International Journal of Consumer Behaviour and Strategic Marketing | ISSN 3087-4424
Published by BIRPUB https://birpub.org/ijcbsm
Imp. Factor: 6.243

Customer Digital Literacy and Performance of Deposit Money Banks in Cross River State, Nigeria

Nwatu Emmanuel Chukwuemeka PhD [1], Udeh Ifeyinwa Ebere PhD [2] & Odinachi Catherine Ebele PhD [3]

Abstract

This study examined the level of customer digital literacy in Cross River State, Nigeria, and its effect on the performance of selected deposit money banks. The objectives were to determine whether the use of mobile wallets relates to bank profitability and whether digital savings tools influence the productivity of banks within the state. The study focused on five banks selected based on staff size and years of establishment. With a total population of 271 employees, a census approach was adopted because the population was manageable. Data were collected through structured questionnaires and interviews, with 248 valid responses retrieved. The data were presented and analyzed using mean scores, and the hypotheses were tested using Z-tests in SPSS. The findings revealed that the use of mobile wallets had a significant positive relationship with bank profitability ($Z = 10.287$, $p < 0.05$). Similarly, digital savings tools showed a significant positive relationship with bank productivity in Cross River State ($Z = 10.795$, $p < 0.05$). The study concluded that customer adoption of mobile wallets and digital savings tools significantly enhances bank profitability and productivity in the state. It recommended that banks in Cross River State should further promote and integrate mobile wallet services to boost financial performance.

Keywords: *Customer digital literacy, mobile wallets, digital savings tools, bank performance, profitability, productivity.*

Cite*:* Nwatu, E. C., Udeh, I. E. & Odinachi, C. E. (2025). Customer Digital Literacy and Performance of Deposit Money Banks in Cross River State, Nigeria. *International Journal of Consumer Behaviour and Strategic Marketing, 3 (1), 1-14.*

© Copyright and Licensing Notice

Authors retain full copyright over all articles published under BIRPUB. Ownership of the work does not transfer to the publisher at any stage of the publication process. Upon acceptance, authors grant BIRPUB a non-exclusive license to publish, distribute, archive, and index the article in both print and digital formats. This license allows BIRPUB to make the work publicly available while preserving the author's full intellectual property rights. Authors are free to reuse any part of their work in future publications, deposit the article in institutional or subject repositories, and share the published version on personal or professional platforms. They may also republish the article elsewhere, provided that the original appearance in BIRPUB is clearly acknowledged. BIRPUB is committed to protecting author rights and imposes no restrictions beyond appropriate citation of the initial publication.

Authors	Affiliation
1	Department of Business Management, Faculty of Management Sciences, University of Calabar, Calabar, Cross Rivers State, Nigeria.
2	Department of Business Administration, Faculty of Management Sciences, Enugu State University of Science and Technology, Enugu State, Nigeria.
3	Department of Management, Faculty of Arts and Management, Peace Land University, Enugu State, Nigeria.

Introduction

Banking used to rely on physical branches and manual processes. People had to visit the bank, fill out forms, and talk to staff in person. With the rise of computers and the internet, the banking industry started using electronic systems like ATMs and online banking. This made transactions faster, easier to access, and more efficient. For example, research on IT in Nigeria's banking industry showed how banking operations changed when information technologies were adopted (Onuegbu, et al., 2025).

Around the world, digital banking has spread quickly. Mobile apps, online portals, USSD channels, and digital payment platforms have changed how and where people bank. At the same time, banks and regulators have pointed out that customer digital literacy – how well people can use digital platforms – is important for the digital banking revolution. In Africa, 77% of banks say that low customer digital literacy is a major obstacle to online services.

In Nigeria, the banking sector has shifted towards digital channels. Studies show that as people use mobile and USSD channels more, the quality and performance of banks depend on how well customers can use digital services. In Nigeria, 42% of customers said they had never used mobile and USSD channels in one year. This number dropped to 15% as digital literacy and adoption increased. Another study in Nigeria found that customers' education and digital skills greatly affect whether they use e-banking services (Oyeleye, et al., 2015).

In Cross River State (Nigeria), banks face the challenge of improving their performance (profit, customers, efficiency) while making sure customers can use digital banking platforms well. In this area, internet access, digital skills, and education levels vary. Customer digital literacy may directly affect how banks perform. Customers who know how to use digital services will have an easier time making transactions. Banks will process transactions more efficiently, costs may decrease, and banks may see better results.

Therefore, it is a good time to study the connection between customer digital literacy and bank performance in Cross River State. This can help banks understand how much to invest in customer education, training, and support, not just in technology. This will help ensure that digital banking channels can improve performance.

In short, this introduction explains why it's important to study how customer digital literacy (the ability to use digital banking tools) affects the performance of banks in Cross River State. The study looks at the history of banking, global digital banking trends, national findings in Nigeria, and the local situation of customer digital skills in Cross River State.

Problem Statement

Ideally, customers should have good digital skills to use digital banking platforms and make the most of financial services. Good digital literacy allows customers to do online transactions, manage accounts, and access financial products without having to go to a bank branch. This makes customers happier and improves the efficiency and profit of banks. Research has shown that digital literacy greatly affects the use of digital banking services and overall financial inclusion around the world and in Nigeria.

However, Cross River State is not there yet. Many people have low digital literacy, which limits their ability to use digital banking services. This is due to limited access to devices, poor internet, and not enough training programs to improve digital skills. As a result, many customers struggle with basic digital banking functions like mobile money transfers, online bill payments, and account management. This leads to underused banking services and hurts the banks' efficiency.

Ignoring this problem has serious results. Low digital literacy affects financial inclusion, especially for people in rural areas, limiting their access to financial services. Also, customers with limited digital skills are more at risk of online fraud and scams, which hurts their trust in banks. Banks also face higher costs because they have to provide manual support for transactions that could be done online. Without improving customer digital literacy, the use of digital banking services will likely slowdown, which will limit the growth of the banking sector in the state.

Objectives of the Study

The main objective of the study was to evaluate the Customer Digital Literacy and Performance of Deposit Money Banks in Cross River State, Nigeria. The specific Objectives were to:

i. Examine the relationship between Using mobile wallets and revenue generation of Deposit Money banks in Cross River State
ii. Evaluate the relationship between digital savings tools and output of Deposit Money Banks in Cross River State.

Research Questions

The following Research questions guided the study

i. What is the relationship between Using mobile wallets and revenue generation of Deposit Money banks in Cross River State?
ii. What is the relationship between digital savings tools and output of Deposit Money Banks in Cross River State?

Statement of Hypotheses

The following Hypotheses guided the study

i. Mobile wallets has significant relationship with revenue generation of Deposit Money banks in Cross River State.
ii. Digital savings tools has significant relationship with output of Deposit Money Banks in Cross River State

Review of Related Literature

Conceptual Review

Customer

Within banking, a customer is an individual or group that has an account or conducts transactions with a bank. As deposits, withdrawals, loans, and investments from customers fuel a bank's activities and profits, they are central to how banks run. Kotler and Keller (2022) define a customer as any person or entity that purchases or uses the services of a business. In banking, this covers people with accounts, borrowers, and investors who depend on the bank to handle their finances. Banks offer services like savings accounts, credit, online access, and investments to meet what customers want.

Olowe and Adebayo (2023) state that customer satisfaction and trust are the base of long-term loyalty and good monetary results. They mention that current banking is moving toward customer-focused plans, using tech and special services to make things better for people. Ngugi (2021) adds that today's customers are more involved online, looking for banking options that are easy, safe, and fast. Therefore, banks must always come up with better ideas to keep up with changing customer needs and stay competitive.

Digital Literacy

In banking, digital literacy means that customers and workers can use digital tools and platforms to safely and quickly get to, understand, and do transactions. It goes further than just basic computer skills, covering online applications, payment systems, knowing about cyber safety, and being able to judge and use digital financial info responsibly. Adeniran and Obafemi (2023) note that digital literacy includes the skills needed to easily use digital financial services, which affects how much customers believe in and accept electronic banking sites. Similarly, Iyobo and Shaba (2024) say that service quality and happiness rely on digital literacy because it makes it easier to use automated and online banking options. Onuegbu et al. (2025) point out that when customers don't have much digital knowledge, they don't use banking tech well, make more mistakes, and can easily become fraud victims, which harms how well the bank does. Digital literacy in banks is where tech and money skills meet, giving people

the power to use digital finance with trust, helping involve more people, make things faster, and bring new ideas to banking.

Customer Digital Literacy

Customer digital literacy is how well bank customers get to, understand, and use digital banking services to handle money. This includes the skills, knowledge, and trust needed to use systems, apps for phones, ATMs, and other tech. Nduka and Eze (2023) say that customer digital literacy helps banks run well now, deciding how well customers use options like apps, online areas, and payments. They feel that banks need customers who know tech to get the rewards of tech investments in this time of change. Customers who know more about tech are likely to try new things and do deals alone, which makes physical locations less busy. Okafor and Umeh (2022) say digital literacy is how customers find, judge, and handle digital money info. They stress that it makes things better for customers and brings in more people, especially where there isn't much access to bank buildings. Through programs, banks can help people use online platforms better, raising happiness and loyalty.

Parts of Customer Digital Literacy

Mobile wallets

Mobile wallets are a new financial tech idea that lets people keep, handle, and spend money online using devices like phones or tablets. They're like digital versions of wallets, letting people pay, move money, and keep details from cards safely. Kaur and Bhatia (2023) describe a mobile wallet as a payment system that connects a phone to a bank account or card. It gets rid of the need for cash and makes transactions easy, safe, and fast. Mobile wallets like Apple Pay, Google Pay, and PayPal are now key to money systems, helping things run better and involve more people.

Ogbuabor and Nnaji (2022) see mobile wallets as a way to bring banking to people who don't have it. In places like Nigeria, they've been helpful for giving people, especially in rural areas, access to money services. Mobile wallets help the economy grow by speeding up transactions and pushing policies that match national plans to go digital. From a security view, Patil and Kumbhar (2023) mention that mobile wallets use ways to protect data and stop fraud. These measures help people trust and use mobile payment options, mainly where cash is still common.

Digital savings tools

Digital savings tools in banking refer to online platforms or mobile applications that enable customers to manage and grow their savings automatically without visiting a physical bank. These tools provide features such as goal setting, automated transfers, real-time savings tracking, and integration with investment options. They simplify the saving process and encourage consistent financial habits. For example, in Nigeria, PiggyVest enables young savers to automate their savings and monitor their progress (Essiet, 2025). According to Iro, Eke, Yunisa, and Shekoni (2024), digital financial services including savings platforms, ATMs, web transfers, and mobile transfers significantly influence savings behavior in Nigeria, although some platforms face operational challenges, while ATMs positively support saving practices. Similarly, Akande (2025) observes that the adoption of fintech is essential for effective saving and wealth-building in Nigeria, highlighting the growing role of digital savings tools.

Performance

Bank performance is how well banks reach their goals efficiently, measured by profits, happiness, quality, cash, and market size. This includes money stats like return on assets (ROA), return on equity (ROE), and net interest margin, plus things like new ideas, worker output, and customer faith. So, bank performance shows how well a bank uses what it has to make value for everyone while staying stable. Olowokere and Adedeji (2023) state that bank performance means more than just profits, also covering good service and managing customer links. Iyobo and Shaba (2024) point out that performance is tied to tech use, which makes things faster and cheaper. Adeniran and Obafemi (2023) add that using digital money systems has made banks more competitive and profitable through fast processes and reaching more customers.

Parts of Performance used in the study

Revenue generation

How banks make money is complex, using different plans and sources. Changes in banking show how important many ways to gain money are to doing well financially. A main way banks make money is from interest on loans. In 2024, Nigerian banks saw a big jump in interest income, with nine banks making ₦14.26 trillion which is 119.55% more than the year before. This was because of higher loan rates and more loans being given out (Nairametrics, 2025). Income from things other than interest, like charges from online banking, is becoming key. In 2024, Nigerian banks earned ₦783.29 billion from digital banking, with UBA leading at ₦284.7 billion (THEWILL, 2025). Banks also make money from trading and investing in things. For example, Bank of America said trading income rose by 13% to $4.1 billion in the fourth quarter of 2024 because of good trading (Financial Times, 2025).

Output

Bank output is the total worth of what a bank makes, including money help and non-interest work. Studies show that tech, laws, and customer behavior affect bank output. Tech like AI has made work faster. For example, using platforms like ClearTrade® has raised work by 70% by making routines automatic and managing risk (Reddit, 2024). In the UK, big banks saw a £100 billion drop in deposits as people moved to online banks with better rates. This, with rising costs and less work, has made bank performance hard, with predictions of a big drop in return on equity by 2027 (The Guardian, 2025). In the US, the four biggest banks JPMorgan Chase, Bank of America, Citigroup, and Wells Fargo grabbed 44% of the industry's income in the first nine months of 2024, the most since 2015. This shows how tech helps them stay ahead (Financial Times, 2024).

Theoretical Framework

Technology Acceptance Model (TAM) by Fred Davis (1989) guided the study.

Technology Acceptance Model (TAM) says that how people see how helpful and easy a tech idea is decides if they will use it. High intention leads to use, which affects how well things go. In banking: PU = how much customers feel that using a bank's digital services will make banking better. PEOU = how comfortable they are with the tech. Digital literacy helps make things better: a customer who can use tech will find online banking easier and better, making things smoother and improving how well the bank does.

Application to DMBs in Cross River State

For DMBs operating in Cross River State:

i. Customers with higher digital literacy will more easily adopt and use the bank's digital platforms (mobile apps, USSD banking, internet banking).
ii. This increased adoption leads to more digital transactions (higher volumes), lower operational cost, faster turnaround time, improved customer satisfaction and loyalty all contributing to improved bank performance (e.g., profitability, efficiency, market share).
iii. Conversely, if digital literacy is low, even if the bank offers digital services, uptake and usage will be limited reducing the potential performance gains.

Empirical Review

Akani & Tony-Obiosa's (2020) work investigated financial innovations' influence on the earnings of Nigerian deposit money banks. The research generally aimed to see how these innovations affected earnings, specifically examining the impact of automated teller machines, electronic fund transfers, online banking, mobile banking, and investment in information and communication technology on the return on equity of these banks. Four hypotheses were tested using panel data regression to analyze data from fourteen firms' annual reports between 2009 and 2017. Return on equity was the dependent variable, while the others listed above were independent variables. The results suggested a negative association between automated teller machines and electronic fund transfers with return on equity.

Conversely, online banking, mobile banking, and investment in information and communication technology showed a positive link with return on equity.

Madugba et al. (2021) studied how electronic banking affects the financial results of Nigerian deposit money banks. Their work acknowledged technology's undeniable role in commerce. Data was sourced from the Central Bank of Nigeria and the National Bureau of Statistics, along with the banks' financial statements. Using an ex-post facto research design, they conducted tests that showed the data was good. Regression was used to test two hypotheses. It showed that ATMs had a positive association with earnings per share and return on assets. POS and NEFT significantly impacted return on assets only, while web applications had no real impact on either earnings per share or return on assets. They concluded that electronic banking does have a real impact on the financial performance of these banks in Nigeria.

Nwarisi et al. (2022) studied digital service delivery and how it relates to business performance in Nigerian deposit money banks. The study used an explanatory design, with data collected from 140 individuals across 14 banks listed on the Nigeria Stock Exchange, all represented in Rivers State. Using multiple regression and structural equation modeling, their study found that digital service delivery has both considerable and negligible connections to business performance, leading to the conclusion that it can impact business performance in varying ways.

Ikoh et al. (2024) researched how e-payment systems affect the operation of banks in Nigeria. The study aimed to see how e-payment variables like ATM, POS, web applications, mobile applications, and NIBSS instant payments (NIP) affect bank earnings from 2009 to 2021. With an ex-post facto research design and quantitative methods, data from the Central Bank of Nigeria's statistical bulletin was analyzed using multiple regression. The results showed that e-payments through mobile applications had a high, positive correlation to bank earnings. The result also pointed to a move toward mobile tech in Nigerian banks, likely because mobile platforms are both convenient and accessible. The study noted slower growth in traditional channels like ATM, POS, and web, potentially pointing to the cashless policy or newer tech replacing these e-payment methods. The growth in NIP suggests a new service or payment channel has become more common recently. The findings also indicated that a high rate might relate to more smartphones being used, advancements in mobile payment tech, and the move toward digital financial services. E-payments through POS, web, and NIP had a negative influence on bank earnings in Nigeria.

Isah et al. (2025) investigated the function of digital payment solutions in growing financial inclusion in Nigeria. Because financial exclusion continues to be a problem in developing economies, digital payment solutions are being looked at more closely as ways to expand financial service access. This study looked at how digital payment solutions affect financial inclusion in Nigeria, with attention to access, use, and financial well-being. Data was gathered from 293 people aged 18-55 in South-West, Nigeria using a structured questionnaire and convenience sampling. The study used descriptive and inferential statistics to analyze the relationships between using digital payments and better financial inclusion. The results showed that user knowledge, mobile network access, and financial literacy affected how available and how often digital payment solutions were used.

Saidi (2018) studied how e-payment tech affects bank performance in emerging economies, using Nigeria as an example. The paper adds to the discussion with innovations: It uses the sortino index to measure bank performance, it links market risk exposure to electronic payment technologies, and it controls for without effects of these innovations using interacting dummies. Based on time dimensional and panel least square models, it discovered that bank performance rose after e-payment tech was put in place. It suggests that investors should focus on current bank resources instead of previous bank performances.

Tolulope & Olubukunmi (2019) studied electronic banking and how it relates to the earnings of deposit money banks in Nigeria from 2009 to 2018. Secondary data came from the Central Bank of Nigeria statistical bulletin. Data was analyzed using Ordinary Least Square estimation. E-view software measured the link between electronic banking and bank earnings in Nigeria. The results showed that online banking has a slightly positive impact on earnings. It also showed that ATMs have a considerable impact on earnings.

Olayinka et al. (2020) researched lasting business models for creating mobile financial services in Nigeria. Even though Nigeria has a big population and a lot of mobile money operators, mobile money service use has been the lowest in Africa. Introducing mobile money services into the market was supposed to accelerate financial inclusion and increase the number of transactions in the country. The paper argues that the lack of lasting business models for creating mobile money services has been a big obstacle. Existing business models for mobile money services have not been sustainable or profitable.

Olalere & Adesugb (2022) studied how agency banking affects the financial performance of listed deposit money banks in Nigeria for the period 2011-2020. With a sample size of 12 DMBs, the study used secondary data from the banks' financial reports. The study used a random effect as the best way to estimate the regression model. The results showed that the number of accounts opened by an agent has a considerably positive impact on the financial performance of DMBs in Nigeria. It concluded that the volume of electronic transfers did increase banks' financial performance.

Kolawole et al. (2024) studied digital financial services and how they relate to the performance of commercial banks in Nigeria. The study looked at the causal link and the short- and long-term effects between digital financial service parts and the performance of these banks. The study uses a descriptive survey research with ex-post facto research. Descriptive statistics were used to analyze responses and opinions, while inferential statistics, including the dynamic Panel Autoregressive Distributed Lag (PARDL) approach and Panel Granger Causality Test, were used. The Granger Causality analysis shows that agency banking causes ROA, showing it predicts ROA variations. ATM banking has a weaker influence on ROA, while online banking and mobile banking both impact ROA considerably. The long-term analysis using the autoregressive distributed lag (ARDL) model shows that agency banking, ATM banking, online banking, and POS activities all have positive impacts on ROA. In the short term, these variables also show positive coefficients, suggesting immediate effects on ROA. Error correction has a negative coefficient, showing it aids short-run adjustments to deviations from long-run equilibrium. Agency banking, ATM banking, online banking, and POS activities are crucial drivers with statistical meaning, while mobile banking has a limited influence on ROA.

Gap in Empirical Review

After reviewing past studies, this research found that none were conducted in different states in Nigeria, but in Cross Rivers State, where this study is based. The present study would be analysed using pearson correlation coefficient while other statistical tools were used to analyze previous studies. The study on Customer Digital Literacy and Performance of Deposit Money Banks in Cross River State will be the most current and highlight the importance of Customer Digital Literacy and Performance of Deposit Money Banks with regards to previous studies.

Methodology

The study focused on the five banks with a high number of staff and many years in operations. With a total population for the study of two hundred and seventy one, the study made use of all due to its small number. Using a survey design, questionnaires and interviews were used for data collection. Two hundred and forty eight questionnaires were completed and returned. Content analysis proved the validity of the tool, and the Pearson correlation coefficient (r) result showed a reliability co-efficient of 0.86. Data was presented and analyzed by mean score, and Z – test was used to test the hypotheses with the aid of the Special Package for Statistical Software (SPSS).

Data Presentation and Analyses

The relationship between Using mobile wallets and revenue generation of Deposit Money banks in Cross River

Table 1: Responses on the relationship between Using mobile wallets and revenue generation of Deposit Money banks in Cross River

		5 SA	4 A	3 N	2 DA	1 SD	∑FX	- X	SD	Decision
1	The use of mobile wallets has expanded the customer base of deposit money banks in Cross River State, leading to increased transaction volumes and higher revenue generation.	570 114 46.0	180 45 18.1	147 49 19.8	30 15 6.0	25 25 10.1	952 248 100.0	3.84	1.337	Agree
2	Mobile wallet adoption has provided new income streams for banks through service charges, transaction fees, and value-added digital services	810 162 65.3	180 45 18.1	21 7 2.8	26 13 5.2	21 21 8.5	1058 248 100.0	4.27	1.260	Agree
3	By promoting mobile wallet usage, deposit money banks have enhanced customer convenience and engagement, resulting in greater customer retention and revenue growth	630 126 50.8	176 44 17.7	138 46 18.5	26 13 5.2	19 19 7.7	989 248 100.0	3.99	1.265	Agree
4	The integration of mobile wallet services has reduced operational costs associated with cash handling, thereby improving banks' profitability and efficiency	585 117 47.2	292 73 29.4	39 13 5.2	12 6 2.4	39 39 15.7	967 248 100.0	3.90	1.426	Agree
5	Increased mobile wallet transactions have strengthened banks' digital ecosystems, driving sustainable revenue generation and competitiveness in Cross River State's financial sector	735 147 59.3	208 52 21.0	15 5 21.0	18 9 3.6	35 35 14.1	1011 248 100.0	4.08	1.425	Agree
	Total Grand mean and standard deviation							**4.016**	**1.3426**	

Source: Field Survey, 2025

According to Table 1, about 64.1 percent of respondents (159 out of 248) concurred that mobile wallets have grown the customer base for deposit money banks in Cross River State, which has caused more deals and more income (mean = 3.84, SD = 1.337). Around 83.4 percent of those surveyed (207 people) believed that mobile wallets have created new income for banks via service charges, deal payments, and extra digital services (mean = 4.27, SD = 1.260). Also, 68.5 percent of respondents (170 people) agreed that banks that encourage the use of mobile wallets will improve customer service and involvement, leading to better customer loyalty and income growth (mean = 3.99, SD = 1.265). Approximately 76.6 percent of respondents (190 people) said that adding mobile wallet services has cut cash handling costs, which has made banks more profitable and efficient (mean = 3.90, SD = 1.426). Finally, 80.3 percent of those surveyed (199 people) agreed that more mobile wallet deals have made banks' digital systems stronger, which is helping to create lasting income and competition in Cross River State's money market (mean = 4.08, SD = 1.425).

The relationship between digital savings tools and output of Deposit Money Banks in Cross River State.

Table 2: Responses on the relationship between digital savings tools and output of Deposit Money Banks in Cross River State.

		5 SA	4 A	3 N	2 DA	1 SD	∑FX	- X	SD	Decision
1	The introduction of digital savings tools has increased customer participation in savings activities, thereby boosting the overall financial output of deposit money banks in Cross River State	490 98 42.3	324 81 9.4	15 5 29.1	58 29 16.9	35 35 39.5	922 248 100.0	3.72	1.443	Agree
2	Digital savings platforms have enhanced operational efficiency by automating savings processes, which contributes to higher productivity and profitability for banks	575 115 46.4	468 117 47.2	15 5 2.0	8 4 1.6	7 7 2.8	1073 248 100.0	4.33	.836	Agree
3	By offering flexible and user-friendly digital savings options, deposit money banks have attracted more customers, leading to growth in deposits and improved financial performance	490 98 38.7	520 130 52.4	21 7 2.8	20 10 4.0	5 5 2.0	1056 248 100.0	4.22	.845	Agree
4	The use of digital savings tools has reduced administrative costs and improved transaction accuracy, resulting in greater output and service delivery efficiency	310 62 25.0	584 146 58.9	21 7 2.8	56 28 11.3	5 5 2.0	976 248 100.0	3.94	.954	Agree
5	Through digital savings innovations, banks in Cross River State have expanded their market reach and strengthened their capacity to mobilize funds, enhancing overall institutional output	435 87 35.1	316 79 31.9	36 12 4.8	14 7 2.8	63 63 25.4	864 248 100.0	3.48	1.594	Agree
	Total Grand mean and standard deviation							**3.87**	**1.2866**	

Source: Field Survey, 2025

From Table 2, 51.7% of respondents (179 out of 248) concurred that digital savings tools have raised customer involvement in savings, which has then improved how well deposit money banks are doing in Cross River State (mean = 3.72, standard deviation = 1.443). About 93.6% of respondents (232) believed that digital savings platforms made operations more efficient by automating savings, leading to better bank productivity and profits (mean = 4.33, standard deviation = .836). Also, 91.1% of respondents (228) said that deposit money banks have drawn in more customers by providing adaptable and easy-to-use digital savings options, which results in deposit growth and better financial results (mean = 4.22, standard deviation = .845). Approximately 83.9% of respondents (208) agreed that using digital savings tools has cut down on administrative costs and made transactions more precise, which has increased production and how well services are delivered (mean = 3.94, standard deviation = .954). Around 67.0% of respondents (166) felt that banks in Cross River State have grown their market and improved their ability to gather funds because of digital savings innovations, which has improved how well the institution does overall (mean = 3.48, standard deviation = 1.594).

Test of Hypotheses

Test of Hypotheses One: Using mobile wallets has significant relationship revenue generation of Deposit Money banks in Cross River State.

Table 3: One-Sample Kolmogorov-Smirnov Test

		The use of mobile wallets has expanded the customer base of deposit money banks in Cross River State, leading to increased transaction volumes and higher revenue generation.	Mobile wallet adoption has provided new income streams for banks through service charges, transaction fees, and value-added digital services	By promoting mobile wallet usage, deposit money banks have enhanced customer convenience and engagement, resulting in greater customer retention and revenue growth	The integration of mobile wallet services has reduced operational costs associated with cash handling, thereby improving banks' profitability and efficiency	Increased mobile wallet transactions have strengthened banks' digital ecosystems, driving sustainable revenue generation and competitiveness in Cross River State's financial sector
N		248	248	248	248	248
Uniform Parameters[a,b]	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.460	.653	.508	.516	.593
	Positive	.101	.085	.077	.157	.141
	Negative	-.460	-.653	-.508	-.516	-.593
Kolmogorov-Smirnov Z		7.239	10.287	8.001	8.128	9.335
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Source: Researchers' computation from Field Survey Data, 2025

Decision Rule

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

Result

With Kolmogorov-Smirnon Z – value ranges from 7.239 < 10.287 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that Using mobile wallets had significant positive relationship with revenue generation of Deposit Money banks in Cross River State, Nigeria

Decision

Furthermore, comparing the calculated Z- value ranges from 7.239 < 10.287 against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Using mobile wallets had significant positive relationship with revenue generation of Deposit Money banks in Cross River State

Test of Hypotheses Two: Digital savings tools have significant relationship with output of Deposit Money Banks in Cross River State.

Table 4: One-Sample Kolmogorov-Smirnov Test

		The introduction of digital savings tools has increased customer participation in savings activities, thereby boosting the overall financial output of deposit money banks in Cross River State	Digital savings platforms have enhanced operational efficiency by automating savings processes, which contributes to higher productivity and profitability for banks	By offering flexible and user-friendly digital savings options, deposit money banks have attracted more customers, leading to growth in deposits and improved financial performance	The use of digital savings tools has reduced administrative costs and improved transaction accuracy, resulting in greater output and service delivery efficiency	Through digital savings innovations, banks in Cross River State have expanded their market reach and strengthened their capacity to mobilize funds, enhancing overall institutional output
N		248	248	248	248	248
Uniform Parameters[a,b]	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.472	.685	.661	.589	.419
	Positive	.141	.028	.020	.020	.254
	Negative	-.472	-.685	-.661	-.589	-.419
Kolmogorov-Smirnov Z		7.430	10.795	10.414	9.271	6.604
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Source: Researchers' computation from Field Survey Data, 2025

Decision Rule

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

Result

With Kolmogorov-Smirnon Z – value ranges from 7.430 < 10.795 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that Digital savings tools had significant positive relationship with output of Deposit Money Banks in Cross River State.

Decision

Furthermore, comparing the calculated Z- value ranges from 7.430 < 10.795 against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Digital savings tools had significant positive relationship with output of Deposit Money Banks in Cross River State.

Discussion of Findings

From the result of hypotheses one, the calculated Z- value ranges from 7.239 < 10.287 against the critical Z- value of 0.000 which implies that Using mobile wallets had significant positive relationship with revenue generation of Deposit Money banks in Cross River State, Nigeria. In support of the result in the literature review**,**

From the result of hypotheses two, the calculated Z- value ranges from 7.430 < 10.795 against the critical Z- value of 0.000 which implies that Digital savings tools had significant positive relationship with output of Deposit Money Banks in Cross River State, Nigeria. In support of the result in the literature review,

Conclusion

The study concluded that Using mobile wallets and digital savings tools had significant positive relationship with revenue generation and output of Deposit Money banks in Cross River State. As customers become more skilled and confident in using digital platforms such as mobile banking, internet banking, and USSD services, transaction efficiency, service quality, and customer satisfaction improve. This, in turn, strengthens banks' profitability, operational efficiency, and competitiveness. However, low levels of digital literacy can hinder adoption of digital services, limit customer engagement, and reduce banks' overall performance. Therefore, improving customer digital literacy through targeted education, user-friendly platforms, and continuous support is essential for maximizing the benefits of digital banking and sustaining the performance of deposit money banks in Cross River State, Nigeria.

Recommendations

i. Deposit Money Banks in Cross River State should intensify the promotion and integration of mobile wallet services to enhance revenue generation. By expanding mobile wallet features, improving transaction security, and educating customers on their use, banks can increase transaction volumes, reduce operational costs, and attract a broader customer base thereby boosting overall revenue performance.
ii. For customer convenience, attract more deposits, and promote financial inclusion, leading to higher transaction volumes and greater liquidity for the banks there is need for Digital Savings Tools.

Reference

Adeniran, A. O., & Obafemi, O. A. (2023). Digital financial literacy and the adoption of e-banking channels in Nigeria. *Journal of Finance and Digital Innovation, 5*(2), 44–56.

Adeyemi, O. T., & Bello, H. A. (2024). Customer digital literacy and performance of deposit money banks in Nigeria. *African Journal of Finance and Digital Innovation, 5*(1), 32–48.

Akande, O. A. (2025). Fintech adoption and wealth creation in Nigeria. *Makurdi Journal of Accounting and Finance (MAJAF), 7*(1), 44–57.

Akani, H. W., & Tony-Obiosa, R. L. (2020). Effects of financial innovations on the profitability of deposit money banks in Nigeria. *European Journal of Accounting, Auditing and Finance Research, 8*(1), 52–73.

Essiet, D. (2025). More young Nigerians turning to fintech for savings. *The Nation Online Newspaper.*

Ezeocha, C. M. (2024). Digitalized banking in a globalized world: A review of Nigeria's digital banking transformation. *African Journal of Management and Business Research, 16*(1), 53–68.

Financial Times. (2024). US banking giants capture biggest share of industry profits since 2015. https://www.ft.com/content/66290217-47cf

Financial Times. (2025). Bank of America profits boosted by loan growth and robust trading. https://www.ft.com/content/17988702-92f7

Ikoh, I. M., Ocheni, A., Arome, G., & Tamuno-Inam, N. W. (2024). The effect of e-payment systems on the efficiency of banks in Nigeria. *International Journal of Research and Innovation in Social Science, 8*(8), 810–830.

Iro, A. I., Eke, O. E., Yunisa, A., & Shekoni, O. R. (2024). Effect of digital financial services on savings development in Nigeria. *Gombe University Journal of Accounting and Finance (GUJAF), 4*(1), 23–36.

Isah, Y. A., Oluwole, A. V., Kelin, I. O., Olutayo, S. S., & Uwalomwa, U. (2025). The role of digital payment solutions in enhancing financial inclusion in Nigeria. *International Journal of Research and Innovation in Social Science, 9*(6), 3795–3809.

Iyobo, E. B., & Shaba, M. (2024). Digital banking and the performance of deposit money banks in Nigeria. *African Scholar Journal of Business Development and Management Research, 6*(2), 45–59. https://africanscholarpub.com/ajbdmr/article/view/853

Kaur, P., & Bhatia, M. (2023). The role of mobile wallets in the digital payment ecosystem: Opportunities and challenges. *International Journal of Finance and Banking Research, 9*(2), 45–54.

Kolawole, O., Muritala, T. A., Akande, J. O., & Adekunle, A. O. (2024). Digital financial services and the performance of quoted commercial banks in Nigeria. *International Journal of Professional Business Review, 9*(6).

Kotler, P., & Keller, K. L. (2022). *Marketing management* (16th ed.). Pearson Education.

Madugba, J. U., Egbide, B.-C., Jossy, D. W., Agburuga, U. T., & Chibunna, O. O. (2021). Effect of electronic banking on financial performance of deposit money banks in Nigeria. *Banks and Bank Systems, 16*(3), 71–83. https://doi.org/10.21511/bbs.16(3).2021.07

Nairametrics. (2025). Nigerian banks earn N5.93 trillion from investing in Treasury bills, OMO bills, others in 2024. https://nairametrics.com/2025/04/28/nigerian-banks-earn-n5-93-trillion-from

Nduka, F. C., & Eze, M. O. (2023). Digital literacy and customer engagement in the Nigerian banking sector. *International Journal of Banking and Finance Research, 10*(2), 89–101.

Ngugi, P. N. (2021). Digital banking and changing customer expectations in Africa. *Journal of Financial Innovation, 4*(3), 77–90.

Nwarisi, N. S., Igwe, P., & Ozuru, H. N. (2022). Digital service delivery and business performance of deposit money banks in Nigeria. *GPH-International Journal of Business Management, 5*(11), 25–37.

Ogbuabor, J. E., & Nnaji, C. E. (2022). Digital financial inclusion and mobile wallet adoption in Nigeria. *Journal of African Business and Economic Research, 18*(3), 112–127.

Okafor, L. N., & Umeh, J. K. (2022). Enhancing financial inclusion through digital literacy: Evidence from commercial banks in Sub-Saharan Africa. *Journal of Financial Services and Technology, 8*(4), 56–70.

Olalere, V. D., & Adesugb, A. K. (2022). The impact of agency banking on financial performance of listed deposit money banks in Nigeria. *Journal of Corporate Finance Management and Banking System, 2*(25), 14–24.

Olayinka, D., Iheanachor, N., & Umukoro, I. (2020). Sustainable business models for the creation of mobile financial services in Nigeria. *Journal of Innovation & Knowledge, 5*(2), 105–116. https://doi.org/10.1016/j.jik.2020.01.002

Olowe, R. A., & Adebayo, S. O. (2023). Customer relationship management and bank performance in Nigeria. *International Journal of Banking and Finance Studies, 11*(2), 45–58.

Olowokere, E. N., & Adedeji, A. O. (2023). Bank-customer relationship and provision of quality electronic banking services in Nigeria. *Journal of Law, Policy and Globalization, 132*(4), 55–66.

Olusanya, S. O., & Ume, C. U. (2024). The impact of digital banking on financial inclusion in Nigeria (2000–2022). *Gusau International Journal of Management and Social Sciences, 7*(3), 295–315.

Onuegbu, O. C., Agbamu, B. O., Anyakoha, B. U., & Anunike, O. W. (2025). Communication, awareness and acceptance of digital banking amidst cash crunch in Southeast and South-South Nigeria. *arXiv Preprint.* https://arxiv.org/abs/2504.10546

Oyeleye, O., et al. (2015). An investigation of the effects of customer educational attainment on their adoption of e-banking in Nigeria. *Journal of Internet Banking and Commerce.*

Patil, S., & Kumbhar, V. M. (2023). Security and trust in mobile wallet transactions: A review of emerging trends. *Journal of Financial Innovation and Technology, 6*(1), 1–12.

Reddit. (2024). Banks' productivity increased by 70% after ClearTrade by Cleareye.ai | Banking automation. https://www.reddit.com/r/u_BrainNo

Saidi, A. M. (2018). E-payment technology effect on bank performance in emerging economies: Evidence from Nigeria. *Journal of Open Innovation: Technology, Market, and Complexity, 4*(4). https://doi.org/10.3390/

Sajuyigbe, A. S., Obi, N. J., Oladapo, J. T., Adegun, E. A., & Adedoyin, A. R. (2025). Digital literacy as a mediator between digital finance adoption and financial inclusion among SMEs in Oyo State, Nigeria. *Southeast Asian Business Review, 3*(1).

The Guardian. (2025). High street banks lose £100bn in deposits as UK savers shift to online rivals. https://www.theguardian.com/business/

THEWILL. (2025). UBA leads as 10 banks haul N783.29bn in digital banking revenue. https://thewillnews.com/uba-leads-as-10-ba

Tolulope, O. O., & Olubukunmi, A. A. (2019). Electronic banking and profitability of deposit money banks in Nigeria. *International Journal of Multidisciplinary Research and Publications.*