive designs to enhance usability and encourage continued usage and employ professional UI/UX designers to upgrade existing mobile apps for better responsiveness, accessibility, and functionality.

ii. Banks should provide round-the-clock customer service through multiple channels live chat, email, social media, in-app messaging, and toll-free lines. Automation via AI-powered chatbots can also be integrated to handle basic issues, while human agents resolve complex ones.

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