JOURNAL OF SCIENCE TECHNOLOGY AND EDUCATION 14(2), JUNE, 2026
E-ISSN: 3093-0898, PRINT ISSN: 2277-0011; Journal homepage: www.atbufstejoste.com

The Effects of Mobile Banking Applications on User Experience and Customer Loyalty in Nigeria

Ifeanyichukwu Emeka Ezenwaji
Graduate School of Management, Girne American University, Girne

ABSTRACT

Through the use of mobile banking application, banks have been able to expand customer base as well as reaching remote areas. For optimal performance of banks, it becomes very critical to study the various factors that could potentially mitigate or foster customer loyalty. In order to ascertain the impact of mobile banking user experience on customer loyalty, this study adopts a quantitative approach in the study of the effects of mobile banking application considering Access Bank, Guaranty Trust Bank (GTB), and Zenith Bank, as this allows for the testing of hypotheses. The findings from the study shows that the user experience construct with the most potential of driving customer loyalty in the Nigerian banking landscape is that of continuous application improvement (CAI), while technical challenges (TC) have the least influence. Furthermore, users of this mobile banking applications are within the youthful age ranges of 18 – 25 and 26 – 35 respectively, which will allow for informed decision by management during the strategizing phase.

ARTICLE INFO
Article History
Received: April, 2026
Received in revised form: May, 2026
Accepted: June, 2026
Published online: June, 2026

KEYWORDS
Bank, Continuous Application Improvement, Customer Loyalty, Service Quality, Technical Challenges

INTRODUCTION

Transactions have become seamless due to the advent of mobile banking application (Sulistiyani & Nurchayati, 2024). As a result of the widespread acceptance of mobile banking application, numerous communities especially in sub-Saharan Africa such as Nigeria have been beneficiaries of such financial inclusion (Ali et al., 2024; Mamadiyarov & Soliyev, 2024). Prior to the adoption of this technology, banking halls have been characterised by high level of congestion due to the Nigeria's large population, hence making daily banking activities discouraging for existing customers.

In order for banks to stay competitive it becomes essential that user experience constructs such as the continuous mobile application improvement, service quality, and technical challenges are studied as it pertains to how well they drive customer loyalty among customers in the Nigerian banking industry (Austin et al., 2025; Christian et al., 2023; Lohven, 2023). Due to the low literacy level in Nigeria, especially in rural areas, customers tend to underutilise the features contained in most mobile banking applications. Although for the sub-set of customers who are technology savvy, their major concern is seeing to the fact that more features are constantly added to the mobile banking applications after every update. Technical challenges ranging from application malfunctioning to security concerns poses a threat to customer loyalty.

In order to keep up with the dynamic nature of the Nigerian banking space (Ndaman & Mohammed, 2025), financial institutions are taking advantage of the mobile banking application, as it allows for an extended reach into remote and rural areas where having and running an actual bank in such areas would be rather expensive and affect profitability of the organisation (Austin et al., 2025). Furthermore, the mobile banking application allows for non-stop banking activities and it is a potential tool for banks to scale-up profitability and customer base through customer loyalty.

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

JOURNAL OF SCIENCE TECHNOLOGY AND EDUCATION 14(2), JUNE, 2026
E-ISSN: 3093-0898, PRINT ISSN: 2277-0011; Journal homepage: www.atbufstejoste.com

LITERATURE REVIEW

Financial inclusion has been a pivotal theme ever since the wave of financial crisis in Nigeria, in 2008, which has resulted in banks taking advantage of the recent technologies that could be deployed in day-to-day operations (Ashiru et al., 2023). The implementation of these technologies has been somewhat seamless due to the provision of public infrastructure, especially in Nigeria (Emeka et al., 2024), which has led to various partnerships amongst different digital service providers (Iheanachor & Umukoro, 2022). However, the growth rate is slow-paced which inadvertently has put such technological solution in a vulnerable state (Ologun et al., 2025). Since financial institutions make conscious effort to provide value for end customers, it becomes critical to study effects of mobile banking applications on user experience and customer loyalty in Nigeria.

Abdulganiyu & Dambo (2023) investigated the impact of mobile banking on customer satisfaction. Findings from the study shows that there exists a significant influence on customer satisfaction through the use of state-of-the art technology in the banking space. However, the study by Abdulganiyu & Dambo (2023) was limited to just customers of United Bank for Africa (UBA), thereby making its findings not suitable for general application.

The need for the utilisation of cutting-edge technologies cannot be overemphasized (Siano et al., 2020). In a similar study by Feliciana et al. (2024), the effects of independent variables, which are; service quality and mobile banking applications on the dependent variable which is customer loyalty was investigated. In their study, customer satisfaction played a mediating role. Feliciana et al. (2024) employed a quantitative approach was adopted with data obtained from 280 respondents. Findings from the study shows that it is imperative to address the service quality and mobile banking application in order to achieve customer loyalty. In addressing the aforementioned issues that is prevalent in the banking space, Winata et al. (2024) corroborates the findings by Feliciana et al. (2024) by stating that perceived risk by customers is greatly reduced when service quality and mobile banking application variables are well managed.

In order to gain insights into the inherent challenges that comes with the implementation of digital services in the banking sector, a study was carried out Opusunju & Akyuz (2022). The study was focused on First Bank Nigeria, and simple regression analysis was carried out using e-views software package. Findings from the study shows that there is a significant relationship between mobile banking and customer loyalty amongst the users of First Bank in Plateau State, Nigeria which is also supported by Shi Xiaolin et al. (2024). It becomes critical for financial institutions to leverage the mobile banking application for optimal performance as well as customer satisfaction and loyalty.

In the Nigerian banking space, factors such as the ease of use, the security features, and the social influence play a critical role as it relates to adoption by customers of the mobile banking application (Siano et al., 2020). Given the proliferation of cashless policy, the aforementioned factors are strong determinant of customer loyalty (Areghan et al., 2025). Banks can further increase their chances of retaining more customers through periodic sensitization, especially in areas or communities where the people are not learned (Garzaro et al., 2020).

In order to make informed decision (Marliyah et al., 2021), this study is necessitated following the dynamic nature of the banking system and policies in developing countries, especially in sub-Saharan Africa (Olaleye et al., 2022). This study captures the effects of mobile banking applications on user experience and customer loyalty in Nigeria by studying multiple banks in order to arrive at findings that are reliable and implementable.

MATERIALS AND METHODS

The research technique employs a quantitative approach where structured questionnaires consisting of a 5-point Likert scale, which spans from strongly agree to strongly disagree were administered online to 200 respondents using Google Forms. This was carried out while ensuring anonymity and data

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

JOURNAL OF SCIENCE TECHNOLOGY AND EDUCATION 14(2), JUNE, 2026
E-ISSN: 3093-0898, PRINT ISSN: 2277-0011; Journal homepage: www.atbufstejoste.com

privacy were respected. Google Forms was utilised for the ease and convenience in reaching distant respondents as well mitigating the problem of missing data which is an inherent issue with surveys. The selected sample size for this study is supported by Hair et al. (2014), as 100 - 200 sample was acceded to be okay for such analysis. In order to guaranty the credibility of the findings, diagnostic tests were carried out on the data in order to ascertain reliability, linearity, normality, multicollinearity and homoscedasticity. From the Cronbach's alpha reliability test, the internal consistency of the survey instrument exceeded the minimum threshold (α ≥ 0.70), showing the internal consistency among all the constructs as seen in Table 1.

Table 1. Cronbach's alpha reliability

S/N	Construct	Number of Items	Value of Cronbach's Alpha
1	Service Quality	5	.866
2	Continuous App. Improvement	5	.792
3	Technical Challenges	5	.851
4	Customer Loyalty	5	.836
Total		20	

Similarly, the linearity test also showed a linear relationship between the independent and dependent variables as seen in the scatterplot matrix in Figure 1.

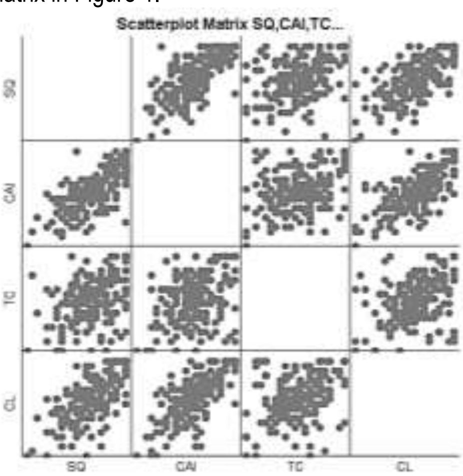

Figure 1. Scatterplot Matrix

Furthermore, the residuals were checked to ensure conformity with the bell curve, which denotes normality of the distribution. In Figures 2a and 2b, the histogram chart of frequency against regression standardized residuals and normal p-p plot are presented respectively. The plot in Figure 2b corroborates that of Figure 2a as it shows the normality of the distribution.

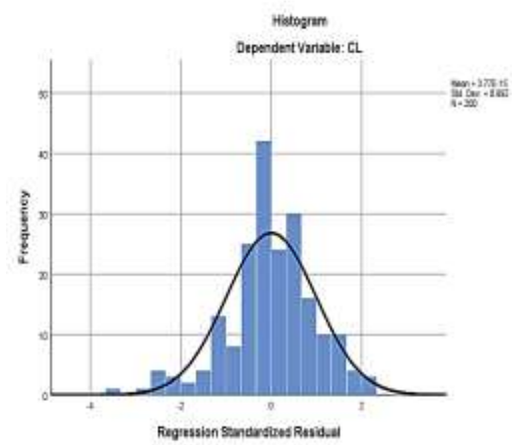

Figure 2a. Normality of residuals

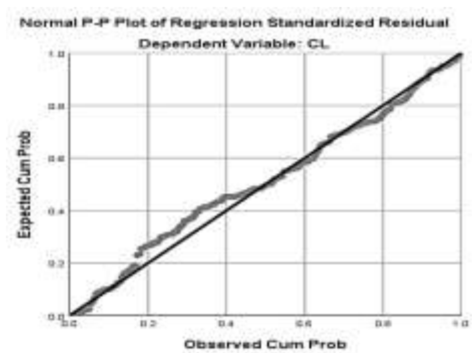

Figure 2b. Normality of residuals

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

Lastly, all the independent variables (SQ, CAI, TC) positively influences the dependent variable (CL) as the variance inflation factors (VIF) are below 10. Moreso, the variance of the residuals is constant across the predicted values as seen in the homoscedasticity test in Figure 3.

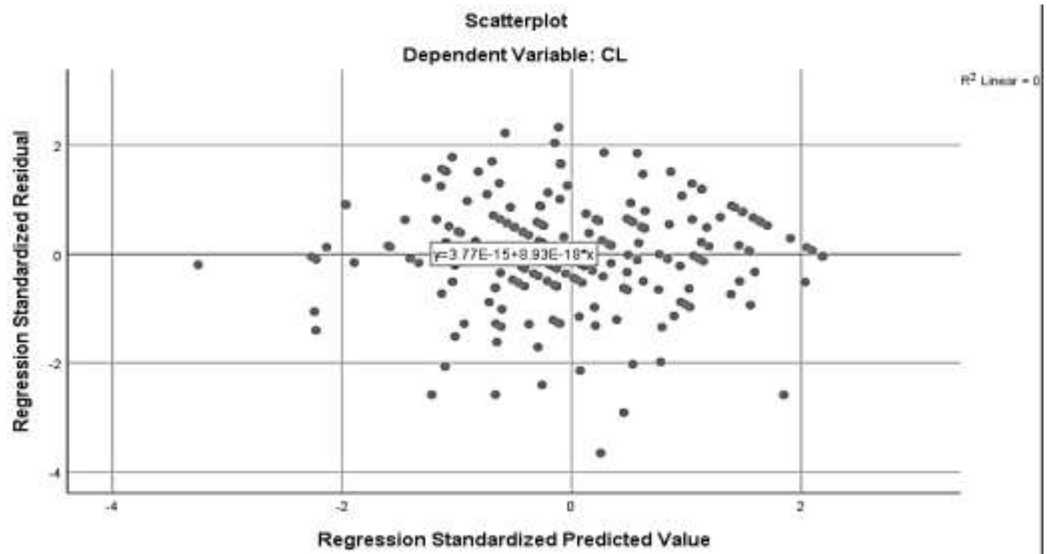

Figure 3. Scatterplot for homoscedasticity test

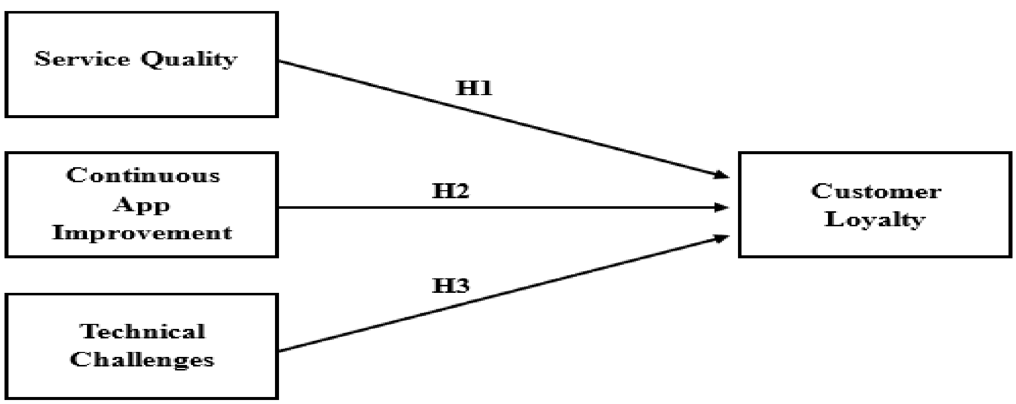

Figure 4. Conceptual Framework

For this study, the analyses of data were done using the IBM SPSS Statistics 25 software package. The preliminary cleaning and coding of data was done using Excel spreadsheet prior to the use of the SPSS software. Descriptive statistics as well as linear regression model were employed to gain proper insights into the effects of mobile banking applications on user experience and customer loyalty in Nigeria.

RESULTS AND DISCUSSION

A total of 97 and 103 of the mobile banking application users are males and females respectively, with the age range of 26-35 making up the most population of 188 persons, which is 59% of the entire sample. Out of the 200 respondents, 117 acceded to the daily usage of the mobile banking application while 11 of the respondents rarely use the application. Other mobile bank application users agreed to weekly

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

JOURNAL OF SCIENCE TECHNOLOGY AND EDUCATION 14(2), JUNE, 2026
E-ISSN: 3093-0898, PRINT ISSN: 2277-0011; Journal homepage: www.atbufstejoste.com

(53%) and monthly (19%) usage respectively. The findings also show that the vast majority of the respondents hold either a bachelor's degree (49.5%) or a master's degree (31%). Only 14.5% and 5% of the sample hold diploma and PhD respectively.

Table 2 presents the descriptive statistics of the variables used in this study. From the table it can be seen that the Service Quality (SQ) scale has the meanest score of 3.5980, when compared to the other variables with a standard deviation of .86843. Also, customer loyalty (CL) scale has the highest mean score of 3.4550 and a standard deviation of 0.94021. Similarly, the mean score for Continuous App. Improvement (CAI) scale is 3.3010, as it also has the lowest standard deviation (.82328), this points to the fact that the responses were more clustered within the average. Technical Challenge (TC) scale appears to have the poorest mean score of 3.1230 and the highest standard deviation of .94548, which shows the variance in opinions of respondents.

Table 2. Descriptive Statistics of the variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SQ	200	1.00	5.00	3.5980	.86843	-.231	.172	-.343	.342
CAI	200	1.00	5.00	3.3010	.82328	.028	.172	-.143	.342
TC	200	1.00	5.00	3.1230	.94548	-.045	.172	-.384	.342
CL	200	1.00	5.00	3.4550	.94021	-.235	.172	-.254	.342
Valid N (listwise)	200								

From Table 3, the independent variables (CAI, SQ, and TC) have statistically significant positive influence as they predict dependent variable CL. Based on Beta values, the predictor with the most strength is CAI, as the TC variable has the least contribution in the model.

Table 3. Regression model coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.144	.211		.683	.495
	SQ	.364	.072	.336	5.043	.000
	CAI	.502	.074	.440	6.831	.000
	TC	.110	.050	.111	2.214	.028

a. Dependent Variable: CL

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

The study carried out on the 3 biggest Nigerian banks, that is, Access Bank, Guaranty Trust Bank (GTB), and Zenith Bank has given great insights into the effects of mobile banking applications on user experience and customer loyalty in Nigeria, using Lagos State as a case study due to its population and also being the commercial hub of the country. The findings from the study presents both theoretical and practical implications.

Result shows that the largest percentage of users of the mobile banking applications are between the age ranges of 18 – 25 and 26 – 35 respectively with a remarkable level of engagement. The practical implication lies in Nigerian banks prioritizing continuous application improvement (CAI) as it is the variable capable the most in bringing about customer loyalty (CL). This will go a long way in ensuring that a healthy relationship is maintained (Hidayat & Idrus, 2023), as quality of service is guaranteed after every upgrade (Alzaydi, 2024) to meet up with the expectation of the teeming youthful population. Similarly, the second independent variable which predicts customer loyalty amongst Nigeria mobile bank application users is that of service quality (SQ).

Service quality of mobile banking application is characterised by responsiveness, speed, privacy, efficiency, and reliability (Al-Shorman et al., 2022), it becomes necessary for financial institutions to factor in the possibility of such undesirable occurrences with the mobile banking application and then come up with possible ways to ensure the optimal performance considering the aforementioned factors. Findings from the study show that technical challenges (TC), has the least predicting power on customer loyalty, however its effect should not be ignored as an incremental occurrence of technical challenges such as delayed balance updates, frequent error message in accessing application using biometrics could potentially degenerate into loss of existing customers.

As part of the theoretical contribution of this study, it provides the distinction on the effects of the different independent variables; CAI (β = 0.502), SQ (β = 0.364), and TC (β = 0.110) on customer loyalty as it suggests that the way and manner in which customer experience is being perceived by customers play a critical role in the sustained commitment of users, thereby providing adding to the existing technology acceptance models (TAM) when it comes to its application banking landscape.

CONCLUSIONS

In this study, the effects of mobile banking applications on user experience and customer loyalty in Nigeria is presented. Service quality (SQ), continuous application improvement (CAI), and technical challenges (TC) are factors of major concern for any bank wishing to stay competitive and enjoy longevity in the market place. It is against this backdrop that this study was necessitated in order to identify and prioritize attention during strategic planning amongst banks in Nigeria.

Furthermore, due to the level of education of respondents who are within the age range 18-35 supports generational technology adoption theory, which suggest that the digital banking loyalty models should be divided into age groups. Lastly, the SWOT analysis is a useful tool in bringing about the putting of theory into practice during strategy, as addressing the practical challenges faced by customers through CAI will aid banks in having a structured, and regular cycles of updates, by so doing maintaining engagement to a large extent which brings about customer loyalty.

REFERENCES

Abdulganiyu, M., & Dambo, H. (2023). Impact of mobile banking on customers' satisfaction in deposit money bank in Nigeria. *Gusau Journal of Economics and Development Studies*, *2*(1), 144–153. https://doi.org/10.57233/gujeds.v2i1.56

Ali, M., Alamgir, M., & Rehmani, U. H. (2024). *The Role of Mobile Banking in Pakistan with Regard to Financial Inclusion*. *5*(2).

Al-Shorman, H. M., AL-Zyadat, A. T., Khalayleh, M. A., Al- Quran, A. Z., & Alhalalmeh,

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

M. I. (2022). Digital Service Quality and Customer Loyalty of Commercial Banks in Jordan: The Mediating Role of Corporate Image. *Information Sciences Letters*, *11*(6), 1887–1896. https://doi.org/10.18576/isl/110604

Alzaydi, Z. (2024). Examining the mediating effect of multi-channel integration quality in the relationship with service quality, customer satisfaction and customer loyalty in the Saudi banking sector. *Management & Sustainability: An Arab Review*, *3*(2), 132–149. https://doi.org/10.1108/MSAR-12-2022-0061

Areghan, I., Jude, O. I., Ehikioya, B. I., Iheme-Onyeka, V., & Achugamonu, B. U. (2025). Mobile Banking, Customers' Loyalty, Retention, and Satisfaction in Nigeria: Study Case of the Nigerian Banking Sector. *International Journal of Development Research*, 67528–67536. https://doi.org/10.37118/ijdr.28922.01.2025

Ashiru, O., Balogun, G., & Paseda, O. (2023). Financial innovation and bank financial performance: Evidence from Nigerian deposit money banks. *Research in Globalization*, *6*, 100120. https://doi.org/10.1016/j.resglo.2023.100120

Austin, M. I., Beetseh, N., Abbas, F. S., & Joshua, S. S. (2025). Digital Financial Services and Performance of Deposit Money Banks in Nigeria. *International Journal of Management Technology*, *12*(1), 1–17. https://doi.org/10.37745/ijmt.2013/vol12n1117

Christian, O., Obinna, Ngozi, C., Blessing, Abude, P., & Vincent, A. N. O. (2023). Mobile Banking Service Quality and Customer Retention among Commercial Banks' Customers: An Empirical Evidence from Southeast Nigeria. *Asian Journal of Economics, Business and Accounting*, *23*(14), 45–56. https://doi.org/10.9734/ajeba/2023/v23i141004

Emeka, E. T., Ogbuabor, J. E., & Nwosu, E. O. (2024). Effects of public infrastructural development and industrialization on economic complexity in Africa: Emerging insight from panel data analysis. *African Development Review*, *36*(1), 97–110. https://doi.org/10.1111/1467-8268.12734

Feliciana, F., Saparso, S., & Lizardo, J. (2024). The Effect of Service Quality and Mobile Banking Applications on Customer Loyalty with Satisfaction as a Mediating Variable in Suryopranoto Branch Bca Customers. *Maneggio*, *1*(3), 10–22. https://doi.org/10.62872/7v0jrc24

Garzaro, D. M., Varotto, L. F., & Pedro, S. D. C. (2020). Internet and mobile banking: The role of engagement and experience on satisfaction and loyalty. *International Journal of Bank Marketing*, *39*(1), 1–23. https://doi.org/10.1108/IJBM-08-2020-0457

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th ed.). Pearson Education.

Hidayat, K., & Idrus, M. I. (2023). The effect of relationship marketing towards switching barrier, customer satisfaction, and customer trust on bank customers. *Journal of Innovation and Entrepreneurship*, *12*(1), 29. https://doi.org/10.1186/s13731-023-00270-7

Iheanachor, N., & Umukoro, I. (2022). Partnerships in digital financial services: An exploratory study of providers in an emerging market. *Journal of Business Research*, *152*, 425–435. https://doi.org/10.1016/j.jbusres.2022.08.010

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.

JOURNAL OF SCIENCE TECHNOLOGY AND EDUCATION 14(2), JUNE, 2026
E-ISSN: 3093-0898, PRINT ISSN: 2277-0011; Journal homepage: www.atbufstejoste.com

Lohven, W. T. (2023). Effect of Mobile Banking on Customer Satisfaction in First Bank Plc, Jos, Plateau State of Nigeria. *Journal of Human Resources*, 2.

Mamadiyarov, Z., & Soliyev, A. E. (2024). *The Impact of Mobile Banking on Financial Inclusion in Uzbekistan*. *1*(4), 13–20.

Marliyah, M., Ridwan, M., & Sari, A. K. (2021). The Effect of E-Service Quality on Satisfaction and Its Impact on Customer Loyalty of Mobile Banking Users (Case Study of Bank Syariah Mandiri KCP Belawan). *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, *4*(2), 2717–2729. https://doi.org/10.33258/birci.v4i2.1980

Ndaman, A., & Mohammed, A. (2025). Digital Financial Innovation and Customer Loyalty in Deposit Money Banks: A Study of Zenith Bank. *African Journal of Management and Business Research*, *19*(1), 143–166. https://doi.org/10.62154/ajmbr.2025.019.01016

Olaleye, S. A., Olawumi, O., Agjei, R., & Sanusi, I. T. (2022). Mobile Banking App as a Medium of Engagement for Customers in a Developing Country. *The Journal of Developing Areas*, *56*(1), 1–30. https://doi.org/10.1353/jda.2022.0007

Ologun, V. O., Olugbade, A., Azuikpe, P. F., Adegbite, M. A., Lawal, O. A., & John, S. (2025). Smart Tech, Scared Users: A Behavioral Analysis of AI-Powered Solutions for Cyberthreat-Induced Customer Complaints in Low-Income Countries. *iRASD Journal of Management*, *7*(1), 10–26. https://doi.org/10.52131/irasd-jom.2025.v7i1.2845

Opusunju & Akyuz. (2022). Effect of mobile banking on customer satisfaction in first bank plc, plateau state of nigeria. *Journal of Management and Science*, *12*(3), 11–16. https://doi.org/10.26524/jms.12.41

Shi Xiaolin, Oyyappan Duraipandi, Wang Yichuan, Wang Zeyu, & Wang Zhaoqing. (2024). Impact of Online-Banking and Mobile-Banking Applications in Influencing Customer Experience. *International Journal of Computational and Experimental Science and Engineering*, *10*(4). https://doi.org/10.22399/ijcesen.3736

Siano, A., Raimi, L., Palazzo, M., & Panait, M. C. (2020). Mobile Banking: An Innovative Solution for Increasing Financial Inclusion in Sub-Saharan African Countries: Evidence from Nigeria. *Sustainability*, *12*(23), 10130. https://doi.org/10.3390/su122310130

Sulistiyani, & Nurchayati, H. (2024). User Experience of Mobile Banking Application in Indonesia: New Technology of Banking. *GLOBAL BUSINESS FINANCE REVIEW*, *29*(2), 127–141. https://doi.org/10.17549/gbfr.2024.29.2.127.

Corresponding author: Ifeanyichukwu Emeka Ezenwaji
Ifeanyichukwu.ezenwaji@std.gau.edu.tr
Graduate School of Management, Girne American University, Girne.