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Electronic Banking, Quality Service, and Customer Satisfaction in Nigeria. A Study of Selected Electronic Banking Services in Nigeria

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Abstract

The aim of this study is twofold: firstly, to identify service quality factors influencing customer satisfaction of bank customers using electronic banking in Nigeria, and secondly, to examine the relationship between electronic banking and service quality with customer satisfaction. A Quasi-experimental research method was adopted in which primary data was collected from 508 respondents through a structured, closed-ended questionnaire. The questionnaire was developed using the PAKSERV model (a modification of the SERVQUAL model) and administered to randomly selected customers of some banks in the south-south region of Nigeria. Regression and other simple statistical models were used to analyze the data collected. The study revealed that electronic banking and service quality have a positive effect on customer satisfaction. Transaction turnaround time, ease of resolution of complaints, bank system reliability, and network reliability were noted to be key service quality factors influencing customer satisfaction with electronic banking services in Nigeria. The study recommends that banks should continue to invest in technology upgrades and improvements to provide customers with seamless and reliable electronic banking services, and banks should actively seek customer feedback and suggestions to identify areas for improvement and tailor their electronic banking services to meet customer needs and preferences.

Keywords: Electronic banking, Customer satisfaction, Quality service, Bank Customers, Nigeria

1.0 Introduction

Electronic banking (e-banking) has changed the way financial institutions interact with their customers and plays a crucial role in shaping customer perceptions of financial institutions, making quality service and customer satisfaction essential components of the success of banks in the industry. Banks in Nigeria now offer various electronic banking services, allowing customers to manage their finances with ease and convenience.

Customer-induced technological innovations that resulted in the development of electronic banking services were one of the components of banking and capital market reform in Nigeria. The reforms were initially introduced in Nigeria in 1989 as part of the structural adjustment program (SAP) package and in 2008 in response to the global financial crisis. The reforms were necessary to strengthen the Nigeria financial system and establish a robust, diversified, and reliable banking systemⁱ. Moreso, the reforms were proposed for banks to enhance their operational capabilities, service quality, and efficiency.

E-banking is the automated delivery of financial services to customers through ICT facilities^{ii,iii}. Electronic banking services include internet (online, virtual, or digital) banking, which are systems that enable bank customers to perform a wide range of financial and banking services using automated teller machines (ATM), point of sales (POS), mobile banking apps, online banking through the bank's website using a computer system, USSD (Unstructured Supplementary Service Data), and many more. In Nigeria, Diamond Bank (now Access Bank), Allstate Trust Bank (now trading as UBA), Global Bank (bought by Standard Trust Bank now trading as UBA), Zenith Bank, and many other banks were among the first to offer e-banking services in Nigeria^{iv}.

In 1991, Diamond Bank pioneered an innovation in e-banking via its Diamond Integrated Banking System (DIBS), while All State Trust Bank was one of the early banks to introduce electronic-transfers (same-day value). The DIBS by Diamond Bank provided customers with access to their accounts and a range of banking services through electronic channels such as ATMs, internet banking, and mobile banking. It also enabled customers to deposit and withdraw money from any bank branch, regardless of where they opened their accounts^v. The DIBS played a crucial role in revolutionizing the banking sector and transforming how Nigerians interact with their banks^{vi}.

As with any other financial products and service, the Central Bank of Nigeria (CBN) regulates the administration of e-banking in the country. In 2001, CBN issued guidelines on e-banking, which provided a framework for banks to offer electronic services to their customers. The Central Bank of Nigeria (CBN) issued more guidelines on digital payment channels, cybersecurity measures, customer authentication, data protection, and risk management practices. The regulations and guidelines were designed to safeguard customer interests, protect against fraud, and promote a stable financial system^{vii}. Additionally, CBN publishes regular circulars to update the rules and periodically conducts regular audits and inspections of banks offering e-banking services to ensure compliance with regulatory requirements.

The most recent of the circulars is a circular published in June 2023 on guidelines on contactless payment in Nigeria. The circular provided the minimum standards and requirements for the operations of contactless payment in Nigeria, as well as specifying the roles and responsibilities of stakeholders involved in

contactless payment in Nigeria. Contactless payment is the latest in the e-banking payment system that uses radio-frequency identification (RFID) or near-field communication (NFC) in debit and credit cards to make secure payments^{viii, ix}.

A significant milestone in the development of e-banking in Nigeria was the establishment of the Nigeria Inter-Bank Settlement System (NIBSS) in 1993. The organisation is owned by all the license banks in Nigeria and CBN. The bank was established with the mandate to provide secure and reliable infrastructure for the automated processing and settlement of transactions between banks^x. The organisation provides an integrated nationwide platform for electronic payments, fund transfers and settlement of banking transactions, and guarantees that all devices deployed in Nigeria and all terminals utilized in the e-payment sector accept any card issued by a licensed card scheme or bank. The organisation also ensures the operational and technical standardization of all financial system-deployed devices¹⁶.

However, irrespective of the overwhelming acceptance of e-banking services by bank customers in Nigeria, customers continue to be compliant to the banks regarding poor knowledge of electronic services functionalities, high cost of e-banking services, faulty Automated Teller Machines (ATMs), network downtime, fraud on their accounts, poor turnaround time, non-availability of financial services, and many more.

This paper aims to identify factors that influence customer satisfaction with electronic banking, and examine the relationship between electronic banking, quality services and customer satisfaction with e-banking services provided by Nigerians, focusing on factors influencing customer satisfaction with electronic banking. Factors such as cost and convenience, turnaround time, knowledge of e-banking services, complaint resolution on e-banking service adoption, and many more. The study would seek to identify areas of service excellence and propose ways of enhancing service offerings and customer satisfaction in Nigerian banks.

This paper is divided into four sections. Section one introduces e-banking in Nigeria, outlining its reasons for adoption by Nigerian banks and present the objectives of this paper. Section two reviews the concept of this study, presents theories that support the concept, and empirically analyzes the relevant literature. Research methodology of the paper is presented in section three, while section four is the concluding section of the paper.

2.0 Literature Review

2.0.1 Conceptual Background

2.0.1.1 Customer Satisfaction

Several pieces of literature have been written on customer satisfaction, with many definitions and models. However, the central idea about customer satisfaction is that it is what all the customers' centric businesses and organizations want to achieve and maintain.

Customer satisfaction is the provision of and commitment to overall engagement that one client makes to another after providing a service, offering a service, and ensuring customer maximization of the offering. Customer service aids customer satisfaction⁵. With respect to banks, the ability of a bank to satisfy its customers is essential to the bank's success. Customers that are happy with the bank are more likely to utilize other financial services, refer others to the bank, and stay faithful. Banks may

improve customer satisfaction and obtain a competitive edge in the market by emphasizing effective problem resolution, ease, transparency, and high-quality services^{xi}.

Effective customer satisfaction that has been enhanced by customer service ultimately increases the worth of the bank (enhanced shareholder value), through growth in revenue, competitive advantage, brand reputation, customer retention, and many more.

2.0.1.2 Quality Service

Quality service and customers satisfaction are interrelated, good quality service led to customer satisfaction, increased customer retention, a competitive advantage, and a strong brand reputation. This is specifically applicable in the banking industry and other service-oriented organizations, as quality service is widely recognized as a factor leading to the success of those organizations^{xii,xiii}. Bank quality service is essential for building customer trust, loyalty, and a positive brand image^{xiv}, and delivering a higher service quality than competitors give an opportunity for the banks to gain market share and generate more revenue^{xv}.

Quality service encompasses various elements, including quick turnaround time for transaction processing, friendly and knowledgeable staff, quick resolution of complaints, network reliability, lower cost of transaction, availability of personalized services, and many more^{xvi}.

There are, however, a few differences between customer satisfaction and quality service. Some customer satisfaction with bank services is not always related to quality service, sentimental attachment or belief, need, equity, perception, and fairness are some of the non-related quality service factors that might lead to customer satisfaction. Whereas the dimensions underlying quality services are specific and are based on ideals or perceptions of excellence, with fewer conceptual antecedents³².

SERVQUAL is a popular measurement tool used for service quality research by several researchers and industry (service) practitioners to measure service quality perceptions by customers^{xvii}. The model is a multi-dimensional research instrument with components such as tangibility, reliability, assurance, empathy, and responsiveness³⁶, designed to capture customer expectations and perceptions of a service. Each of the components is defined below.

- a) Tangibility is the physical facilities, equipment, personnel, and communication material of the service provider.
- b) Reliability is the ability of the service provider to accurately deliver the promised service.
- c) Assurance is the ability of those providing the service to inspire trust and confidence in their client or customers.
- d) Responsiveness is the service provider's willingness to guide customers and react positively to their requests.
- e) Empathy is the ability of the service provider to understand, be aware of, be sensitive to, and vicariously experience the feelings, thoughts, and experiences of the customers⁴⁰.

The major disadvantage of the SERVQUAL model is that it has been found to be less applicable in developing countries like Nigeria with strong cultural alignments, which can influence customer's expectations. This shortcoming led to the development

of other extensions of the model, such as the BANKSERV, BANKQUAL, BSQ, and PAKSERV models^{xviii,xix,xx,xxi}.

The PAKSERV model (an extension of the SERVQUAL model) was tested and found to fully explain customer satisfaction in developing countries. The model replaces responsiveness and empathy in the SERVQUAL model with sincerity, formality, and personalization. Sincerity is the service provider's genuineness, formality is the ambience of the service provider's business environment, and personalization is the customized attention provided to the customer⁴³.

2.0.2 Theoretical Framework: Customer behavior theories related to e-banking.

The Reasoned Action, Technology Acceptance Model (TAM), and Unified Theory of Acceptance and Use of Technology (UTAUT) are three prominent theories widely used to predict customer behavior in various contexts, including e-banking adoption.

Reasoned Action: The theory of Reasoned Action by Fishbein and Ajzen states that one's attitude and subjective norms influence one's intention to perform behavior^{xxii}. In the context of e-banking adoption in Nigeria, this theory suggests that customers' intentions to adopt e-banking services are influenced by their attitudes and perceived social norms of e-banking usage^{xxiii}.

Technology Acceptance Model (TAM): The theory focuses on technology and suggests that perceived usefulness and ease of use are vital determinants of an individual's intention to use a particular technology^{xxiv}. Applied to e-banking adoption in Nigeria, TAM implies that customer perceptions of the usefulness and ease of use of e-banking platforms will influence their intention to adopt e-banking services²².

Unified Theory of Acceptance and Use of Technology (UTAUT) is a comprehensive model that integrates eight prominent technology acceptance models^{xxv, xxvi}. The theory identifies performance expectancy, effort expectancy, social influence, and facilitating conditions as the key constructs influencing behavioral intentions and actual usage. UTAUT concluded that customers' expectations regarding the performance and effort required to use e-banking, as well as social influences and facilitating conditions, will impact their adoption behavior^{xxvii}.

The theories of reasoned action, TAM, and UTAUT all play a significant role in understanding customer behavior towards adoption of technology. Reasoned action emphasizes the influence of attitudes and subjective norms, while TAM focuses on perceived usefulness and ease of use. UTAUT, on the other hand, incorporates performance expectancy, effort expectancy, social influence, and facilitating conditions.

In summary, the theories enable the understanding of trust, security concerns, awareness, access, and culture as vital elements necessary to increase e-banking adoption^{xxviii,xxix}.

2.0.3 Empirical Review

Many studies have been conducted to determine the impact of e-banking on customer satisfaction, and there has been a general direct correlation (either positive or negative) between electronic banking and customer satisfaction.

Electronic banking services have positively influenced customer satisfaction in Nigeria. Bank customers in Nigeria that use electronic banking channels experience greater convenience, faster transaction processing, and improved accessibility to banking

services. Additionally, electronic banking has been found to enhance customer trust and confidence in the banking system, leading to increased customer satisfaction^{xxx}.

Similarly, e-banking has improved efficiency, reduced transaction time, and increased accessibility to banking products and services in Nigeria. This result was achieved using the questionnaire/survey method to investigate the impact of e-banking adoption on the operational efficiency of commercial banks in Nigeria^{23,xxxi}.

Knowledge of the interest, ease of use, riskiness, and nature of transactions, and some other factors that influence the adoption of electronic banking in Nigeria²⁶. Cultural differences are another factor that influence the adoption and usage of mobile banking in Nigeria^{xxxii}. However, there was a direct relationship between electronic banking services and customer satisfaction in the studies.

In another study²⁷, a questionnaire survey was conducted on a sample population of 400 point of sale (POS) merchants in Lagos State, Nigeria, to examine the impact of POS terminals on the performance of small and medium-sized enterprises (SMEs). The study's findings demonstrated that the utilization of POS terminal services has effectively boosted sales volume, alleviated payment lines, and augmented the income of business proprietors.

Customers often face issues such as system downtime, slow response times, and security concerns while using electronic banking services. These challenges have a negative impact on customer satisfaction and trust in the banking system. Therefore, it is crucial for banks to address these challenges and provide reliable and secure electronic banking services to ensure customer satisfaction.

Not too many studies (using data from Nigeria) concluded that there was a negative relationship between e-banking and customer satisfaction. One such study,²⁵ surveyed 70 ATM customers and found a negative correlation between e-banking and consumer satisfaction. The survey found that customers' actual experience with all e-payment platforms were significantly below what they had anticipated, demonstrating their dissatisfaction with the ATM service provided by banks.

3.0 Research Methodology

3.0.1 Population and sample techniques

Primary data from administered questionnaires were used in this paper for data collection. The population of this study is all bank customers in Nigeria who use electronic services. As of December 2023, there are 24 commercial banks (6 of which are holding companies), 6 merchant banks, 860 microfinance banks, 5 discount house, 104 finance companies, 6 developmental finance banks, 3 payment system bank and 6 mobile money operators in Nigeria^{xxxiii}. Each of these institutions has at least one e-banking product and/or services.

In 2021, there were about 133.5 million active bank accounts and around 120 million savings accounts⁵⁴. More than 85 percent of the accounts use and enjoy electronic banking services. That number is believed to have increased by more than 85% in 2022.

Customers of Access Bank, Ecobank, Guarantee Trust Bank, First Bank, United Bank for Africa, and Zenith Bank, were selected. The banks selected are the highest in Nigeria in term of total asset size.

Their total assets average 82 per cent of the total assets of all banks in Nigeria.

The locations selected for the study are the selected bank branches in Akwa Ibom, Cross River, Rivers, and Bayelsa State of Nigeria. The criteria for the selection were centered on proximity and areas in which fewer studies have been conducted.

Finally, online banking, mobile banking, and USSD banking are the electronic banking services selected for the study. The selection is necessitated by limited studies using Nigerian data conducted in this area and the increased use of the services by bank customers.

3.0.2 Description of the Research Instrument.

The six components of the PAKSERV model, that is, tangibility, reliability, assurance, sincerity, formality, and personalization, were used to develop close-ended questions in the questionnaire.

3.1 Data Presentation and Analysis

A total of 800 questionnaires were virtually (Google Form) and physically distributed to selected bank customers. Out of that number, 508 were completed, returned (hard copy), and/or submitted (Google Form), representing 63.5 percent of the distributed questionnaires.

3.1.1 Socio-Demographic Characteristics of the Respondents

The socio-demographic characteristics of the respondents are presented in tables 3.1 to 3.4 below. Although response to this section was optional, the percentage of participants that answered were more than 50 percent of 508 (total questionnaire received and accepted).

Table 3.1 Gender Distribution of the Respondents

GENDER	FREQUENCY	PERCENT (%)
Female	158	31
Male	248	49
No Response	102	20
Total	508	100.0

Source: Research survey 2025

Table 3.1 above reveals the gender distribution of the respondents. From the above table, 102 (20 percent) of the respondents did not response to the question as it was optional. Of the numbers that responded, 158 (31 percent) were female, while 248 (49 percent) of the respondents were male. It implies that this study captured more male respondents than female respondents.

Table 3.2 Age Distribution of the Respondents

AGE	FREQUENCY	PERCENT (%)
20-29	158	31.0
30-39	139	27.0
40-49	69	14.0
Above 50	15	3.0
No Response	127	25.0
Total	508	100.0

Source: Research survey 2025

The age distribution of the respondents is shown in the above table. From the above table, 127 (25 percent) did not response to the optional question. Of the number that respondent, 158 (31 percent) of the respondents are between the ages of 20 and 29, while 139 (27 percent) of the respondents are between the ages of 30 and 39.

Similarly, 69 (14 percent) of the respondents are between the ages of 40 and 49, and 15 (3 percent) of the respondents are of age 50 and above.

This implies that this study captures more young and vibrant electronic bank users. This is acceptable, as the locations of the study are densely populated by students and young people.

Table 3.3 Educational Qualifications of the Respondents

EDUCATION	FREQUENCY	PERCENT (%)
Graduate	92	18.0
Under- graduate	374	74.0
Primary education	30	6.0
No response	12	2.0
Total	508	100.0

Source: Research survey 2025

The result of the analysis of the educational qualification of the respondents above supports the analysis in table 3.2, as most of the respondents were students of higher institutions. In table 3.3, 92 percent of the respondents were graduates and undergraduates. This is good for the purpose of the research as this group are IT savvy and fully appreciated and understood the questions in the questionnaire.

Table 3.4 Bank of the Respondents (Most used)

BANK	FREQUENCY	PERCENT (%)
GTB	152	30.0
Ecobank	37	7.0
First Bank	56	11.0
Access bank	54	11.0
UBA	161	32.0
Zenith Bank	48	9.0
Total	508	100.0

Source: Research survey 2025

From the table above, GTB and UBA had the highest number of respondents, with over 62 percent of the total number of respondents. The lowest percentage of respondents were from Ecobank and Zenith Bank with 7 percent and 9 percent, respectively. Reasons given by the respondents for using GTB and UBA were proximity of bank branches, convenient and seamless use of the services (user friendliness), and quick resolution of customer complaints. GTB was singled out as being more customer friendly and technologically advanced compared to other banks (most of the bank services have been automated and can be done using a mobile phone).

3.1.2 Familiarity/Awareness/Usage of Electronic Banking

The results of the analysis of the familiarity, awareness, and usage of the selected electronic banking services are presented in Table 3.5 below.

Table 3.5: Respondents Familiarity/Awareness/Most Usage of Electronic Banking

USAGE	FREQUENCY	PERCENT (%)
Internet banking	25	5.0
Mobile banking	179	35.0
USSD banking	304	60.0
Total	508	100.0

Source: Research survey 2025

Mobile and USSD banking were popular among the respondents. The two services accounted for more than 95 percent of the total usage by the respondents. The reasons for the patronage of mobile banking and USSD banking, as stated by the respondents, are the widespread adoption of mobile phones, convenient and secure ways to access and perform financial transactions, banking services can be accessed from anywhere.

Similarly, respondents preferred USSD to mobile banking as with USSD banking transactions can be done without internet access, however, banking transactions that can be performed using USSD are limited both in value and type.

Internet banking, that is, the use of computers to perform banking transactions, was less preferred by the respondents, the reasons being that it is less convenient and requires internet connectivity. Internet banking was most preferred by corporate customers, as it can perform more banking transactions than mobile and USSD banking.

3.1.3 Customer's satisfaction with the selected electronic banking services

The result of the analysis of the respondents' satisfaction with the selected electronic banking services is presented in table 3.6, while the analysis of the factors influencing the choice of electronic banking is presented in table 3.7.

3.6 Respondents satisfaction with electronic banking

SATISFACTIO N	FREQUENCY	PERCENT (%)
Yes	375	74.0
No	91	18.0
Undecided	42	8.0
Total	508	100.0

Source: Research survey 2025

As shown in Table 3.6, there was overwhelming satisfaction with the performance of the selected electronic banking services, as indicated by the respondents. From the analysis, 375 (74 percent) indicated that they are satisfied with the electronic banking services provided by the banks, 92 (18 percent) are not satisfied with electronic banking, and 42 (8 percent) of the respondents are undecided.

A further breakdown (bank by bank) of the satisfaction indices is presented in Appendix 1. According to the analysis, Zenith Bank and UBA came in second and their place in terms of how satisfied GTB customers were with their banks' electronic bank services. Ecobank's customers were least satisfied with their bank regarding the performance of the selected banking services.

3.7 Factors influencing customer satisfaction with electronic banking.

FACTORS	FREQUENCY	PERCENT (%)
Reliability: Network reliability	162	11.0
Personalization: Bank charges	63	4.0
Reliability: Turnaround time	561	37.0
Sincerity: Fraud/Scam	27	2.0
Tangibility: Bank system reliability	228	15.0
Assurance: Ease of resolution of complaint	306	20.0
Formality: Ease of use of the electronic services	141	9.0
Others	36	2.0
Total	1524	100.0

Source: Research survey 2025

Transactions Turnaround Time (37 percent), Ease of resolution of complaints (20 percent), Bank System and network reliability (15 and 11 percent, respectively) were the major considerations by customers to determine their satisfaction. The least considered were bank charges (4 percent) and surprisingly, Fraud or scam (2 percent). Bank charges are set and monitored by the CBN and most banks in Nigeria charge within the bracket provided by the regulator. Fraud and scams were less considered, as most of the customers are aware of the various fraud and scamming tactics and have been able to guide themselves against such tactics by fraudsters.

With the above presentation the null hypothesis is rejected, and alternative hypothesis accepted which means that there are quality service factors that influence customer satisfaction with electronic banking.

3.7.2 Relationship between electronic banking, service quality, and customer satisfaction

This paper is aimed at assessing the relationship between electronic banking, service quality, and customer satisfaction in Nigeria. Input for service quality is taken from table 3.7, input for customer satisfaction is from table 3.6, and input for electronic banking is from table 3.5.

The functional relationship is written in an equation form as:

$$CS = \alpha + Ebb_1 + SQb_2 + \mu$$

Where: CS is customer satisfaction, EB is electronic banking, and SQ is service quality.

The result of the analysis is presented in Table 3.8 below.

Table 3.8: Relationship between electronic banking, service quality and customer satisfaction

	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients	T-Statistics	P-value
C	2.036	0.250		8.127	0.000
EB	0.188	0.124	0.068	1.514	0.007
SQ	0.290	0.080	0.345	3.620	0.000

Dependent variable: CS

Service quality (SQ) and electronic banking (EB) have a positive and significant impact on customer satisfaction (CS). The p-values of the two independent variables are less the 5 percent. Statistically, a unit change in service quality (with EB being constant) by the banks will bring about a 29 percent increase in customer satisfaction. Similarly, a unit change in electronic banking services (with SQ being constant) by the banks will bring about an 18 percent increase in customers satisfaction.

The result of the analysis is similar to findings from other papers^{26,27,49,51} on the subject with data from Nigerian banks.

4.0 Conclusion and Recommendation

4.0.1 Conclusion

Electronic banking has emerged as a significant innovation in the Nigerian banking sector, offering customers convenient and efficient banking services. The literature review suggests that electronic banking has a positive impact on customer satisfaction, providing customers with greater convenience, accessibility, and trust in the banking system. However, challenges such as bank system flaws, network issues, slow response times, and security concerns need to be addressed to ensure optimal customer satisfaction.

Based on the findings from the research, it is recommended that banks in Nigeria invest in robust and reliable technology infrastructure to minimize system downtime and improve response time. Additionally, banks should prioritize customer education and awareness programs to address security concerns and enhance customer trust in electronic banking services. Regular monitoring and evaluation of customer satisfaction levels should be conducted to identify areas for improvement and implement necessary changes to enhance the overall customer experience.

4.0.2 Recommendations

To further enhance customer satisfaction in electronic banking, the following recommendations are proposed:

1. **Continuous Improvement:** Banks should continuously invest in technological upgrades and improvements to provide customers with seamless and reliable electronic banking services.
2. **Security Measures:** Banks should implement robust security measures, such as two-factor authentication and encryption, to protect customer data and instill confidence in the security of electronic banking transactions.
3. **Customer Education:** Banks should conduct regular awareness programs and provide educational materials to customers to enhance their understanding of electronic banking services and address any concerns or misconceptions.
4. **Customer Feedback:** Banks should actively seek customer feedback and suggestions to identify areas for improvement and tailor their electronic banking services to meet customer needs and preferences.
5. **Staff Training:** Banks should provide comprehensive training to their staff to ensure they are well-equipped to assist customers with electronic banking services and address any issues or concerns effectively.

By implementing these recommendations, banks in Nigeria can enhance customer satisfaction with electronic banking and further promote the adoption of electronic banking services in the country.

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