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E-Banking Instruments and Service Delivery of Commercial Banks in Nigeria

Evidence from United Bank of Africa, Ilaro Branch, Nigeria

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ABSTRACT

This study investigated the impact of e-banking tools on service delivery of commercial banks in Nigeria with reference to United Bank of Africa (UBA) Ilaro branch. The study adopted a simple random sampling technique and also collected data through online questionnaires sent to the customers and staff of UBA Ilaro. Eighty Google Form/online questionnaires were filled and retrieved from the respondents. The responses were sorted, coded and analyzed using descriptive and inferential statistics such as regression analysis via SPSS software. The results of descriptive statistics show that all the e-banking instruments are very important in delivering quality services of commercial banks, especially UBA Ilaro branch. From the regression results, it was found that automated teller machine and mobile banking have positive and significant impact on service delivery of UBA Ilaro branch. Although point of sale also had positive relationship with service delivery but it is not statistically significant at 5% critical value. The study concluded that among the instruments of e-banking, automated teller machine and mobile banking services are the essential tools to achieve effective service delivery of UBA Ilaro branch. It was therefore recommended that the Branch Manager should ensure that the ATMs are adequately funded on a consistent basis to provide quality services to their customers. Generally, the government through its agency should ensure optimization of Internet Bandwidth allocation to tackle the problem of internet failure across the country.

Keywords
Automated Teller Machine
E-Banking Instruments
Internet
Mobile Banking
Point of Sales

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Introduction

The introduction of electronic payments, credit cards and more recently, the revolution in ICT have made the world a global village connected by electronic services. Thus, electronic banking is not a new phenomenon as several scholars and researchers had explained its significance on customers' service delivery, money supply, financial performance and economic growth in various countries [1]-[4]. Some customers have seen electronic banking instruments as convenient methods of dealing with bank services because it offers financial services well beyond the conventional service window. It also promotes a society without cash and every economic sector, including non-financial organizations has started implementing computer-based methods for providing services [1][2].

Today, Nigerian banks are actively pursuing new electronic distribution methods for their banking products to provide better services and increase their customers' satisfaction, ranging from the request for account balance statement to international payments in order to reduce unnecessary queues in the banking hall [5]. However, most of the banks' customers continue to utilize bank branches and value interactions with human tellers due to their belief that e-banking services cannot meet their needs in terms of efficiency and effective service delivery.

Isibor et al [2] pointed out that banks are confronted with system redundancy arising from the change in technology due to excessive costs. In fact, the high rate of fraud occasioned by the hackers' activities [6][7], insecurity [8], poor electricity supply [9][10], lack of confidence in other means of financial transactions [11] among others have been outlined as the main reasons for ineffective e-banking and payment system in Nigeria. In view of these challenges, several studies have been conducted on e-banking and service delivery of banks using different methodology around the globe [4][6][12], still no conclusive findings have been reached. This necessitates the renew interest in the research on e-banking and service delivery of Nigerian commercial banks with reference to UBA Ilaro, Ogun State, Nigeria.

Literature Review

E-banking is a form of banking that uses electronic means to conduct financial transactions. Through this medium, banking services are completely automated, giving room

for quick transaction completion. E-banking replaces labour-intensive operations and reduces customers' waiting time on queue while disbursing cash and other banking transactions [13]. Ene et al [14] corroborate that with a variety of electronic gadgets, including smartphones, computers, automated teller machines, point-of-sale systems, and others, banking is now possible in different locations. Also, banking operations such as funds transfers and receipts, balance inquiries, airtime purchases, bill payment, and account opening, can be conducted from any place outside of banking facilities. With electronic gadgets, services are now provided quickly with less errors, which saves time and lowers clerical overhead costs. E-banking according to Chukwudi and Amah [15] also offers greater client satisfaction, a wider range of products, and a wider geographical reach. Due to the high level of customer satisfaction, these have helped draw additional business opportunities. It saves personnel energy and allows them to give their all in their duties at the bank. Thus, the benefits accrued from the adoption of electronic banking can be summarizes as better cash management, faster and continuous access to information, enhanced comfort and time savings, and improved customer experience [16].

Furthermore, customers are now demanding that banks provide high-quality services on a global scale because they have a lot of options, and they would not accept anything less than the best. Banks have realized how important it is to satisfy customer expectations because effective service delivery is a key driver of the bank's success in the high-tech industry [17]. In view of this, banks have now started restructuring their corporate image to enhance service delivery as it will allow the business stand out from the competition by boosting sales and market shares, offering chances for cross-selling, and improving customer relations, which increase the company's reputation, reliability, and credibility [18].

The significance of technology in relation to customers' satisfaction and service delivery has been acknowledged by the Fred Davis in 1985 in his Technology Acceptance Model (TAM). The theory states that the manner at which people use technology depends on their behavioral intentions, attitudes, and perceptions about the system's ease of use and utility. Thus, banks perceive that technology is better suit in delivering services to their customers through various technological tools [19]. Since the TAM is based on the perceived usefulness and easy to use of the technology, customers use the e-banking instruments such as ATM, and POS due to their belief that it is user-friendly, saves time and provide easy access to cash. In fact, the use of mobile app or Unstructured Supplementary Service Data (USSD) allows for 24/7 access to banking services and also convenient for bank customers to facilitate the financial transactions. As stated by Lai [20], the rate at which payment systems evolve today is determined by the conflict between the adoption of new products and services and the quickening pace of technological advancement. With the advent of e-banking, banks are more

efficient in providing services to their customers. This assertion was affirmed in the work of Nnamani and Makwe [21] on how customer satisfaction was influenced by electronic banking in Nigeria. The study confirmed that the change of banks in areas such as products and services and client delivery is greatly aided by electronic banking.

Bappayo and Kawugana [4] used descriptive and chi-square to analyze 100 questionnaires on the influence of electronic banking on service delivery of deposit money banks in Nigeria. The results of the study show that Automated teller machines (ATMs), mobile banking, online banking, and electronic banking have substantial influence on Nigerian banks' ability to provide good customer service. Fadaka and Azeez [3] also prove in their research that Electronic Bill Payment (EBP), ATMs, Electronic Fund Transfer (EFT), E- cheque, Internet banking, and mobile banking enhance the quality of service delivery to the customer which eventually increased the customer satisfaction. Amaduche *et al* [12] sampled First Bank of Nigeria (FBN), United Bank for Africa (UBA), and Guarantee Trust Bank (GTB) to assess how electronic banking influenced the operations of Nigerian banks using SPSS software. It was discovered that the role of electronic banking in bank operations and performance cannot be understated and that the viability of e-banking offers tremendous prospect and opportunities to banking operations, and the nature of e-banking is secure to guarantee sufficient customer demands and patronage.

In the research conducted by Osa [1] on how the Nigerian economy's efficient service delivery to clients was affected by electronic banking, it reported that the use of information and Communication Technology (ICT) to create, integrate, and communicate efficient customer service has significantly grown in recent time. In fact, in Nigeria, personal computers, servers, and local/wide area networks are considered crucial in providing reliable and efficient financial services and the emergence of service sectors such as foreign trade, cash transfers, and financial advising assists Nigerian banks in creating new and enhanced channels for service delivery. Ilo, Ani and Chioke [22] also analyzed 1223 questionnaires via SPSS to examine the nexus between technological innovations and bank service delivery in Nigeria. The results demonstrated a favorable correlation between technological innovation and the performance of bank employees. It was further found that the implementation of ICT enhance customer happiness and retention. This is a strong correlation between technological advancements and service delivery in Nigeria.

Methods

A. Research Contexts

This study targets the entire commercial banks operating in Ilaro and their customers. These banks include Polaris Bank Plc, Union Bank Plc, Access Bank Plc, United Bank for Africa

(UBA) Plc and Wema Bank Plc. However, among all these banks, the operations of UBA Plc and its customers service delivery was specifically investigated. This is because UBA Bank Branch was situate within the premise of Federal Polytechnic, Ilaro dealing with high volume of students and residents of Ilaro. The research is considered relevant because it is a well-known fact that younger ones, especially students are well acquainted to the use of electronic gadgets such as smartphones and computers in facilitating financial transactions without approaching the banking hall. The study therefore employed descriptive research design through administration of questionnaires to various customers and staff of UBA Ilaro Branch. Using simple random sampling technique, a Google questionnaire was designed and distributed and eighty responses were collated for data analysis. The responses were sorted and analyzed using descriptive and inferential statistics with the aids of Statistical Package for Social Sciences (SPSS). The use of frequency distribution table, percentage and regression analysis of the variables are adopted to assess the impact of e-banking instruments on the customers' service delivery of UBA Ilaro Branch Office.

B. Model Specification

To conduct an inferential statistics, a multiple regression model was specified to express the interaction between the regressors (e-banking instruments) and dependent variable (service delivery) in econometric form. Hence, the model is stated as follows:

$$Y = f(X_1, X_2, X_3 \ldots\ldots X_n) \quad \ldots\ldots (1)$$

Where:

Y is dependent variable
$X_1, X_2, X_3 \ldots\ldots X_n$ represent the regressors

$$SERD = f(\text{E-Banking Instruments}) \quad \ldots\ldots (2)$$

The econometric model of the linear relationship between the variables is stated as:

$$SERD = \beta_0 + \beta_1 ATM + \beta_2 MB + \beta_3 POS + \mu \quad \ldots\ldots (3)$$

Where:

SERD is the service delivery
MB represents Mobile Banking
ATM denotes Automated Teller Machine
POS is the Point of Sales
β_0 implies a constant term
β_1 - β_3 are the slope of the regression
μ means the error term

Results and Discussion

A. Demographics Statistics

The collated responses were subjected to a reliability test using the Cronbach's Alpha test of reliability. The test shows 0.892, which implies that there is higher internal consistency and reliability on the questions raised on the electronic banking and service delivery of UBA Ilaro Branch because the closer the value to 1, the strength of the reliability of the test.

On the demographic attributes (Fig. 1), 26 respondents, which is estimated at 32.5% of the total respondents are male, while 54 respondents (67.5%) are female. In terms of age bracket, 21.3% respondents fall below 20years; 63.8% of the respondents are between 21 and 30 years and 12.5% are between 31 and 40 years old. However, only two responders, approximately 2.5 percent of the total respondents are 50 years of age and above.

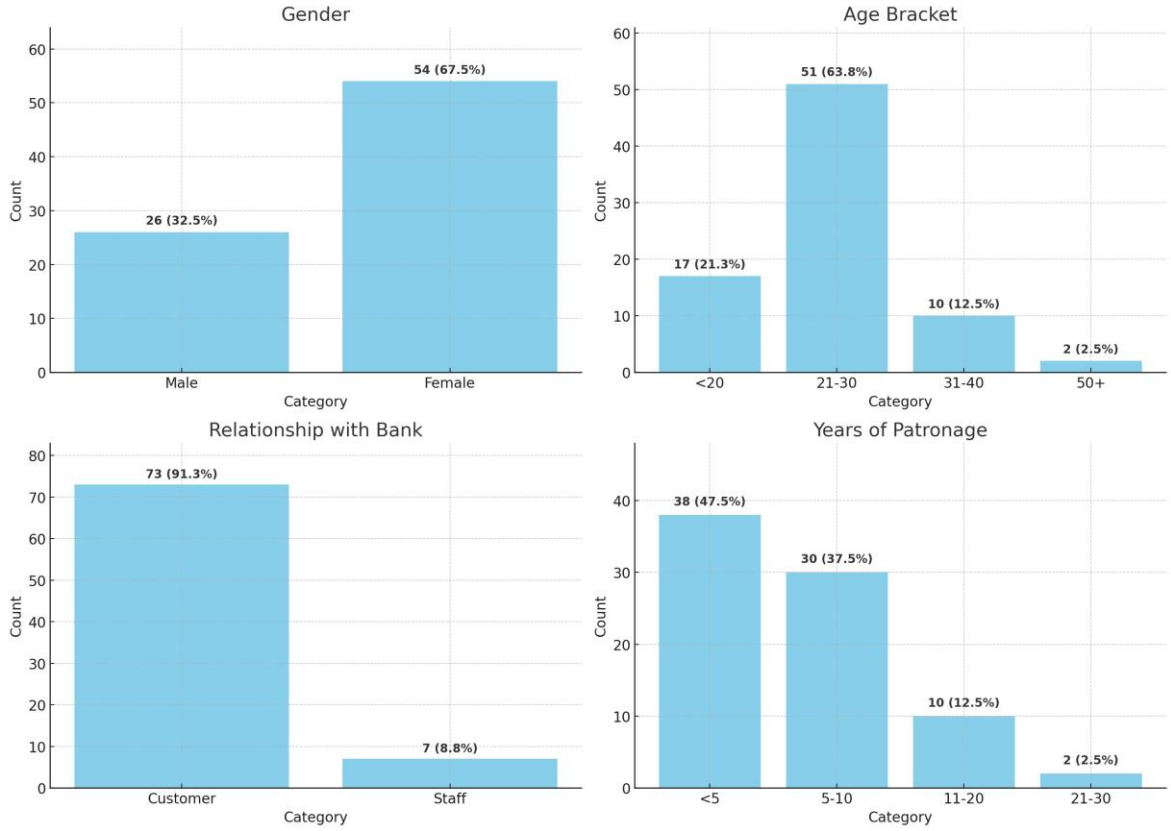


Fig. 1. The demographic attributes

Among the total respondents, 91.3% are bank customers, while 8.8%, are the staff or employees of the UBA, Ilaro branch. As regards the year of bank patronage, Thirty-eight respondents are younger than 5 years, accounting for 47.5% of the total; 30 respondents are between 5 and 10 years, approximately 37.5%; ten participants are between 11 and 20 years old, estimating at 97.5%; and only two which 2.6% of the respondents are beyond 21years.

B. The Responses on Automated Teller Machine (ATM)

Table 1 shows the analysis of the responses on Automated Teller Machine (ATM) and service delivery of UBA Ilaro Branch. The first question indicates that 35.0% of the total respondents strongly agreed that the challenges of ATM are quickly resolved by bank staff and maintenance teams; 51.3% agreed, 5.0% of the participants are undecided, 3 8% strongly disagreed while only 5.0% of the respondents disagreed to the first question.

Table 1. ATM Impact on Service Delivery

Questions	SA	A	UN	SD	D	Total
The challenges of ATM are quickly resolved by bank staff and maintenance teams	28 (35.0%)	41 (51.3%)	4 (5.0%)	3 (3.8%)	4 (5.0%)	80 (100.0%)
ATM gives different services to clients who distinguish themselves with an individual identification number	24 (30.0%)	34 (42.5%)	7 (8.8%)	6 (7.5%)	9 (11. 3%)	80 (100.0%)
ATM of UBA can be accessed 24 hours/7 days while dealing with financial transactions.	37 (46.3%)	35 (43. 8%)	3 (3.8%)	1 (1.3%)	4 (5.0%)	80 (100.0%)
ATM has the capacity to carry out essential and routine transactions similar human tellers in branch offices	31 (38.8%)	34 (42.5%)	5 (6.3%)	3 (3.8%)	7 (8.8%)	80 (100.0%)
ATM can improve service quality for customers and enhance satisfaction of loyalty	40 (50.0%)	32 (40.0%)	4 (5.0%)	3 (3.8%)	1 (1.3%)	80 (100.0%)

Keys: SA:-Strongly Agreed; A:-Agreed; UN:- Undecided; SD:- Strongly Disagreed and D:- Disagreed

On the second question, 30.0% of the respondents strongly agreed to the fact that ATM gives different services to clients who distinguish themselves with an individual identification number. 42.5% participants agreed; 8.8% are undecided, 7.5% strongly disagreed while 11.3% disagree. The third question on whether ATM can be accessed 24 hours/ 7 days while dealing with financial transactions indicates 46.3% respondents strongly agreed, 43. 8% agreed, 3.8% are undecided, 1.3% strongly disagreed while 5.0% disagreed. The fourth question on ATM has the capacity to carry out essential and routine transactions similar human tellers in branch offices recorded 38.8% of the respondents which strongly agreed with the question, 42.5% agreed, 6.3% are undecided, 3.8% strongly disagreed and 8.8% respondents disagreed. As regard to the fifth question, 50.0% strongly agreed that ATM can improve service quality for customers and enhance satisfaction and loyalty; 40.0% respondents agreed, 5.0% are undecided, 3.8% strongly disagreed while 1.3% disagreed. Hence, it can be easily inferred that ATM is an important e-banking tool used in delivery efficient service to the UBA's customers in Ilaro, Ogun State.

C. The Responses on Mobile Banking (MB)

In Table 2, the first question on mobile banking and service delivery of UBA Branch in Ilaro, Ogun State indicates that 43 respondents representing 53.8% strongly agreed; 40.0% agreed; 5.0% are undecided; 1.3% disagreed while none of these respondents strongly disagreed that mobile banking gives rooms for providing banking services widely to their customers.

The second question raised on mobile banking enables transactions tracking and third party payment show that 40 (50.0%) respondents strongly agreed, 31.3% agreed, 12.5% are undecided, 1.3% strongly disagreed while 5.0% respondents disagreed. The analysis of the third question show 52.5% respondents strongly agreed that mobile banking gives an increase in alternative channels of distribution which will minimize the queue in bank branches; 37. 5%

agreed; 7.5% are undecided; 2.5% of the respondents strongly disagreed while none of the participants disagreed to the question.

Table 2. Mobile Banking (MB) Impact on Service Delivery

Questions	SA	A	UN	SD	D	Total
Mobile banking gives room for providing banking services widely to their customers.	43 (53.8%)	32 (40.0%)	4 (5.0%)	0 (0.0%)	1 (1.3%)	80 (100.0%)
Mobile banking enables transactions tracking and third party payment.	40 (50.0%)	25 (31.3%)	10 (12.5%)	1 (1.3%)	4 (5.0%)	80 (100.0%)
Mobile banking gives an increase in alternative channels of distribution which will also minimize the queue in bank branches.	42 (52.5%)	30 (37.5%)	6 (7.5%)	2 (2.5%)	0 (0.0%)	80 (100.0%)
Mobile banking enables customers to easily monitor their finances, transfer funds and even make banking more accessible and efficient for them.	49 (61.3%)	27 (33.8%)	2 (2.5%)	0 (0.0%)	2 (2.5%)	80 (100.0%)
Mobile banking offers the convenience of quick and easy access to account balance, transaction history and the ability to manage funds on-the-go.	46 (57.5%)	28 (35.0%)	3 (3.8%)	1 (1.3%)	2 (2.5%)	80 (100.0%)

Keys: SA:-Strongly Agreed; A:-Agreed; UN:- Undecided; SD:- Strongly Disagreed and D:- Disagreed

The fourth question recorded 61.3% respondents that strongly agreed, 33.8% agreed, 2.5% are undecided; 2.5% disagreed while no one strongly disagreed that mobile banking enables customers to easily monitor their finances, transfer funds and even make banking more accessible and efficient for them. Furthermore, 57.5% of the total respondents strongly agreed to the fifth question which states that mobile banking offers the convenience of quick and easy access to account balance, transaction history and the ability to manage funds on-the-go; 35.0% agreed, 3.8% are undecided, 1.3% strongly disagreed and 2.5% of the respondents disagreed. Thus, mobile banking plays a crucial role in the service delivery of UBA bank to its customers in Ilaro and its residents.

D. The Responses on Point of Sales (POS)

As regards the first question raised on the Point of Sales (POS) and service delivery of UBA Ilaro branch (Table 3), 63.8% strongly agreed that POS gives opportunity of paying bills and performing transactions of any set electronically; 31.3% respondents agreed, 3.8% are undecided, 1.3% strongly disagreed while none of the respondents disagreed to the question. Similarly, 52.5% respondents strongly agreed to the second question; 32.5% agreed; 3.8% are undecided; 5.0% of the respondents disagreed while no one strongly disagreed that POS provides convenience of making quick and secure transactions at various locations.

The analysis of the third question show that 52 5% of the total respondents strongly agreed that POS allows customers to easily access their funds, make purchases and manage their finances efficiently; 37.5% respondents agreed, 3.8% are undecided, 3.8% strongly disagreed, 2.5% of the respondents disagreed.

Table 3. POS Impact on Service Delivery

Questions	SA	A	UN	SD	D	Total
POS gives opportunity of paying bills and performing transactions of any set electronically.	51 (63.8%)	25 (31.3%)	3 (3.8%)	1 (1.3%)	0 (0.0%)	80 (100.0%)
POS provides convenience of making quick and secure transactions at various locations.	47 (58.8%)	26 (32.5%)	3 (3.8%)	0 (0.0%)	4 (5.0%)	80 (100.0%)
POS allows customers to easily access their funds, make purchases and manage their finances efficiently.	42 (52.5%)	30 (37.5%)	3 (3.8%)	3 (3.8%)	2 (2.5%)	80 (100.0%)
POS provides customers with detailed receipts for their purchases and making it easier to track expenses.	37 (46.3%)	35 (43.8%)	4 (5.0%)	0 (0.0%)	4 (5.0%)	80 (100.0%)
POS enables customers to reduce time waiting and improve their experience.	40 (50.0%)	36 (45.0%)	2 (2.5%)	1 (1.3%)	1 (1.3%)	80 (100.0%)

Keys: SA:-Strongly Agreed; A:-Agreed; UN:- Undecided; SD:- Strongly Disagreed and D:- Disagreed

Furthermore, 46.3% of the total respondents strongly agreed to the fourth question, 43.8%, agreed, 5.0% are undecided while 5.0% respondents disagreed that POS provides customers with detailed receipts for their purchases and making it easier to track expenses. Fifth question analysis shows 50.0% respondents strongly agreed that POS enables customers to reduce time waiting and improve their experience; 45.0% agreed; 2.5% are undecided, 1.3% each of the respondents that disagreed and strongly disagreed. Thus, it can be easily deduced that Point of Sales (POS) is the main ingredient to facilitate improved service delivery to the customers of UBA Ilaro Branch.

E. Service Delivery Satisfaction

The question on whether UBA focuses on enhancing customer satisfaction through innovation solutions and effective service delivery across it branches and digital platforms (Table 4) recorded 42.6% respondents that strongly agreed; 43.8% agreed; 8.8% respondents are undecided, 2.5 each of the respondents strongly disagreed and disagreed.

Table 4. Service Delivery of United Bank of Africa (UBA)

Questions	SA	A	UN	SD	D	Total
UBA focuses on enhancing customer satisfaction through innovation solutions and effective service delivery across it branches and digital platforms.	34 (42.5%)	35 (43.8%)	7 (8.8%)	2 (2.5%)	2 (2.5%)	80 (100.0%)
UBA offers services like Internet banking which allows customers to conveniently manage their accounts online.	41 (51.3%)	35 (43.8%)	4 (5.0%)	0 (0.0%)	0 0.0%)	80 (100.0%)
UBA provides personalized customer support to address any inquiries or concerns promptly and ensuring a high level of customer's satisfaction.	32 (40.0%)	36 (45.0%)	9 (11.3%)	2 (2.5%)	1 (1.3%)	80 (100.0%)
UBA provides a mobile app to enables customers to carry out transactions to make their banking more accessible and efficient for customers.	42 (52.5%)	34 (42.5%)	3 (3.8%)	0 (0.0%)	1 (1.3%)	80 (100.0%)
UBA customer support is quick to address any questions or issues customers may have.	32 (40.0%)	28 (35.0%)	13 (16.3%)	2 (2.5%)	5 (6.3%)	80 (100.0%)

Keys: SA:-Strongly Agreed; A:-Agreed; UN:- Undecided; SD:- Strongly Disagreed and D:- Disagreed

The second question raised on UBA offers services like internet banking which will allow customers to conveniently manage their accounts online show 51.3% respondents that strongly agreed, 43.8% agreed and 5.0% respondents are undecided. The analysis of the third question shows 40.0% of the total respondents strongly agreed; 45.0% agreed, 11.3% respondents are undecided; 2.5% strongly disagreed while 1.3% disagreed that UBA provides personalized customer support to address any inquiries or concerns promptly and ensuring a high level of customer's satisfaction.

The question on UBA provides a mobile app to enables customers to carry out transactions for customers to carry out transactions to make their banking more accessible and efficient for customers recorded 52.5% of the total respondents strongly agreed; 42.5% agreed, 3.8% are undecided while 1.3% disagreed to the fourth question. The fifth question shows that 40.0% of the total respondents strongly agreed, 35.0% agreed, 16.3% are undecided, 2.5% respondents strongly disagreed while 6.3% disagreed that UBA customer support is quick to address any questions or issues customers may have. Thus, from the analysis, it is clear that UBA Ilaro Branch provides quality and efficient service for its customers.

F. Regression Analysis

Based on Table 5, the intercept (0.333) shows that service delivery will witness positive value of 0.333 if other variables are held constant. The coefficients of ATM, MB and POS revealed a positive interaction with service delivery at 0.42, 0.25 and 0.12 respectively. This implies that as the transaction of ATM, MB and POS increase by one unit, SERD rise by 0.42, 0.25 and 0.12 respectively. The result is not surprising as the majority of the customers, especially the students dealing with UBA Ilaro branch are the frequent users of mobile phones and other e-banking instruments. The results corroborate the postulations of Technology Acceptance Model (TAM) which that the manner at which people use technology depends on behavioral intentions.

The R^2 of 53% implies that the variation in the service delivery is influenced by the regressors (ATM, MB, POS) while the remaining 47% is explained by other variable outside the model but captured by the error term.

Table 5. Regression Analysis (Dependent Variable: SERD)

Variable	B	t-stats	p-value
Const.	0.333	2.025	0.046
ATM	0.417	4.738	0.000
MB	0.253	2.643	0.010
POS	0.121	1.000	0.321
R^2	0.53		
Adjusted R^2	0.51		
f-stats	28.426		
p-value	0.000		

The t-stats results reveal that ATM and MB positively and significantly impact service delivery of UBA Ilaro branch at 5% critical value. These results are in tandem with the outcome of the research conducted by Bappayo and Kawugana [4] and Fadaka and Azeez [3]. However, POS has a positive influence on service delivery but statistically insignificant at 5% threshold. The reason for the insignificant effect of point of sale is attributed to the reluctance of many customers (especially the students) to pay agent's charges on POS usage rather they prefer to facilitate their financial transactions via mobile payment system and automated teller machine. The f-statistics further confirmed the significant influence of the combination of these variables by the revealing that the p-value of 0.000 is less 5% significant value. Thus, it can be easily inferred that e-banking play a significant role in enhancing the service delivery of UBA Ilaro Branch. In terms of service delivery, it is obvious that UBA is unique and efficient when compared with other bank branches such as Union Bank, Access Bank etc. This is because the main branch of UBA was sited within the campus which prompted quick responses to the incessant demand for the use of e-banking instruments by the students, the polytechnic staff and other customers.

Conclusion

Based on the findings, the study concluded that, among the instruments of e-banking, automated teller machine and mobile banking services are the essential tools for achieving effective and efficient service delivery in Nigeria (particularly UBA Ilaro branch). It was therefore recommended that the Branch Manager should ensure that the ATMs are adequately funded on a consistent basis to provide quality services to their customers. Furthermore, UBA should guarantee sufficient security for the use of electronic banking products like ATM within its premises. Also, watertight security for electronic banking financial transactions should be provided by the appropriate regulatory bodies, such as the Nigeria Communications Commission (NCC) and the Central Bank of Africa (CBN). Generally, the government through its agency should ensure optimization of Internet Bandwidth allocation to tackle the problem of internet failure across the country.

Limitation

It is important to state that this study is limited to only UBA branch in Ilaro and does not considered other bank branches. Thus, the findings may not explain the e-banking experiences in other banks in Ilaro or other UBA branches outside Ilaro. Similarly, the responses of the sampled customers maybe bias or incomplete due to lack of understanding of e-banking systems. The responses could also be on social desirability which can affect the possible outcome of the study.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

[1] I. G. Osa, "The impact of e-banking on efficient service delivery to customers in Nigeria economy," *Eur. J. Bus. Innov. Res.*, vol. 4, no. 2, pp. 76–87, 2016. [Online]. Available: www.eajournals.org

[2] A. A. Isibor *et al.*, "Impact of electronic banking technology on customers' satisfaction and economic growth in Nigeria," *Int. J. Civil Eng. Technol.*, vol. 9, no. 12, pp. 536–544, 2018.

[3] B. Fadaka and B. A. Azeez, "Effects of service delivery quality on customer satisfaction of deposit money banks in Nigeria," *Gender and Behaviour J.*, vol. 18, no. 2, pp. 15425–15435, 2023. DOI: 10.10520/ejc-genbeh-v18-n2-a22.

[4] A. Bappayo and A. Kawugana, "Impact of electronic banking on customer service delivery in deposit money banks: Case study of First Bank of Nigeria," *IIARD Int. J. Bank. Finance Res.*, vol. 10, no. 4, pp. 39–49, 2024. DOI: 10.56201/ijbfr.v10.no4.2024.pg39.49.

[5] J. S. Kehinde, E. B. Anyikwa, and M. S. Oladimeji, "The electronic banking system and efficient service delivery in banking sector," *J. Inf. Eng. Appl.*, vol. 5, no. 3, pp. 29–34, 2015. [Online]. Available: https://www.researchgate.net/publication/342782789

[6] J. O. Fatoki, "The influence of cyber security on financial fraud in the Nigerian banking industry," *Int. J. Sci. Res. Arch.*, vol. 9, no. 2, pp. 503–515, 2023. DOI: 10.30574/ijsra.2023.9.2.0609.

[7] A. O. Alsayed and A. L. Bilgrami, "E-banking security: Internet hacking, phishing attacks, analysis and prevention of fraudulent activities," *Int. J. Emerg. Technol. Adv. Eng.*, vol. 7, no. 1, pp. 109–115, 2017. DOI: 10.1177/21582440221122739.

[8] A. Lukic, "Benefits and security threats in electronic banking," *Int. J. Managerial Stud. Res.*, vol. 3, no. 6, pp. 44–47, 2015. [Online]. Available: http://www.arcjournals.org/

[9] M. A. Otitoju, G. A. Sunday, I. B. Abiola, and W. A. Abudu, "Impact of currency re-design on Nigeria economy," *Int. J. Social Sci. Humanit. Res.*, vol. 11, no. 3, pp. 50–56, 2023. DOI: 10.5281/zenodo.8202661.

[10] U. Essia and E. Anwana, "Factors that affect adoption of e-banking products and services in Nigeria," 2012. [Online]. Available: https://www.researchgate.net/publication/292273455

[11] V. Kaushal and A. Balaini, "E-banking: Challenges and issues," *Hill Quest*, vol. 3, no. 3–4, pp. 69–73, 2016. [Online]. Available: https://www.researchgate.net/publication/336950646

[12] S. Amaduche, B. M. Adesanya, and A. M. Adediji, "The impact of electronic banking on the operations and performance of deposit money banks in Nigeria," *Int. J. Oper. Res. Manage. Social Sci. Educ.*, vol. 6, no. 1, pp. 69–97, 2020. [Online]. Available: https://www.researchgate.net/publication/342883011

[13] A. U. Ibrahim and C. O. Daniel, "Impact of e-banking on the development of banking sector in Nigeria," *Int. J. Managerial Stud. Res.*, vol. 7, pp. 19–27, 2019. DOI: 10.20431/2349-0349.0702004.

[14] E. E. Ene, G. O. Abba, and G. F. Fatokun, "The impact of electronic banking on financial inclusion in Nigeria," *Am. J. Ind. Bus. Manage.*, vol. 9, pp. 1409–1422, 2019. DOI: 10.4236/ajibm.2019.96092.

[15] D. G. Chukwudi and E. Emah, "Development of E-banking, its benefits and challenges in the Nigerian banking industry," *ASPL Int. J. Manage. Sci.*, vol. 7, no. 2, pp. 1–7, 2018.

[16] M. Salehi and M. Alipour, "E-banking in emerging economy: Empirical evidence of Iran," *Int. J. Econ. Finance*, vol. 2, no. 1, pp. 201–209, 2010. DOI: 10.5539/ijef.v2n1p201.

[17] J. O. Akinbode, *Bank service delivery in Nigeria*, Dept. of Business Administration, College of Social and Management Sciences, Bowen University, Iwo, Osun State, Nigeria, 2020. DOI: 10.5772/intechopen.92075.

[18] M. A. M. Ataya and M. A. M. Ali, "Acceptance of website security on e-banking: A review," in *Proc. 2019 IEEE 10th Control and System Graduate Research Colloquium (ICSGRC)*, pp. 201–206. DOI: 10.1109/ICSGRC.2019.8837070.

[19] O. A. Lottu *et al.*, "Digital transformation in banking: A review of Nigeria's journey to economic prosperity," *Int. J. Adv. Econ.*, vol. 5, no. 8, pp. 215–238, 2023. DOI: 10.51594/ijae.v5i8.572.

[20] P. C. Lai, "Design and security impact on consumers' intention to use single platform e-payment," *Interdiscip. Inf. Sci.*, vol. 22, no. 1, pp. 111–122, 2016. DOI: 10.4036/iis.2016.R.05.

[21] M. C. Nnamani and S. Makwe, "Impact of electronic banking on customer satisfaction," *Int. Digital Org. Sci. Res.*, vol. 4, no. 1, pp. 23–35, 2019. [Online]. Available: http://www.idosr.org/

[22] J. V. C. Ilo, W. U. Ani, and N. S. Chioke, "Impact of technological innovation on delivery of banking services in Nigeria," presented at *Int. Conf. Econ., Educ. Humanit. (ICEEH'14)*, Bali, Indonesia, Dec. 10–11, 2014.

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