



E-Banking Administration and Customer Satisfaction in Nigerian Deposit Money Banks: Evidence from ATM, Internet and Mobile Banking Services

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ABSTRACT

Original Research Article

The rapid expansion of digital banking has fundamentally changed how money banks deposit financial services and engage with their customers. However, despite the growing use of electronic banking channels in Nigeria, customers still encounter difficulties such as unsuccessful transactions, network interruptions, cybersecurity concerns, and inadequate or delayed responses to complaints. This study investigated the effect of e-banking administration on customer satisfaction among selected deposit money banks in Nigeria, focusing specifically on Automated Teller Machine (ATM), internet banking, and mobile banking services. A descriptive survey design was employed, and primary data was obtained through structured questionnaires administered to bank customers. From the 120 questionnaires distributed, 110 were properly completed and retrieved, yielding a response rate of 91.7%. The collected data were examined using descriptive statistics and regression analysis. The results demonstrated that ATM services had a statistically significant effect on customer satisfaction ($R^2 = .610$, $\beta = .742$, $p < .001$). Similarly, internet banking recorded a significant positive effect on customer satisfaction ($R^2 = .646$, $\beta = .782$, $p < .001$), while mobile banking also showed a significant positive relationship with customer satisfaction ($R^2 = .676$, $\beta = .801$, $p < .001$). Descriptive findings indicated generally favourable customer assessments of the three electronic banking channels, reflected in grand mean scores of 4.09 for ATM services, 4.15 for internet banking, and 4.13 for mobile banking. The study concludes that efficient management of electronic banking services contributes significantly to enhanced customer satisfaction. It therefore recommends sustained investment in technological reliability, cybersecurity measures, user-friendly platforms, transaction monitoring systems, and efficient mechanisms for resolving customer complaints.

Keywords: E-Banking Administration, Customer Satisfaction, ATM Services, Internet Banking, Mobile Banking, Deposit Money Banks, Nigeria.

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Introduction

Technological growth has radically impacted the organization and delivery of banking services. Electronic banking is the use of electronic channels by clients to avail banking services without continual physical contact with banking professionals. These channels include Automated Teller Machines (ATMs), internet banking, mobile banking, Point-

of-Sale terminals and USSD platforms. Electronic banking progress has brought more ease, flexibility, accessibility and speed of transaction to customers. Recently, research in Nigeria have documented the favourable correlations between electronic/digital banking services and client satisfaction. For example, Yusuf and Ologunwa (2024) observed that mobile and internet banking have a beneficial impact on the

happiness of consumers of deposit money banks in South West, Nigeria. OLOWOFELA, LISOYI and OLAIYA (2024) also found that simplicity of use, reliability and security had positive and significant influence on customer satisfaction of bank clients in Lagos State. The results highlight the significance of service quality and proper management of electronic banking channels.

In Nigeria, deposit money banks have therefore invested considerably in digital banking infrastructure. However, the availability of electronic banking channels does not automatically guarantee customer satisfaction. Customers may encounter network failures, transaction delays, unsuccessful transactions, security threats and difficulties in obtaining timely resolution of complaints. The effectiveness of e-banking therefore depends not only on technological availability but also on how effectively banks administer, monitor and support their electronic channels.

E-banking administration in this study refers to the management, coordination, monitoring and control of electronic banking services to ensure reliability, security, accessibility, efficiency and satisfactory customer experiences. Customer satisfaction represents the extent to which customers perceive that banking services meet or exceed their expectations.

The study therefore examines ATM, internet banking and mobile banking services and their relationships with customer satisfaction in selected Nigerian deposit money banks.

Statement of the Problem

Electronic banking was introduced partly to improve banking efficiency, convenience and service delivery. Nevertheless, customers continue to experience difficulties while using electronic banking services. The study identifies network failure, delayed transactions, ATM malfunctions, failed mobile transactions, cyber fraud, unauthorised transfers and inadequate complaint resolution as important challenges.

Although previous studies have examined electronic banking, service quality, technology adoption and customer satisfaction, comparatively less attention has been given to the administration of multiple electronic banking channels within one analytical framework. The present study therefore examines ATM, internet banking and mobile banking services and their relationships with customer satisfaction.

Objective of the Study

The primary aim of the study is to investigate the correlation between e-banking administration and customer satisfaction in some selected deposit money institutions in Nigeria.

Specifically, the study examines whether:

1. ATM services significantly influence customer satisfaction.
2. Internet banking services significantly influence customer satisfaction.
3. Mobile banking services significantly influence customer satisfaction.

Research Hypotheses

H01: ATM services do not significantly influence customer satisfaction in selected deposit money banks in Nigeria.

H02: Internet banking services do not significantly influence customer satisfaction in selected deposit money banks in Nigeria.

H03: Mobile banking services do not significantly influence customer satisfaction in selected deposit money banks in Nigeria.

Literature Review

E-banking involves the provision of banking services through electronic channels. Its effectiveness depends on more than technological infrastructure. Banks must ensure that electronic channels remain available, secure, reliable and easy to use while providing mechanisms for monitoring transactions and resolving customer complaints.

ATM services provide access to cash withdrawals, account inquiries, transfers and other banking functions without direct interaction with bank personnel. Important dimensions include availability, reliability, transaction speed, accuracy and security.

Internet banking allows customers to perform financial transactions through internet-enabled devices. Important service characteristics include accessibility, usability, reliability, security, transaction speed and responsiveness.

Mobile banking provides access to banking services through mobile applications and USSD platforms. Its principal advantages include convenience, accessibility, flexibility and transaction speed.

Customer satisfaction represents customers' evaluation of the extent to which service performance meets their expectations. Within electronic banking, satisfaction may be reflected in customers' willingness to continue using electronic services, recommend the bank and express confidence in the bank's digital platforms.

Theoretical Framework

The main theoretical base of this work is the Technology Acceptance Model (TAM) of Davis (1989). Perceived utility and perceived ease of use are identified as key factors of technology adoption by TAM. This hypothesis is relevant as clients tend to assess electronic banking positively when digital channels enable them to perform banking operations efficiently with little effort.

The study also draws on the expectation-confirmation perspective, under which satisfaction reflects customers' comparison of expected and experienced service performance. Where electronic banking performs consistently with expectations concerning speed, security, reliability and convenience, satisfaction may increase.

Empirical Review

The evidence from Nigeria indicates that electronic banking is relevant to consumer happiness. Yusuf and Ologunwa (2024) observed that mobile and internet banking had a favourable effect on customer satisfaction of deposit money bank customers in Southwest Nigeria. A study of 383 bank clients in Lagos State by OLOWOFELA et al. (2024) indicated that simplicity of use, reliability and security had substantial effects on customer satisfaction. Bakare, Olufayo and Omoera (2013), studied e-banking service efficiency and customer satisfaction in Lagos, highlighted the increasing relevance of electronic service efficiency. Likewise, Umoren and Olaleye (2025) found a beneficial effect of electronic banking and service quality on customer satisfaction using 508 respondents in South-South Nigeria. Okechukwu, Nwosu and Nuel-Okoli (2025) investigated electronic banking and customer satisfaction in Enugu and grounded the study on Davis' Technology Acceptance Model.

The research gap addressed by this study is the examination of ATM, internet banking and mobile banking together as dimensions of e-banking administration and their individual relationships with customer satisfaction.

Methodology

The study employed descriptive survey research design. The population consisted of consumers of chosen deposit money institutions in Nigeria. The banks considered for the research were Access Bank, Zenith Bank, GT Bank, First Bank, UBA and Ecobank.

In total 120 surveys were issued and 110 correctly completed and returned giving a response rate of 91.7%. Structured questionnaire was employed. The survey included demographic data and questions on ATM services, internet banking, mobile banking and customer satisfaction. Responses were measured on a five-point Likert scale from Strongly Agree to Strongly Disagree.

The data was analysed using descriptive statistics such as frequencies, percentages, means and standard deviations while regression analysis was employed to test the hypothesis at a 5% significant level.

The model was specified as:

$$CS = \beta_0 + \beta_1ATM + \beta_2IB + \beta_3MB + \varepsilon$$

Where CS = Customer Satisfaction; ATM = ATM Services; IB = Internet Banking; MB = Mobile Banking; β_0 = Constant; β_1 – β_3 = regression coefficients; and ε = error term.

Results and Discussion

The study obtained 110 usable responses from 120 questionnaires, representing a 91.7% response rate.

Descriptive results showed grand mean scores of 4.09 for ATM services, 4.15 for internet banking and 4.13 for mobile

banking. The findings indicate generally favourable respondent perceptions of the three electronic banking channels.

For ATM services, the regression result produced $R = .781$ and $R^2 = .610$. The ANOVA result was $F(1,108) = 36.412$, $p < .001$, while the coefficient was $\beta = .742$, $t = 6.034$, $p < .001$. The null hypothesis was rejected, indicating a statistically significant positive relationship between ATM services and customer satisfaction.

For internet banking, $R = .804$ and $R^2 = .646$. The ANOVA result was $F(1,108) = 42.156$, $p < .001$, while the coefficient was $\beta = .782$, $t = 6.492$, $p < .001$. The null hypothesis was rejected, indicating a statistically significant positive relationship between internet banking and customer satisfaction.

For mobile banking, $R = .822$ and $R^2 = .676$. The ANOVA result was $F(1,108) = 46.288$, $p < .001$, while the coefficient was $\beta = .801$, $t = 6.803$, $p < .001$. The null hypothesis was rejected, indicating a statistically significant positive relationship between mobile banking and customer satisfaction.

The findings are broadly consistent with recent Nigerian evidence. OLOWOFELA et al. (2024) reported that ease of use, reliability and security significantly affected customer satisfaction, while Yusuf and Ologunwa (2024) found positive effects of mobile and internet banking on customer satisfaction. Umoren and Olaleye (2025) similarly reported a positive relationship between electronic banking, service quality and customer satisfaction.

Conclusion

The study examined e-banking administration and customer satisfaction in selected Nigerian deposit money banks, focusing on ATM, internet banking and mobile banking services.

The findings demonstrate statistically significant positive relationships between ATM services and customer satisfaction, internet banking and customer satisfaction, and mobile banking and customer satisfaction. The respective reported R^2 values were 61.0%, 64.6% and 67.6%.

The findings suggest that effective administration of electronic banking channels is an important component of customer experience in Nigerian banking. Customers value electronic banking systems that are convenient, accessible, fast, reliable, secure and easy to use.

Recommendations

1. Banks should strengthen ATM administration through regular maintenance, network monitoring, adequate cash availability and prompt reversal of failed transactions.

2. Banks should improve internet banking security through strong authentication, fraud detection, encryption and customer security education.
3. Mobile banking platforms should be continuously upgraded to improve usability, transaction speed, reliability and compatibility with different devices.
4. Complaint-resolution systems should be strengthened so that failed electronic transactions and security concerns can be reported and resolved promptly.
5. Banks should invest in digital customer education covering secure password practices, authentication, fraud prevention and responsible use of electronic banking platforms.
6. Bank management should continuously monitor digital-service performance, including downtime, transaction success rates, failed transactions, reversal times and complaint-resolution periods.

Limitations and Suggestions for Further Research

The study was limited by respondents' willingness to participate, geographical coverage, financial and time constraints and reliance on self-reported perceptions. Future studies should examine POS and USSD banking alongside ATM, internet and mobile banking; use larger samples across several Nigerian states; compare different categories of deposit money banks; investigate customer loyalty and retention; examine cybersecurity and trust as mediating or moderating variables; and employ structural equation modelling or other appropriate multivariate techniques.

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Summary of Hypothesis Tests

Hypothesis	R	R ²	β	p-value	Decision
ATM → Customer Satisfaction	.781	.610	.742	< .001	Reject H01
Internet Banking → Customer Satisfaction	.804	.646	.782	< .001	Reject H02
Mobile Banking → Customer Satisfaction	.822	.676	.801	< .001	Reject H03