

Mobile Banking Attributes and Rural Dwellers' Satisfaction in Cross River State, Nigeria

Prof. Nsobiari F. Awara¹, Dr Joseph A. Anyadighibe¹, Dr Mkpang A. Cobham¹, Dr Joy Samuel Akpan¹, Dr. Grace J. Pepple²

¹Department of Marketing, University of Calabar, Calabar, Nigeria

²Department of Business Management, University of Calabar, Calabar, Nigeria

Abstract

The study examined the effect of mobile banking attributes on rural dwellers' satisfaction in Cross River State, Nigeria. It specifically sought to determine the effects of mobile account management, mobile payment, mobile savings, mobile credit, and mobile customer support on rural dwellers' satisfaction. We adopted a cross-sectional survey research design. Primary data were obtained from 362 rural dwellers through a structured questionnaire. Proportionate stratified and purposive sampling techniques were applied. Descriptive statistics were employed to analyze and interpret the data obtained, while multiple linear regression analysis was used to test the null hypotheses. Findings revealed that all five mobile banking attributes (mobile account management, mobile payment, mobile savings, mobile credit, and mobile customer support) had significant positive effects on rural dwellers' satisfaction with financial services. We concluded that mobile banking plays a crucial role in enhancing service accessibility, reliability, and responsiveness, thereby improving satisfaction among rural users in Cross River State. Consequently, it was recommended that financial service providers expand and upgrade mobile account management features by improving app usability, ensuring offline transaction capabilities, and strengthening network reliability in rural areas. Among other recommendations, it was also recommended that financial services providers should enhance mobile payment systems by improving transaction speed, ensuring interoperability across different networks and banks, and strengthening security measures to prevent failed or fraudulent transactions.

Keywords: Mobile account management, mobile payment, mobile savings, mobile credit, mobile customer support, customer satisfaction

1. Introduction

The quest for sustainable rural banking in developing nations like Nigeria, remains paramount to rural dwellers' satisfaction, better financial inclusion, implementation of cashless policy and transactions. This seems to be difficult to achieve due to the absence of traditional brick-and-mortar system in rural areas of Nigeria like Cross River State. Some rural areas with physical bank branches are faced with long queues, restricted banking hours and inadequate coverage. These shortcomings create barriers to financial inclusion, particularly for rural dwellers who are excluded from accessing timely and convenient banking services (Adebayo & Ogunleye, 2025; Olatunji & Ayodele, 2025).

Also, customer satisfaction with conventional banks and its services in rural Nigeria, has long been undermined by limited or non-existence of banking infrastructure. These problems are compounded by broader specific factors such as insecurity, weak financial system, financial

exclusion and non-compliance to cashless policy by rural dwellers (Isibor *et al*, 2018; Siano *et al*, 2020, Etim *et al*, 2023, Bagudu, *et al*, 2025). As a result, rural dwellers often perceive brick-and-mortar system as inefficient and inconvenient, which not only discourages sustained use of banking services but also undermines the credibility of the financial system as a driver of rural development (Ene *et al*, 2019). It is in response to these challenges that mobile banking has been introduced by Nigerian banks as a means of improving customer (rural dwellers) satisfaction. Despite the potential of mobile banking to enhance financial inclusion, rural dwellers' adoption and satisfaction with mobile banking services, seems to remain low (Bagudu *et al.*, 2025; Aduba, 2021; Ijeoma *et al.*, 2020, 2018; Isibor *et al.*, 2018, Oteh *et al.*, 2017). The lack of understanding due to none or insufficient empirical clarity of the specific mobile banking attributes that influences or most strongly shapes rural dwellers' overall satisfaction, hinder the development of effective interventions and strategies to improve service delivery. The study aimed to investigate how mobile banking attributes (mobile account management, mobile payment, mobile savings, service mobile credit, mobile customer support) affect rural satisfaction, loyalty and referrals, in order to prioritize improvements that boost small-enterprise growth and household welfare in rural areas.

2. Literature review

2.1. Theoretical framework

This study is based on the technology determinism theory, propounded by Veblen (1914), further developed and popularized by McLuhan (1964). Technological determinism is a theory that suggests that technological development is the primary driver of societal change and that technology shapes human behaviour, culture, and social structures (Veblen, 1914). It posits that the progression and implementation of technological innovations determine the direction of society's development, influencing economic systems, political structures, and cultural norms.

In the context of this study, the relevance of the technological determinism theory lies in its assertion that technological innovations drive societal change and influence human behaviour. Mobile banking, as a key technological advancement, has the potential to reshape the quality of financial services experienced by rural dwellers in Nigeria by improving convenience, reliability, and efficiency, thereby influencing their overall satisfaction. The study's objectives focus on how mobile account management, payments, savings, credit, and customer support affect rural dwellers' satisfaction with financial services, which aligns with the theory's emphasis on technology as a driver of behavioural and attitudinal change.

2.2. Conceptual framework

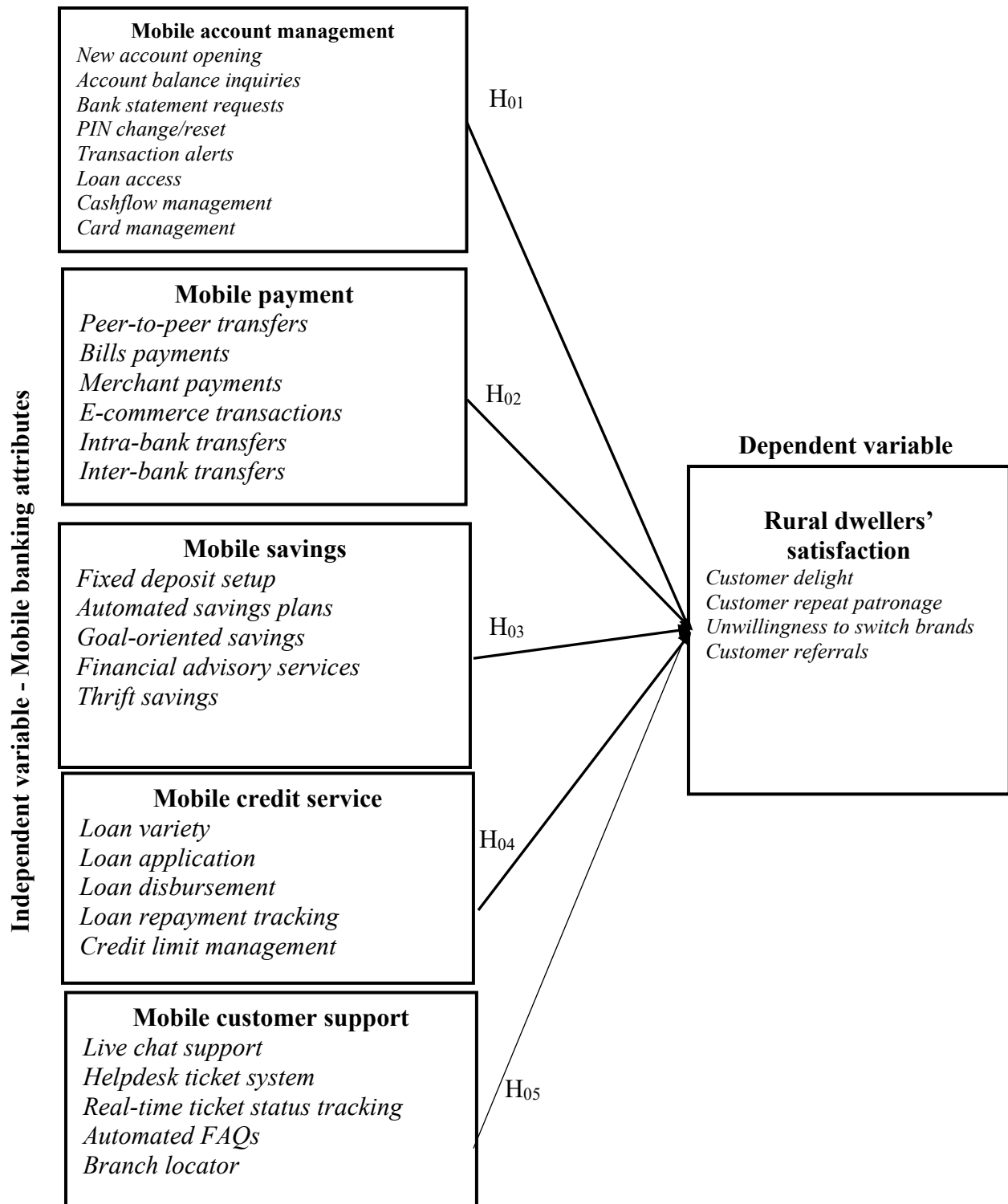


FIG. 1: Mobile banking attributes and rural dwellers satisfaction model

Source: Parameters of independent variables adapted from Nkosi and Mthethwa (2025); Mensah and Appiah (2023); Mwangi and Kamau (2022); Nakalembe and Kabanda (2021). Parameters of dependent variable adapted from Anyadighibe *et al.* (2022); Anyadighibe *et al.* (2023) and Okechukwu *et al.* (2025)

2.2.1. Mobile banking

Mobile banking entails to the provision of banking services through mobile devices such as smartphones and tablets, allowing users to perform financial transactions anytime and anywhere (Adeyemi & Obiora, 2018). It encompasses a range of activities traditionally associated with banking, including checking account balances, transferring funds between accounts, making bill payments, applying for loans, and accessing financial statements. Advanced mobile banking platforms also integrate features such as savings management, investment tracking, and mobile wallet functionalities.

2.2.2. Mobile account management and rural dwellers' satisfaction with financial services

Mobile account management refers to the ability of individuals to access, monitor, and control their financial accounts through mobile devices, and it plays a central role in shaping rural dwellers' satisfaction with financial services (Njoroge & Mwangi, 2019; Mlambo & Nkosi, 2020; Chikondi & Banda, 2022; Amankwah & Boateng, 2022 & Muthoni & Kamau, 2023). Mobile account management operations include: New account opening, account balance inquiries, bank statement requests, PIN change/reset, transaction alerts, loan access, cashflow management and card management.

Chikondi and Banda (2022) assert that long queues, distant bank branches and unreliable transport networks undermine rural dwellers' experience with formal banking. By offering user-friendly platforms that accommodate different literacy levels, the technology provides rural customers with not just access, but also ease of use and reliability, which are critical determinants of satisfaction. Mobile account management will provide rural customers, the availability of real-time notifications and features such as biometric authentication or budgeting tools that strengthens trust and confidence, enhancing overall satisfaction by ensuring security, transparency, and convenience in financial interactions.

This study underscore the relevance of mobile account management as a driver of satisfaction for rural dwellers by ensuring that financial services are not only accessible but also dependable, secure, and responsive to their expectations. Thus, this study hypothesizes that:

Ho: Mobile account management has no significant effect on rural dwellers' satisfaction with financial services.

2.2.3. Mobile payment and rural dwellers' satisfaction with financial services

Mobile payment involves the use of mobile devices such as smartphones or feature phones to perform financial transactions, and it constitutes a critical driver of rural dwellers' satisfaction with mobile banking services (Tsegaye, 2019). Mobile banking encompasses a range of activities including money transfers, bill payments, purchasing goods and services, and accessing financial services through mobile applications, USSD codes, or SMS-based systems. Also, it include peer-to-peer transfers, bills payments, merchant payments, e-commerce transactions, intra-bank transfers, and inter-bank transfers.

For rural communities where bank branches are scarce due to the high costs of physical expansion and harm robbery attacks, rural dwellers experience dissatisfaction to access services such as microloans and insurance, payment of bills. These lead to poor empowerment, increase

vulnerability to poverty, handling of large sum of money by individuals (Nkosi & Mthethwa, 2025; Kuthon & Maum, 2023; Mwangi and Kamau, 2022).

By leveraging on mobile payment, rural dwellers will eliminate many barriers associated with documentation and account opening in conventional banking, small-scale entrepreneurs and farmers in rural areas will have the ability to transact seamlessly and access credit. Also, mobile payment will enhance financial inclusion and cashless policy. This study will reveal that the success of mobile payment lies not only in accessibility but also in the ability to consistently meet or exceed rural dwellers' expectations, thereby fostering higher satisfaction with mobile banking solutions. Thus, this study conceptualizes that:

Ho: Mobile payment has no significant effect on rural dwellers' satisfaction with financial services.

2.2.4. Mobile savings and rural dwellers' satisfaction with financial services

Mobile savings refers to the ability of individuals to save money using mobile technology, particularly mobile phones, and it plays a central role in shaping rural dwellers' satisfaction with mobile banking services (Mbete & Ndung'u, 2017). It involves the use of mobile banking platforms and digital wallets to securely store funds, often with the added benefit of earning interest or other incentives. The activities under its spectrum typically include opening savings accounts through mobile platforms, depositing and withdrawing funds via mobile money services, setting savings goals, automating periodic savings, and accessing financial literacy tools (Mlambo & Nkosi, 2020). Mobile savings operations include: Fixed deposit setup, automated savings plans, goal-oriented savings, financial advisory services and thrift savings.

Most rural dwellers who are excluded from formal banking systems due to geographic, economic, or infrastructural barriers, mobile savings will generate satisfaction by eliminating the stress associated with long travel distances, high banking costs, and complex paperwork. Secondly, mobile saving will enable rural dwellers to save money from the comfort of their homes or businesses. It will provide 24/7 access to financial services and reassure individuals that their money is safe, thereby strengthening their confidence and satisfaction. This study will show that the true value of mobile savings lies in its ability to create sustained satisfaction among rural dwellers, reinforcing its role as a cornerstone of mobile banking. Thus, the study hypothesizes that: Ho: Mobile savings have no significant effect on rural dwellers' satisfaction with financial services.

2.2.5. Mobile credit service and rural dwellers' satisfaction with financial services

Mobile credit service is the provision of small-scale, short-term credit facilities through mobile platforms, particularly mobile phones, without requiring traditional collateral or physical banking infrastructure, and its value lies in the satisfaction rural dwellers derive from its speed, convenience, and reliability (Opoku & Adjei, 2021; Abubakar & Bello, 2021; Koomson *et al.*, 2023; Afolabi & Olorunfemi, 2023; Nkosi and Mthethwa, 2025). Mobile credit service is a mobile-enabled system that provides rural users with access to short-term loans or credit facilities through fintech providers. Mobile credit service include the following: loan variety, loan application, loan disbursement, loan repayment tracking and credit limit management.

Traditional banking systems is characterized with bureaucratic bottlenecks and documentary requirements for financial service operations (Anyadighibe, Awara & Esu, 2022; Awara,

Anyadighibe & Bassey, 2022). For rural dwellers, mobile credit will create satisfaction by delivering accessible, real-time credit to underserved populations who are otherwise excluded from banking services. Also, many rural dwellers, who lack proper documentation or collateral, will find fulfilment in being able to access credit with minimal barriers, often through a simple mobile code. The true contribution of mobile credit service will not only lie in financial access but also in the satisfaction it generates by meeting rural dwellers' expectations of trust, speed, and empowerment. Thus, this study hypothesizes that:

Ho: Mobile credit service has no significant effect on rural dwellers' satisfaction with financial services.

2.2.6. Mobile customer support and rural dwellers' satisfaction with financial services

Mobile customer support encompasses a range of support activities, including resolving transaction issues, account inquiries, technical assistance, and facilitating access to financial products through mobile devices. Also, mobile customer support includes: Live chat support, helpdesk ticket system, real-time ticket status tracking, automated FAQs and branch locator.

In rural communities where physical bank branches are not present, many rural dwellers experience dissatisfactions owing to inability of bringing financial services to their fingertips, no access help for transactions, clarifications, and resolving complaints without the stress of visiting a bank branch.

Mobile banking with the integration of chatbots and AI-powered virtual assistants into mobile apps will offer 24/7 support that delivers quick responses, help customers resolve routine issues without delay. Such availability will give users peace of mind, reinforcing satisfaction through reliability and continuous access to service. With timely and dependable support, rural dwellers are more likely to complete transactions, adopt additional services such as savings or credit, and develop confidence in their ability to manage financial activities independently. This study will reveal that mobile customer support is not only an access tool but a crucial determinant of satisfaction, anchoring users' confidence in mobile banking systems. Thus, this study conceptualizes that:

Ho: Mobile customer support has no significant effect on rural dwellers' satisfaction with financial services.

2.2.7. Rural dwellers' satisfaction with financial services

A rural community is a geographically localised settlement characterised by low population density, limited infrastructure, and an economy largely dependent on agriculture or informal economic activities (Okoro & Danjuma, 2022). A rural dweller, therefore, refers to an individual who resides in such a community and whose livelihood and daily experiences are shaped by the unique socio-economic and environmental conditions of rural life (Mensah & Boateng, 2023). Customer satisfaction in this context refers to the degree to which rural dwellers feel content and fulfilled when mobile banking services meet or exceed their expectations (Eze & Ibrahim, 2021). Satisfaction in this context goes beyond mere access to services; it involves the degree to which rural customers experience convenience, trust, and value in their interactions with both traditional and digital financial platforms. Factors shaping satisfaction include the relevance of tailored financial products, the ease of using digital platforms, the quality of customer support, and the

effectiveness of banking infrastructure in meeting the unique realities of rural communities (Afolabi & Olorunfemi, 2023).

In Nigeria and other African countries with large rural populations, the satisfaction of rural dwellers with financial services is particularly important because it determines the extent to which financial inclusion translates into meaningful economic empowerment (Oladele & Adeniran, 2022). When rural customers perceive financial services as meeting their expectations, they are more likely to save, invest in agriculture or small businesses, and participate actively in trade and commerce, which in turn strengthens local economies (Abubakar & Bello, 2021). Conversely, when dissatisfaction arises due to poor service quality, limited financial literacy, or infrastructural deficits, rural customers often resort to informal financial systems, undermining the goals of formal financial inclusion. Recognising this, government and financial institutions have implemented initiatives such as the Central Bank of Nigeria's National Financial Inclusion Strategy, which aims to reduce financial exclusion by providing mobile banking agents, microfinance services, and digital platforms designed to reach underserved communities (Yusuf & Akinyele, 2021).

Programmes like the Anchor Borrowers' Programme and the introduction of the Bank Verification Number (BVN) were also intended to enhance trust, security, and satisfaction among rural users (Ogunyemi & Adebayo, 2020). Similarly, partnerships between commercial banks and FinTech companies have sought to improve customer experience by offering user-friendly mobile and agent banking services (Ojo & Obasan, 2019). However, several challenges continue to undermine rural dwellers' satisfaction. These include infrastructural deficits such as poor road networks and unstable electricity, which limit the efficiency of physical banking outlets (Adegbite & Alabi, 2018), as well as low digital literacy and limited access to affordable internet or mobile devices, which hinder the effective use of mobile banking services (Etim *et al.*, 2023). Furthermore, low levels of trust in financial institutions, fuelled by past experiences of fraud or misinformation, further discourage satisfaction and loyalty among rural users (Ene *et al.*, 2019).

3.1 Research methodology

The study adopted a cross-sectional survey research design, which involved collecting data at a single point in time to analyze relationships or patterns within the target population. This design was chosen because it allowed for the efficient collection and analysis of primary data from a large sample within a limited timeframe, providing a snapshot of the key variables under investigation. The study is conducted in Cross River State, located in South South Nigeria. Cross River State is renowned for its rich cultural heritage and vibrant tourism sector.

The target population for this study, consisted of all rural dwellers residing within the 18 Local Government Areas (LGAs) of Cross River State, Nigeria who use mobile banking services. The population was deemed appropriate because the study aimed to examine and predict the satisfaction of rural residents who perform financial transactions with mobile banking in rural communities. The exact population of 'core rural dwellers' is unknown due to absence of official published data and constrained with the absence of National and State population Census, as most recent nationwide population Census was conducted in 2006. However, there are clusters of rural dwellers in all the 18 Local Government Areas. In view of this limitation, the study adopted estimates from a joint statistical report by the National Population Commission (NPC) and the National Bureau of Statistics (NBS), which projected the total population of Cross River State at 4,406,200 as of 2022.

TABLE 1
Population of the study

SN	LGAs	Population figure
1	Abi	219,800
2	Akamkpa	228,000
3	Akpabuyo	414,700
4	Bakassi	48,200
5	Bekwara	160,700
6	Biase	256,000
7	Boki	284,200
8	Calabar Municipality	279,800
9	Calabar South	291,700
10	Etung	121,900
11	Ikom	249,300
12	Obanliku	167,000
13	Obubra	262,800
14	Obudu	245,900
15	Odukpani	293,800
16	Ogoja	261,300
17	Yakurr	298,900
18	Yala	322,200
		4,406,200

Source: National Population Commission of Nigeria; National Bureau of Statistics (2022). *States and Local Government Areas – population statistics, charts and map.* In City Population. <https://www.citypopulation.de/en/nigeria/admin/>

Given that the study population of rural dwellers of which is numerically infinite, the researcher applied the Topman statistical procedure to determine the sample size for the study. The researcher conducted a pilot study by interviewing a random selection of 50 respondents from the University of Calabar student community who are active users of mobile banking services. Out of 50 respondents surveyed, 26 representing 52% said that they are active users while 24 representing 48% said they are not active users of mobile banking services. From the result of the pilot study, the probability of positive responses (p) was 0.52 while probability of negative responses (q) was 0.48.

By simple substitution, the Topman formula was applied thus:

$$n = \frac{1.96^2 (0.52 \times 0.48)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.2496}{0.0025}$$

$$n = \frac{0.95886336}{0.0025}$$

$$n = 383.5$$

$$n = 384 \text{ rural dwellers}$$

The sampling technique adopted in this study was the Proportionate Stratified sampling technique which involved dividing the projected total population of study within the 18 LGAs into 18 distinct strata based on shared characteristic relevant to the research objectives. From each stratum, a sample was drawn such that the size of the sample from each stratum was proportional to the size of that stratum, relative to the total population. This method ensured that each subgroup was adequately represented in the final sample, enhancing representations and accuracy of the study findings.

This sampling technique was deemed suitable for the study because the population of study comprised 18 LGAs with varying and distinct strata; hence, it ensured that each subgroup was represented in the sample in proportion to its actual size in the population to minimize sampling bias, enhancing the generalizability of the study results. Meaning that larger strata got proportionally larger sample sizes.

Sample sizes for each stratum were determined using Neyman allocation which allocates samples proportionally to the product of each stratum's population size (See Table 2).

Neyman sampling proportion allocation formula:

$$n_h = \frac{N_h}{N} \times n$$

Where

n_h	=	sample size for stratum h
N_h	=	population size of stratum h
N	=	total population size (4,406,200)
n	=	total study sample size (384)

Table 2
NEYMAN sampling size proportion allocation

S/N	LGAs	Population per LGA	Computation	Sample per LGA
1	Abi	219,800	$\frac{219,800}{4,406,200} \times 384$	$19.15 \cong 19$
2	Akamkpa	228,000	$\frac{228,000}{4,406,200} \times 384$	$19.87 \cong 20$
3	Akpabuyo	414,700	$\frac{414,700}{4,406,200} \times 384$	$36.14 \cong 36$
4	Bakassi	48,200	$\frac{48,200}{4,406,200} \times 384$	$4.20 \cong 4$
5	Bekwarra	160,700	$\frac{160,700}{4,406,200} \times 384$	$14.00 \cong 14$
6	Biase	256,000	$\frac{256,000}{4,406,200} \times 384$	$22.31 \cong 22$
7	Boki	284,200	$\frac{284,200}{4,406,200} \times 384$	$24.76 \cong 25$
8	Calabar Municipality	279,800	$\frac{279,800}{4,406,200} \times 384$	$24.38 \cong 24$
9	Calabar South	291,700	$\frac{291,700}{4,406,200} \times 384$	$25.42 \cong 25$
10	Etung	121,900	$\frac{121,900}{4,406,200} \times 384$	$10.62 \cong 11$
11	Ikom	249,300	$\frac{249,300}{4,406,200} \times 384$	$21.72 \cong 22$
12	Obanliku	167,000	$\frac{167,000}{4,406,200} \times 384$	$14.55 \cong 15$
13	Obubra	262,800	$\frac{262,800}{4,406,200} \times 384$	$22.90 \cong 23$
14	Obudu	245,900	$\frac{245,900}{4,406,200} \times 384$	$21.43 \cong 21$
15	Odukpani	293,800	$\frac{293,800}{4,406,200} \times 384$	$25.60 \cong 26$
16	Ogoja	261,300	$\frac{261,300}{4,406,200} \times 384$	$22.77 \cong 23$
17	Yakurr	298,900	$\frac{298,900}{4,406,200} \times 384$	$26.04 \cong 26$
18	Yala	322,200	$\frac{322,200}{4,406,200} \times 384$	$28.07 \cong 28$
		4,406,200		384

Source: Researcher's computation (2025)

Having established the target sample for each LGA (stratum), purposive sampling was applied to select respondents appropriately from each LGA with core rural elements and applying sole inclusion criterion that they were actual users of mobile banking services. This implies that the researcher selected respondents in each of the LGAs who were confirmed through verbal inquiry to be actual users of mobile banking services. As such, respondents who were identified as non-users of mobile banking services were deliberately excluded from the survey. This study was based on primary data obtained from rural dwellers in Cross River State with the aid of a research questionnaire. This was a 5-Point Likert scale questionnaire with pre-determined set of responses for participants to complete. The questionnaire itself comprised two sections: Section A (which obtained respondents' demographic information: age, gender, and marital status); and Section B (which contained statements built on the variables of the study: mobile account

management, mobile payment, mobile savings, mobile credit, mobile customer support and rural dwellers' satisfaction). The variable 'mobile account management' was measured by statements 1-8; 'mobile payment' was measured by statements 9-14; 'mobile savings' was measured by statements 15-19; mobile credit service was measured by statements 20-24; mobile customer support was measured by statements 25-29; while 'rural dwellers' satisfaction' is measured by statements 30-33.

TABLE 3
Variables, parameters and empirical sources

SN	Variables	Parameters	Empirical sources
1	<i>Mobile account management</i>	<i>New account opening; Account balance inquiries; Bank statement requests; PIN change/reset; Transaction alerts; Loan access; Cashflow management; Card management</i>	Nkosi and Mthethwa (2025); Mensah and Appiah (2023)
2	<i>Mobile payment</i>	<i>Peer-to-peer transfers; Bills payments; Merchant payments; E-commerce transactions; Intra-bank transfers; Inter-bank transfers</i>	Mwangi and Kamau (2022)
3	<i>Mobile savings</i>	<i>Fixed deposit setup; Automated savings plans; Goal-oriented savings; Financial advisory services; Thrift savings</i>	Mensah and Appiah (2023)
4	<i>Mobile credit service</i>	<i>Loan variety; Loan application; Loan disbursement; Loan repayment tracking; Credit limit management</i>	Nakalembe and Kabanda (2021)
5	<i>Mobile customer support</i>	<i>Live chat support; Helpdesk ticket system; Real-time ticket status tracking; Automated FAQs; Branch locator</i>	Nkosi and Mthethwa (2025)
6	<i>Rural dwellers' satisfaction</i>	<i>Customer delight Customer repeat patronage Unwillingness to switch brands</i>	Anyadighibe <i>et al.</i> (2022); Anyadighibe <i>et al.</i> (2023) Okechukwu <i>et al.</i> (2025)

Source: Researcher's compilation through empirical review (2025)

A sample size of 324 was used for the study after the questionnaire were finally filled and returned by respondents. The study used descriptive statistics to analyze and interpret primary data obtained from respondents during the questionnaire survey. To generate findings for the study, the null hypotheses developed for the study were tested statistically using multiple linear regression in the Statistical Package for the Social Sciences (SPSS 26).

4. Result and discussion of findings

4.1 Result

Table 4

Model summary of the effect of mobile banking attributes on rural dwellers' satisfaction with financial services

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.525 ^a	.275	.265	.44806

a. Predictors: (Constant), Mobile account management, mobile payment, mobile savings, mobile credit service, and mobile customer support

b. Dependent Variable: Rural dwellers' satisfaction

Source: Researcher's analysis via SPSS (2025)

Table 5

ANOVA^a of the effect of mobile banking attributes on rural dwellers' satisfaction with financial services in Cross River State, Nigeria

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.169	5	5.434	27.066	.000 ^b
	Residual	71.470	356	.201		
	Total	98.639	361			

a. Dependent Variable: Rural dwellers' satisfaction

b. Predictors: (Constant), Mobile account management, mobile payment, mobile savings, mobile credit service, and mobile customer support

Source: Researcher's analysis via SPSS (2025)

Table 6

Coefficients^a of the effect of mobile banking attributes on rural dwellers' satisfaction with financial services

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	1.711	.155		11.051	.000
	Mobile account management	.280	.050	.498	5.635	.000
	Mobile payment	.163	.052	.763	3.134	.002
	Mobile savings	.181	.046	.321	3.919	.000
	Mobile credit service	.656	.083	.719	7.930	.000
	Mobile customer support	.134	.089	.696	6.503	.000

a. Dependent Variable: Rural dwellers' satisfaction

Source: Researcher's analysis via SPSS (2025).

Tables 4, 5, and 6 present the multiple regression results on the effect of mobile banking attributes on rural dwellers' satisfaction with financial services. Table 14 shows that the correlation coefficient (R) is 0.525, indicating a moderate positive relationship between the predictor variables (mobile account management, mobile payment, mobile savings, mobile credit service, and mobile customer support) and rural dwellers' satisfaction. The R^2 value of 0.275 implies that approximately 27.5 percent of the variation in rural dwellers' satisfaction can be explained by the combined influence of the five predictors. Also, Table 15 presents the ANOVA results, where the F-statistic is 27.066 with a significance level of 0.000. This indicates that the overall regression model is statistically significant, meaning that, collectively, the five mobile banking attributes have a meaningful effect on rural dwellers' satisfaction with financial services.

Table 6 provides further insight into the individual contributions of each predictor. All five predictor variables show positive coefficients, indicating that each contributes positively to rural dwellers' satisfaction. Among the predictors, mobile payment has the highest standardized beta value ($\beta = 0.763$, $p = 0.002$), making it the strongest predictor of rural dwellers' satisfaction. This is followed by mobile credit service ($\beta = 0.719$, $p = 0.000$), mobile customer support ($\beta = 0.696$, $p = 0.000$), mobile account management ($\beta = 0.498$, $p = 0.000$), and mobile savings ($\beta = 0.321$, $p = 0.000$). Since all p-values are below the 0.05 significance level, the null hypotheses H_{01} , H_{02} , H_{03} , H_{04} , and H_{05} are all rejected. This confirms that mobile account management, mobile payment, mobile savings, mobile credit service, and mobile customer support each have a statistically significant and positive effect on rural dwellers' satisfaction with financial services.

4.2. Discussion of findings

4.2.1. Mobile account management and rural dwellers' satisfaction

The test of hypothesis one revealed that mobile account management had a significant positive effect on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. This finding is backed by prior empirical studies. Mensah and Appiah (2023) found that mobile account management significantly enhanced customers' satisfaction with financial services in Ghana, while Nakalembe and Kabanda (2021) revealed a positive relationship between mobile account management and customer satisfaction in Uganda, despite challenges such as network disruptions and limited digital literacy. This finding entails that effective mobile account management features play a crucial role in shaping rural dwellers' overall satisfaction with financial services. Thus, the observed satisfaction among rural dwellers reflects how technological progress in mobile account management is enhancing financial inclusion and supporting the broader process of socio-economic modernization in Cross River State.

4.2.2. Mobile payment and rural dwellers' satisfaction

The test of hypothesis two revealed that mobile payment had a significant positive effect on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. This finding is backed by prior empirical studies. For instance, Nkosi and Mthethwa (2025) revealed that mobile payment significantly improved satisfaction among rural users in South Africa by making financial services more reliable and user-friendly. Similarly, Mwangi and Kamau (2022) found that mobile payment positively affected satisfaction levels of smallholder farmers in Kenya by providing

convenient, secure, and affordable access to financial services. This entails that mobile payment services are a key driver of rural dwellers' satisfaction with financial services. For rural users, this means that the ability to conveniently transfer funds, pay bills, and conduct transactions through mobile platforms enhances their daily financial activities, making banking faster and more efficient. It underscores the growing reliance on digital payment solutions as a practical means of overcoming geographical and infrastructural barriers to financial access. For mobile banking service providers, this finding shows that seamless and secure mobile payment functions significantly shape users' overall satisfaction and their perception of service effectiveness in rural communities.

4.2.3. Mobile savings and rural dwellers' satisfaction

The test of hypothesis three revealed that mobile savings had a significant positive effect on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. This finding is supported by the study of Mensah and Appiah (2023), which revealed that mobile savings significantly enhanced customer satisfaction in rural communities in Ghana by providing reliable and user-friendly saving options. Similarly, Gebremeskel and Yilma (2020) found that mobile savings had a significant positive effect on rural customers' satisfaction in Ethiopia by improving their sense of financial stability and control. This entails that mobile savings services play an important role in enhancing rural dwellers' satisfaction with financial services. For rural users, this suggests that the ability to save conveniently through mobile platforms (such as setting up fixed deposits, automating savings, or setting aside funds for future projects) supports better financial planning and security.

4.2.4. Mobile credit service and rural dwellers' satisfaction

The test of hypothesis four revealed that mobile credit service had a significant positive effect on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. This finding is backed by the study of Nkosi and Mthethwa (2025), which revealed that mobile credit services significantly improved rural customer satisfaction by providing responsive and reliable access to credit in South Africa. Similarly, Mwangi and Kamau (2022) found that mobile credit services had a significant positive effect on customer satisfaction among smallholder farmers in Kenya, as borrowers expressed contentment with the flexibility and promptness of the service. For rural users, this indicates that access to loan options, ease of application, quick disbursement, and the ability to monitor repayment through mobile platforms enhance their financial flexibility and responsiveness to urgent needs. It demonstrates how digital credit services can bridge the gap created by limited physical banking infrastructure, enabling rural communities to participate more actively in economic activities. For mobile banking service providers, this finding shows that efficient and transparent credit services delivered through mobile platforms are a key factor shaping customers' overall satisfaction and trust in financial institutions.

4.2.5. Mobile customer support and rural dwellers' satisfaction

The test of hypothesis five revealed that mobile customer support had a significant positive effect on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. This finding is backed by the study of Mensah and Appiah (2023), which revealed that mobile customer support had a significant positive effect on rural customers' satisfaction in Ghana by reducing delays and improving trust in mobile banking. Similarly, Nakalembe and Kabanda (2021) found that mobile customer support significantly improved satisfaction among rural customers in

Uganda, even though issues such as poor network connectivity and low digital literacy sometimes moderated the experience. This entails that mobile customer support services play a vital role in determining rural dwellers' satisfaction with financial services. For rural users, this means that access to features such as live chat, helpdesk ticketing, FAQs, and branch locators through mobile platforms enhances their ability to resolve issues promptly and receive necessary assistance without visiting physical branches. It highlights how responsive and accessible support systems contribute to users' confidence and comfort in using mobile banking services. For mobile banking service providers, this finding indicates that the quality and effectiveness of mobile-based customer support are integral to shaping positive user experiences and sustaining customer satisfaction in rural communities.

5.1 Conclusion

This study investigated the influence of mobile banking attributes on rural dwellers' satisfaction with financial services in Cross River State, Nigeria. The study focused on five mobile banking attributes (mobile account management, mobile payment, mobile savings, mobile credit, and mobile customer support) to address existing gaps in empirical evidence within the state. The findings showed that all five mobile banking attributes have significant positive effects on rural dwellers' satisfaction. Specifically, mobile account management enhanced convenience; mobile payment improved transaction speed; mobile savings supported financial management; mobile credit increased financial access; and mobile customer support strengthened service responsiveness. These results imply that mobile banking plays a transformative role in improving the quality and accessibility of financial services for rural populations. By enhancing convenience, reliability, and responsiveness, mobile banking fosters trust and satisfaction among rural customers. Hence, the study established that mobile banking attributes significantly influence rural dwellers' satisfaction with financial services, highlighting their strategic importance for strengthening rural financial inclusion and service delivery in Cross River State.

5.2 Recommendations

1. It is important for financial services providers to expand and upgrade mobile account management features by improving app usability, ensuring offline transaction capabilities, and strengthening network reliability in rural areas. This will enhance rural dwellers' satisfaction by making account access faster, more dependable, and user-friendly even in low-connectivity environments, thereby reducing frustration, saving time, and increasing trust in mobile banking services.
2. Financial services providers should enhance mobile payment systems by improving transaction speed, ensuring interoperability across different networks and banks, and strengthening security measures to prevent failed or fraudulent transactions. This will boost rural dwellers' satisfaction by enabling seamless, safe, and convenient financial transactions that build confidence in digital payments and reduce the stress of handling cash or travelling long distances to make payments.
3. Financial services providers should strengthen mobile savings platforms by introducing flexible savings options, automated savings features, and attractive interest incentives tailored to rural users' income patterns. This will improve rural dwellers' satisfaction by encouraging consistent savings habits, increasing financial security, and providing tangible rewards that motivate long-term engagement with formal financial systems.

4. It is critical for financial services providers to enhance mobile credit services by simplifying loan application procedures, offering flexible repayment plans, and using data-driven assessments to extend credit access to low-income rural users. This will improve rural dwellers' satisfaction by making credit facilities more accessible, reducing delays and rejections, and empowering them to meet personal and business financial needs conveniently through mobile platforms.
5. There is need for financial services providers to strengthen mobile customer support by introducing local dialect help centres, real-time chat assistance, and 24-hour response systems tailored to rural users' needs. This will enhance rural dwellers' satisfaction by ensuring prompt problem resolution, improving communication with service providers, and fostering greater trust and confidence in mobile banking services.

REFERENCES

- Abubakar, M. S., & Bello, A. T. (2021). Mobile banking adoption among Nigerian rural farmers: Opportunities and challenges. *Journal of Agricultural Economics and Development*, 9(3), 110-123.
- Adebayo, O. T., & Ogunleye, F. K. (2025). Digital disruption in Nigeria's banking sector: From traditional branches to mobile platforms. *Journal of African Banking Studies*, 19(1), 34–50. <https://doi.org/10.1080/JABS.2025.101>
- Adegbite, A. A., & Alabi, J. O. (2018). Financial inclusion and rural economic development in Nigeria: The role of microfinance banks. *Journal of Economic Policy Research*, 22(1), 45-62.
- Adeyemi, A. T., & Obiora, K. M. (2018). Mobile banking as a tool for financial inclusion in rural Nigeria. *Journal of African Financial Studies*, 12(3), 45–62. <https://doi.org/10.12345/jafs.2018.1203>
- Aduba, J. J. (2021). On the determinants, gains and challenges of electronic banking adoption in Nigeria. *International Journal of Social Economics*, 48(7), 1021-1043.
- Afolabi, B. K., & Olorunfemi, F. A. (2023). Digital financial services and rural empowerment in Nigeria: A case study. *Nigerian Journal of Economic Studies*, 18(1), 22-37.
- Amankwah, A., & Boateng, Y. (2022). The role of mobile financial services in improving access to education funding in Ghana. *African Journal of Development Economics*, 10(4), 123–140.
- Ambe, B., Imoke, M. M., & Oba, D. D. (2018). Determinants of rural settlement patterns and impacts on the environment of some settlements of Cross River State, Nigeria. *Journal of Environmental and Tourism Education*, 1(1), 1-15.
- Anyadighibe, J. A., Awara, N. F., & Esu, B. B. (2022). Service quality automation and customer satisfaction of deposit money banks. *Nigerian Academy of Management Journal*, 17(2), 164-174.

- Anyadighibe, J. A., Festus, F., James, E. E., Awara, N., Ekarika, W. A., & Omengbeoji, C. C. (2023). Quality management and customer satisfaction in the financial services sector. *Uniben Journal of Management*, 2(1), 61-89.
- Awara, N. F., Anyadighibe, J. A. & Bassey, F. O. (2022). Service quality and customer satisfaction of banking services in Nigeria. *African Journal of Business and Economic Research*, 17(4), 261-281.
- Bagudu, H. D., Mohd Khan, S. J., & Roslan, A. H. (2025). The effect of mobile banking on the performance of commercial banks in Nigeria. *International Research Journal of Management, IT & Social Sciences*, 4(2), 71-76.
<http://ijcu.us/online/journal/index.php/irjmis>
- Bassey, S. I., Eteng, S., & Ewah, E. F. (2022). Assessment of rural transportation in Abi Local Government Area, Cross River State, Nigeria. *Global Sustainability Research*, 1(2), 30–41. <https://doi.org/10.56556/gssr.v1i2.367>
- Chikondi, Z., & Banda, M. T. (2022). The impact of mobile money adoption on rural livelihoods in Malawi. *African Review of Financial Inclusion*, 6(2), 88–104.
- Ene, E. E., Abba, G. O., & Fatokun, G. F. (2019). The impact of electronic banking on financial inclusion in Nigeria. *American Journal of Industrial and Business Management*, 9(6), 1409-1422. <https://doi.org/10.4236/ajibm.2019.96092>
- Etim, G. S., Ada, J. A., Eyo, I. E., Ndem, S. E., & James, E. E. (2023). Electronic banking and customers' access to banking services in rural settlements. *Resmilitaris*, 13(3), 1161-1177.
- Eze, C. O., & Ibrahim, M. T. (2021). *Mobile banking and customer satisfaction among rural populations in developing economies*. *Journal of Financial Services Research*, 29(3), 112–128. <https://doi.org/10.1080/jfsr.2021.293>
- Gebremeskel, T. D., & Yilma, A. B. (2020). Mobile banking and its impact on rural financial access in Ethiopia: A policy perspective. *Journal of African Financial Inclusion*, 8(1), 54-72.
- Ijeoma, C., Akujor, J. C., & Mbah, J. C. (2020). Electronic banking and customer satisfaction in Imo State: A study of selected commercial banks in Imo State. *European Journal of Business and Management Research*, 5(6), 110-128.
<https://doi.org/10.24018/ejbmr.2020.5.6.607>
- Isibor, A. A., Omankhanlen, A. E., Okoye, L. U., Achugamonu, B. U., Adebayo, M. E., Afolabi, G. T., & Ayodeji, O. E. (2018). Impact of electronic banking technology on customers satisfaction and economic growth in Nigeria. *International Journal of Civil Engineering and Technology*, 9(12), 536-544.

- Koomson, I., Martey, E., & Etwire, P. M. (2023). Mobile money and entrepreneurship in East Africa: The mediating roles of digital savings and access to digital credit. *Information Technology & People*, 36(3), 996-1019.
- Kuthon, P. N., & Maum, J. W. (2023). Challenges and opportunities in mobile payment adoption in African agriculture. *African Economic Development Review*, 30(2), 112-129.
- Mbete, T. K., & Ndung'u, P. M. (2017). Mobile financial services and economic development: Evidence from Tanzania. *Journal of African Economic Transformation*, 19(3), 135-150.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. McGraw-Hill.
- Mensah, A. B., & Appiah, K. O. (2023). Mobile banking adoption and its impact on access to financial services in rural Ghana. *African Journal of Banking and Finance*, 15(2), 112-130.
- Mensah, K., & Boateng, L. A. (2023). *Understanding rural livelihoods and the dynamics of rural dwellers in West Africa*. *International Journal of Community and Regional Development*, 12(1), 77–93. <https://doi.org/10.5465/ijcrd.2023.1201>
- Mlambo, T., & Nkosi, B. S. (2020). Bridging the gap: Mobile banking solutions for underserved communities in South Africa. *Southern African Journal of Banking and Finance*, 15(1), 101–120. <https://doi.org/10.12345/sajbf.2020.1501>
- Muthoni, E. W., & Kamau, L. W. (2023). A critical analysis of mobile banking and gender equality in rural Kenya. *East African Journal of Social Studies*, 11(1), 66–81. <https://doi.org/10.12345/eajss.2023.1101>
- Mwangi, L. W., & Kamau, J. M. (2022). Mobile banking innovations and access to financial services in rural Kenya: A case study of smallholder farmers. *East African Financial Review*, 14(3), 77-95.
- Nakalembe, J. P., & Kabanda, S. (2021). Enhancing financial inclusion through mobile banking in rural Uganda: Challenges and prospects. *Journal of Digital Finance in Africa*, 9(1), 45-67.
- National Bureau of Statistics (2022). *States and Local Government Areas – population statistics, charts and map*. In City Population. <https://www.citypopulation.de/en/nigeria/admin/>
- National Population Commission of Nigeria (2022). *States and Local Government Areas – population statistics, charts and map*. In City Population. <https://www.citypopulation.de/en/nigeria/admin/>
- Njoroge, J. W., & Mwangi, P. K. (2019). Examining the role of mobile money in fostering economic resilience in Kenyan rural areas. *African Journal of Economic Development*, 8(2), 78–95. <https://doi.org/10.12345/ajed.2019.0802>

- Nkosi, T., & Mthethwa, Z. (2019). The role of mobile banking in promoting financial inclusion in South Africa's rural communities. *South African Journal of Economic Studies*, 12(4), 298-315.
- Ogunyemi, S. T., & Adebayo, L. A. (2020). Bridging the financial gap: The impact of digital banking on rural communities in Nigeria. *Nigerian Journal of Economic Development*, 15(2), 89-102.
- Ojo, T. F., & Obasan, K. A. (2019). Mobile banking and financial accessibility among rural dwellers in Nigeria. *African Journal of Banking and Finance*, 11(3), 150-165.
- Okechukwu, E. M., Chike, N. K., & Maureen, N. O. C. (2025). Relationship between Electronic Banking and Customer Satisfaction: Evidence from Enugu, Nigeria. *Innovation Business Management and Accounting Journal*, 4(2), 231-239.
- Okoro, F. J., & Danjuma, A. S. (2022). *Rural communities and socio-economic development in Sub-Saharan Africa: A contextual analysis*. *Journal of Rural Studies and Development*, 18(2), 45–59. <https://doi.org/10.1080/27189321.2022.01802>
- Oladele, A. O., & Adeniran, A. O. (2022). Evaluating the effectiveness of mobile banking for rural communities in Nigeria. *African Journal of Financial Inclusion*, 12(2), 95-108. <https://doi.org/10.5678/ajfi.v12i2.345>
- Olatunji, A. M., & Ayodele, S. O. (2025). Overcoming the limitations of brick-and-mortar banking through mobile innovation in Nigeria. *International Journal of Financial Technology and Development*, 11(2), 77–92. <https://doi.org/10.1080/IJFTD.2025.205>
- Opoku, G. A., & Adjei, P. A. (2021). Financial inclusion through mobile platforms: Insights from Ghanaian SMEs. *West African Journal of Business Research*, 9(4), 37–55. <https://doi.org/10.12345/wajbr.2021.0904>
- Oteh, O. U., Ibok, I. N., & Nto, C. P. (2017). Adoption and usage of e-banking channels in Nigeria: Implication for deepening financial inclusion. *International Business and Management Journal*, 14(3), 1-8.
- 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>
- Tsegaye, B. A. (2019). The role of mobile payments in enhancing financial inclusion in East Africa. *Journal of African Financial Studies*, 15(3), 245-263. <https://doi.org/10.1234/jafs.2019.045>
- Veblen, T. (1914). *The instinct of workmanship and the state of the industrial arts*. Macmillan.
- Yusuf, O. A., & Akinyele, R. O. (2021). The rise of mobile wallets in Nigeria: Implications for financial inclusion in rural areas. *Journal of Mobile Banking Research*, 8(1), 33-49.