Commercial Bank Transaction Charges and Financial Inclusion in Nigeria: Evidence from Customers' Behavioural Perspectives.

Abstract

Purpose: Purpose: Financial inclusion has become a major policy priority in Nigeria because of its potential to promote inclusive economic growth and improve access to formal financial services. However, the persistent use of commercial bank transaction charges and the limited understanding of how behavioural factors shape customers' financial participation have continued to raise concerns among policymakers and researchers. This study examined the effect of commercial bank transaction charges on financial inclusion from the customers' perspective. Specifically, it investigated how commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour influence financial inclusion.

Methodology: The study adopted a quantitative cross-sectional survey research design. Primary data were collected through structured questionnaires administered to 540 commercial bank customers across Nigeria. The data were analysed using descriptive statistics, diagnostic tests, Pearson correlation analysis, and multiple linear regression with the aid of Jamovi (Version 2.6.26).

Findings: The findings revealed that commercial bank transaction charges have a significant negative effect on financial inclusion ($\beta = -0.335$, $p < 0.001$), indicating that higher transaction costs discourage customers from actively participating in the formal financial system. Customer awareness and understanding significantly enhance financial inclusion ($\beta = 0.111$, $p < 0.001$), while usage behaviour also exerts a positive, though modest, influence ($\beta = 0.017$, $p = 0.040$). Conversely, customer perception has a significant negative effect on financial inclusion ($\beta = -0.090$, $p = 0.003$), suggesting that unfavourable perceptions regarding the fairness, transparency and affordability of transaction charges reduce financial engagement. Overall, the regression model was statistically significant ($F = 36.30$, $p < 0.001$) and explained 21.3% of the variation in financial inclusion ($R^2 = 0.213$).

Unique Contribution to Theory, Practice and Policy: The study contributes to theory by integrating the Theory of Planned Behaviour and Consumer Behaviour Theory to explain how behavioural factors shape the relationship between commercial bank transaction charges and financial inclusion. From a practical perspective, the findings demonstrate that improving customer awareness and promoting transparent pricing can strengthen financial participation. From a policy perspective, the study recommends that the Central Bank of Nigeria and commercial banks adopt customer-centred pricing policies, enhance transparency in the communication of transaction charges and strengthen financial literacy initiatives to promote affordable and sustainable financial inclusion.

Keywords: Financial Inclusion, Commercial Bank Transaction Charges, Customer Awareness, Customer Perception, Usage Behaviour, Nigeria.

JEL Classification: D12, G21, G28, O16

1.0 INTRODUCTION

Financial inclusion has become a central pillar of economic development policy because of its capacity to promote inclusive growth, enhance financial resilience, reduce poverty, and support sustainable development (Demirgüç-Kunt et al., 2022; World Bank, 2024; International Monetary Fund (IMF), 2023; Lal, 2021). Access to affordable and reliable financial services enables individuals and businesses to save securely, obtain credit, manage financial risks, facilitate transactions, and participate more effectively in economic activities (Demirgüç-Kunt et al., 2022; World Bank, 2024). Consequently, governments, financial regulators, and international development institutions have intensified efforts to expand access to formal financial services, particularly among low-income households and financially excluded populations.

Over the last decade, remarkable progress has been recorded in expanding formal financial access through digital banking, mobile money services, agency banking, financial technology (FinTech), and electronic payment systems. According to the Global Findex Database, account ownership has increased substantially worldwide, reflecting significant improvements in access to formal financial services (Demirgüç-Kunt et al., 2022). Nevertheless, growing evidence suggests that access alone is an incomplete measure of financial inclusion. Increasingly, scholars argue that genuine financial inclusion should be evaluated not merely by account ownership but also by affordability, sustained usage, service quality, and meaningful financial participation (Cull et al., 2014:Ozili., 2021;Demirgüç-Kunt et al., 2022; Kumar et al.,2024; World Bank, 2024). Thus, the policy focus has gradually shifted from financial access to meaningful financial participation.

This shift has brought renewed attention to the affordability dimension of financial inclusion. Although commercial banks continue to expand financial access through digital innovations and diversified delivery channels, customers increasingly bear a variety of transaction-related costs, including electronic transfer charges, ATM withdrawal fees, USSD charges, SMS alert fees, account maintenance charges, and card maintenance fees. While these charges constitute an important source of non-interest income and support investments in banking infrastructure and service delivery, they may also increase the cost of participating in the formal financial system. For low-income earners and small-scale entrepreneurs who frequently undertake low-value transactions, cumulative transaction charges may discourage the continuous use of banking services despite having access to formal financial institutions (Beck et al., 2015;Shirono et al., 2024).

The relationship between transaction charges and financial inclusion remains theoretically and empirically unresolved. From the financial intermediation perspective, transaction charges are viewed as legitimate mechanisms for recovering operational costs, supporting technological innovation, and ensuring the sustainability of banking institutions. Conversely, financial inclusion scholars argue that excessive or poorly understood banking charges create affordability barriers that discourage sustained engagement with formal financial services (Cull et al., 2014;Demirgüç-Kunt et al.,2022;Ozili, 2021). This divergence suggests that the effect of transaction charges extends beyond their monetary value and may depend on how customers perceive, understand, and respond to them.

Nigeria provides an appropriate context for examining this issue. Despite the implementation of the National Financial Inclusion Strategy, the expansion of digital banking, and the rapid growth of electronic payment systems, considerable progress has been made in expanding access to formal financial services. However, despite these achievements, financial exclusion remains a significant concern, while many bank accounts remain inactive or are used only occasionally, suggesting that increased access has not translated into sustained and meaningful financial participation (EFInA, 2023;Demirgüç-Kunt et al., 2022; World Bank, 2024). At the same time, concerns regarding the frequency, transparency, and cumulative burden of commercial bank transaction charges have intensified. Although these charges are regulated by the Central Bank of Nigeria (CBN), customers continue to express dissatisfaction with repeated deductions associated with routine banking activities. These concerns raise an important policy question: *Can financial inclusion objectives be fully achieved when the cost of using formal financial services discourages their continued use?*

This disconnect between financial access and active usage represents one of the most significant challenges confronting financial inclusion efforts in Nigeria. Among the factors increasingly identified as potential barriers to sustained financial participation is the growing burden of commercial bank transaction charges. Nigerian bank customers routinely incur charges for electronic transfers, ATM withdrawals, USSD transactions, SMS notifications, account maintenance, card maintenance, and other routine banking services. Although these charges are intended to support banking operations and service delivery, their cumulative effect may discourage the continuous use of formal financial services, particularly among low-income earners and small business operators who undertake frequent low-value transactions (Cull et al., 2014;Shirono et al., 2024). Consequently, understanding how transaction charges influence customers' continued participation in the formal financial system has become both a policy and research priority.

Despite growing scholarly interest in the relationship between transaction charges and financial inclusion, existing empirical evidence remains inconclusive. While studies such as Bognet and Momoh(2020);Mwania(2019);Dairo and Joseph (2021) and Akinwunmi and Ilesanmi (2025)conclude that high transaction charges discourage the use of formal financial services, other studies suggest that customers may continue to engage with banking services where the perceived benefits of convenience, security, accessibility, and service quality outweigh the associated costs.These conflicting findings indicate that transaction charges alone may not adequately explain financial inclusion outcomes and suggest that customers' behavioural responses may play an equally important role. Although behavioural factors have received increasing attention within consumer behaviour and financial services literature, limited empirical evidence exists regarding how customers' awareness and understanding of transaction charges, perceptions of their fairness and affordability, and actual usage behaviour jointly influence financial inclusion. Moreover, most previous studies have examined these factors in isolation or relied primarily on secondary or institutional-level data, providing limited insight into customers' lived experiences and behavioural responses, particularly within the Nigerian banking environment.

Against this backdrop, this study examines the effect of commercial bank transaction charges on financial inclusion in Nigeria from the customers' perspective. Specifically, it investigates how commercial bank transaction charges, customers' awareness and understanding of transaction charges, customer perception and usage behaviour influence financial inclusion within a unified behavioural framework.

The study makes four important contributions to the literature. First, it provides contemporary customer-level evidence on the relationship between commercial bank transaction charges and financial inclusion in Nigeria. Second, it integrates awareness, customer perception, and usage behaviour into a unified behavioural framework, thereby extending understanding of the affordability dimension of financial inclusion. Third, it broadens the application of the Theory of Planned Behaviour and Consumer Behaviour Theory in explaining financial inclusion decisions within an emerging economy. Finally, the findings provide practical insights for policymakers, regulators, and commercial banks in designing transparent, customer-centred, and affordable pricing policies capable of promoting sustainable financial inclusion.

2.0 LITERATURE REVIEW

Conceptual Review

This section reviews the key concepts underpinning the study, namely commercial bank transaction charges, financial inclusion, customer awareness and understanding, customer perception, and usage behaviour. The review clarifies the conceptual meanings of these constructs and examines their relevance to understanding how banking charges influence customers' participation in the formal financial system.

Commercial Bank Transaction Charges

Commercial bank transaction charges constitute one of the most visible and frequently contested aspects of modern banking relationships. These charges refer to the fees imposed on customers for accessing and utilizing banking services and have become increasingly significant with the expansion of digital banking platforms and electronic payment systems. While transaction charges represent an important source of non-interest income and support the provision of banking services, concerns persist regarding their implications for affordability and financial participation, particularly among low-income customers and frequent users of banking services (Beck et al., 2015;Shirono et al., 2024).

The literature presents two competing perspectives regarding transaction charges. From the banking sustainability perspective, transaction charges are viewed as necessary mechanisms for recovering operational costs, maintaining technological infrastructure, supporting innovation, and ensuring the efficient delivery of financial services. Proponents argue that such charges enable financial institutions to remain financially viable while expanding service delivery to diverse customer groups (Beck et al., 2015). Conversely, financial inclusion scholars contend that excessive, cumulative, or poorly understood charges increase the cost of financial participation and may discourage customers from actively engaging with formal financial institutions (Cull et al.,2014;Ozili, 2025). This concern is particularly relevant in developing economies where customers frequently undertake low-value transactions and are more sensitive to incremental costs.

Within the Nigerian banking sector, concerns regarding the frequency, transparency, and cumulative impact of transaction charges have intensified alongside the growth of electronic banking services. Although regulatory guidelines seek to standardize permissible charges, customers continue to express dissatisfaction regarding deductions associated with routine banking activities (EFInA, 2023). Consequently, transaction charges have become an important factor in discussions surrounding financial inclusion, customer satisfaction, and banking behaviour. In this study, commercial bank transaction charges are conceptualized as the direct and indirect costs incurred by customers in accessing and utilizing banking services, with particular emphasis on their affordability and implications for financial inclusion.

Financial Inclusion

Financial inclusion has evolved from a narrow focus on access to banking services to a broader and more multidimensional concept encompassing affordability, usage, quality, and meaningful participation in the formal financial system. Early financial inclusion initiatives primarily emphasized the expansion of banking infrastructure and account ownership as indicators of inclusion. However, contemporary literature increasingly recognizes that access alone does not guarantee meaningful financial participation, as individuals may possess formal accounts yet remain inactive users of financial services (Demirgüç-Kunt et al., 2022).

This conceptual evolution reflects growing dissatisfaction with access-based measures of inclusion, which often overstate financial participation by treating account ownership as evidence of engagement with financial services (Ozili,2025). Consequently, scholars and policymakers have shifted attention toward the extent to which individuals actively utilize financial services to improve their economic well-being. The World Bank (2024) defines financial inclusion as the availability and effective use of affordable financial products and services that meet the needs of individuals and businesses. Similarly, Ozili (2026) argues that financial inclusion encompasses access, affordability, usageand service quality.

A critical dimension of contemporary financial inclusion discourse is affordability. Financial services cannot be considered truly inclusive if the costs associated with their usage discourage participation among vulnerable populations (Cull et al., 2014). This has led to the emergence of the concept of functional exclusion, whereby individuals possess formal access but remain unable or unwilling to utilize available services due to cost-related barriers. Accordingly, this study conceptualizes financial inclusion as the availability, affordability, and sustained utilization of formal financial services that enable individuals to participate effectively in economic activities and improve their financial well-being.

Customer Awareness and Understanding

Customer awareness and understanding refer to the extent to which individuals possess knowledge regarding the existence, nature, purpose, and application of banking products, services, and associated charges. Within financial services literature, awareness is regarded as a prerequisite for informed decision-making because customers cannot effectively evaluate products, costs, or benefits that they do not adequately understand (Lusardi & Mitchell., 2014).

The significance of awareness is closely linked to information asymmetry theory, which suggests that unequal access to information may place customers at a disadvantage when interacting with financial institutions. Awareness and understanding help reduce information asymmetry and enhance customers' ability to evaluate the costs and benefits associated with financial services. Where customers possess limited knowledge regarding transaction charges, they may perceive legitimate deductions as arbitrary or excessive, thereby reducing trust and confidence in banking services. Conversely, customers who understand the rationale, structure, and regulatory basis of charges may be more willing to accept them as part of service delivery.

Recent studies suggest that customer awareness influences financial behaviour, service adoption, and overall engagement with formal financial institutions (Ozili, 2026). In the context of financial inclusion, awareness facilitates informed usage decisions and may reduce misconceptions regarding banking services and associated costs. Therefore, this study conceptualizes customer awareness and understanding as customers' knowledge of commercial bank transaction charges, including their nature, purpose, frequency, and application, and examines how such knowledge influences financial inclusion outcomes.

Customer Perception

Customer perception refers to the subjective evaluation and interpretation of banking services and their associated costs. Unlike objective measures of cost, perception reflects how customers assess the fairness, transparency, affordability, and value of banking services based on their experiences, expectations, and interactions with financial institutions (Engel et al., 1995).

Behavioural and consumer decision-making theories suggest that customers respond not only to actual costs but also to their perceptions of those costs. Consequently, two customers exposed to identical transaction charges may react differently depending on how they interpret the fairness and value of those charges. Perception frequently mediates the relationship between objective service characteristics and customer behaviour because individuals often respond to how they interpret reality rather than reality itself. Charges perceived as excessive, hidden, or unjustified may generate dissatisfaction, reduce trust, and discourage continued engagement with formal financial institutions. Conversely, charges perceived as reasonable and transparent may be accepted as legitimate costs of service delivery.

The concept of perceived fairness has become particularly important within banking literature because trust constitutes a critical foundation for customer retention and financial participation (Beck et al., 2015). Accordingly, this study conceptualizes customer perception as customers' evaluation of the fairness, transparency, and affordability of commercial bank transaction charges and the extent to which such evaluations influence financial inclusion outcomes.

Usage Behaviour

Usage behaviour, often described as financial engagement, refers to the frequency, intensity, and pattern of customers' utilization of financial services. It represents the practical manifestation of financial inclusion because meaningful inclusion occurs not merely when individuals gain access to financial services but when they actively use them to conduct transactions, save, make payments, and participate in economic activities (Demirgüç-Kunt et al., 2022).

Contemporary financial inclusion literature increasingly distinguishes between access and usage. While access reflects the availability of financial services, usage reflects actual engagement with those services. This distinction is important because account ownership does not necessarily translate into active financial participation. Customers may possess formal accounts yet rarely utilize them due to affordability concerns, limited awareness, unfavourable perceptions, or lack of trust in financial institutions (Ozili, 2026).

Usage behaviour therefore serves as a critical link between financial access and financial inclusion outcomes. Sustained engagement through deposits, withdrawals, transfers, digital payments, and other financial transactions indicates meaningful participation in the formal financial system. Conversely, low transaction activity and dormant accounts may signal functional exclusion despite formal access. Consequently, usage behaviour serves as the operational bridge between access and inclusion, making it one of the most important indicators of meaningful financial participation. In this study, usage behaviour is conceptualized as the frequency and extent of customers' engagement with commercial banking services and is examined as a key determinant of financial inclusion outcomes.

Theoretical Framework

Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), posits that an individual's behaviour is primarily determined by behavioural intention, which is influenced by attitude toward the behaviour, subjective norms and perceived behavioural control. The theory suggests that individuals are more likely to engage in a behaviour when they hold favourable attitudes toward it, perceive social support, and believe they possess the ability and resources necessary to perform it successfully. Within financial services research, TPB has been widely applied to explain customers' adoption and continued use of banking products because financial decisions are shaped not only by economic considerations but also by behavioural evaluations and intentions. In the context of this study, TPB explains how customers' awareness and understanding of commercial bank transaction charges, together with their perceptions of the fairness and affordability of those charges, influence their willingness to continue using formal banking services. The theory therefore provides the principal behavioural explanation for the relationship between transaction charges and financial inclusion.

Consumer Behaviour Theory

Consumer Behaviour Theory, advanced by Engel et al.(1995), explains how individuals evaluate products and services before making purchase and consumption decisions. The theory argues that consumers compare the perceived benefits of a product or service with its associated costs, and these evaluations determine subsequent behavioural decisions. Within the banking sector, customers continuously assess whether the convenience, accessibility, security, and quality of banking services justify the transaction charges they incur. Consequently, customers who perceive banking charges as fair and commensurate with the value received are more likely to sustain their engagement with formal financial services, whereas perceptions of excessive or unjustified charges may discourage continued usage. The theory therefore complements the present study by explaining the economic and psychological evaluation process underlying customers' responses to commercial bank transaction charges.

Although the Theory of Planned Behaviour and Consumer Behaviour Theory approach customer decision-making from different perspectives, they are complementary rather than competing. Consumer Behaviour Theory explains how customers evaluate the costs, benefits, and fairness of commercial bank transaction charges, while the Theory of Planned Behaviour explains how these evaluations influence attitudes, behavioural intentions, and actual usage behaviour. Together, the theories provide a comprehensive explanation of how commercial bank transaction charges influence financial inclusion through customers' awareness and understanding, perceptions, and patterns of usage behaviour. Accordingly, the Theory of Planned Behaviour serves as the primary theoretical lens for explaining financial inclusion behaviour, while Consumer Behaviour Theory complements it by explaining customers' evaluation of banking charges.

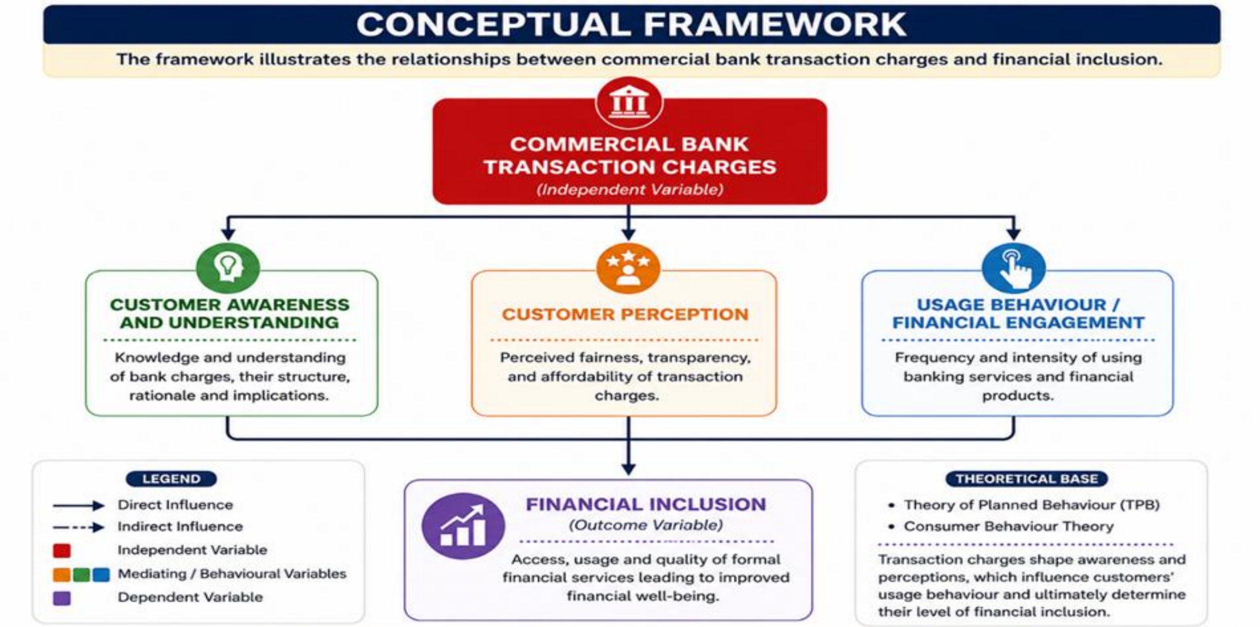

Figure 1: Conceptual Framework of Commercial Bank Transaction Charges and Financial Inclusion
Source: Researcher's Conceptualization, 2026

Empirical Review

Commercial Bank Transaction Charges and Financial Inclusion

The relationship between commercial bank transaction charges and financial inclusion has attracted considerable attention within the financial services literature, particularly in developing economies where affordability remains a major determinant of financial participation. Empirical evidence generally indicates that commercial bank transaction charges exert a negative influence on financial inclusion by increasing the cost of financial participation and discouraging sustained engagement with formal financial services, particularly among economically vulnerable populations (Ofosu-Mensah Ababio et al.,2021; Bognet& Momoh, 2020).

Evidence from Nigeria further suggests that transaction charges significantly influence customers' choice and usage of banking channels. Bognet and Momoh (2020) found that although customers actively utilized electronic banking services, a substantial majority perceived transaction charges as excessive and inadequately explained. Similarly, Ofosu-Mensah Ababio et al.(2021) argued that arbitrary and poorly regulated banking charges undermine the attainment of Nigeria's financial inclusion targets by discouraging participation in the formal financial system. These findings support the affordability argument advanced by Cull et al. (2014), which posits that financial services cannot be regarded as truly inclusive when their associated costs discourage usage among vulnerable populations.

Customer Awareness and Understanding of Transaction Charges and Financial Inclusion

Customer awareness and understanding are increasingly recognized as important determinants of financial behaviour because informed customers are better positioned to evaluate the costs and benefits associated with financial services (Lusardi & Mitchell, 2014;Ozili, 2021). Empirical evidence further suggests that knowledge of banking charges influences how customers interpret, evaluate, and respond to the costs associated with formal financial services

Existing studies indicate that many customers are aware that transaction charges exist but possess limited understanding of their structure, rationale and regulatory basis. For example, Li et al. (2023) reported that although respondents acknowledged the existence of transaction charges, many perceived them as multiple, excessive, and insufficiently explained. Such findings imply that inadequate understanding may contribute to negative attitudes towards banking services and reduce customers' willingness to participate actively in the formal financial system.

Customer Perception of Transaction Charges and Financial Inclusion

Beyond awareness, customers' perceptions of transaction charges have also received considerable empirical attention because individuals often respond to perceived rather than objective realities (Ajzen, 1991; Engel et al.,1995). Consequently, customers' evaluations of the fairness, transparency, and affordability of banking charges may significantly influence their willingness to engage with formal financial institutions.

Empirical studies generally suggest that perceived excessive charges reduce customer satisfaction and weaken financial engagement. Dairo and Joseph (2021) found that excessive bank charges negatively affect customers' savings behaviour and reduce disposable income, particularly among students, salary earners, and self-employed individuals. Similarly, Adeyinkaet al. (2022) reported that certain banking charges, especially SMS alert charges, significantly influence customers' savings behaviour. Furthermore, Akinwunmi and Ilesanmi (2025) identified transaction charges as one of the major barriers reducing customers' confidence in digital banking platforms. Collectively, these findings suggest that customers' perceptions of transaction charges influence financial behaviour beyond the actual monetary value of the charges themselves.

Usage Behaviour and Financial Inclusion

Contemporary financial inclusion literature increasingly recognizes usage behaviour as a more meaningful indicator of inclusion than access alone (Demirgüç-Kunt et al., 2022). While access reflects the availability of financial services, usage behaviour reflects the extent to which individuals actively engage with those services in their daily financial activities. Consequently, meaningful financial inclusion is increasingly assessed by the sustained utilization of financial services rather than by account ownership alone.

Empirical evidence consistently demonstrates that active utilization of financial services contributes significantly to financial inclusion outcomes. Nwafor(2025) found that the utilization of banking products and services significantly enhances SME development and economic participation. Similarly, Kumar et al. (2024) argued that financial inclusion initiatives achieve meaningful outcomes only when customers actively utilize available financial services. These findings reinforce the argument that sustained engagement with banking services is essential for translating financial access into tangible economic and social benefits.

Overall, the reviewed studies demonstrate broad agreement that commercial bank transaction charges influence customers' financial behaviour; however, the direction and mechanisms through which this relationship affects financial inclusion remain less clearly understood. While several studies attribute reduced financial participation primarily to the cost of banking services, others suggest that customers' behavioural responses, including their awareness, perceptions, and usage behaviour, determine whether transaction charges ultimately discourage financial inclusion. These mixed findings indicate that understanding customers' behavioural responses may be just as important as understanding the charges themselves.

Empirical Gap

The foregoing empirical review reveals four important gaps in the existing literature. First, although previous studies consistently demonstrate that transaction charges influence financial participation, most examine only the direct effects of banking costs while paying limited attention to the behavioural processes through which these effects occur (Ofosu-Mensah Ababio et al.,2021;Bognet& Momoh, 2020). Second, relatively few empirical studies have examined customers' awareness and understanding of transaction charges despite their potential influence on financial decision-making and continued use of formal financial services. Third, although customer perception has been identified as an important behavioural factor, existing studies have focused largely on customer satisfaction, savings behaviour, or digital banking adoption rather than its broader influence on financial inclusion outcomes. Fourth, while usage behaviour is widely acknowledged as a key indicator of meaningful financial inclusion, limited empirical evidence exists regarding how transaction charges influence financial inclusion through customers' engagement with banking services.

Therefore, unlike previous studies that examined transaction charges, savings behaviour, or digital banking adoption in isolation, the present study adopts an integrated customer-centred approach by examining how commercial bank transaction charges, customers' awareness and understanding, customer perception, and usage behaviour jointly influence financial inclusion in Nigeria.

3.0 RESEARCH METHODOLOGY

Research Design

This study employed a quantitative cross-sectional survey design to examine the effect of commercial bank transaction charges on financial inclusion in Nigeria from the customers' perspective. The design was considered appropriate because it enables the collection of standardized data on customers' awareness and understanding, perceptions, usage behaviour, and financial inclusion, thereby facilitating the empirical examination of the proposed relationships (Creswell & Creswell, 2018).

The target population comprised customers of commercial banks in Nigeria who actively utilize banking services such as electronic transfers, ATM withdrawals, mobile banking, USSD transactions, card services, and account maintenance services. These customers were considered appropriate because they are directly exposed to commercial bank transaction charges and are therefore capable of providing informed responses regarding their influence on financial inclusion.

Given the large and indeterminate population of commercial bank customers, Yamane's (1967) sample size formula was used to determine the minimum sample size at a 5 percent margin of error, resulting in a minimum sample size of 400 respondents. To enhance statistical power and minimize non-response bias, additional questionnaires were administered, yielding 540 valid responses for analysis.

A multistage sampling procedure was adopted. Purposive sampling was first used to identify active users of commercial banking services, after which convenience sampling was employed to administer questionnaires to eligible respondents who voluntarily participated in the study. Primary data were collected through a structured questionnaire because the study examines customers' experiences and behavioural responses that cannot be adequately captured using secondary data.

Instrument Development and Measurement of Variables

Data were collected using a structured questionnaire developed from the study's conceptual framework and relevant literature to ensure alignment between the study objectives and the measurement of the research constructs. The questionnaire consisted of two sections. Section A captured respondents' demographic characteristics, while Section B measured commercial bank transaction charges, customer awareness and understanding, customer perception, usage behaviour, and financial inclusion using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

The questionnaire was subjected to face and content validity through expert review by specialists in accounting, banking, and research methodology to ensure clarity, relevance, and consistency with the study objectives. Suggestions arising from the review were incorporated before the final administration of the instrument.

The internal consistency of the measurement scales was assessed using Cronbach's Alpha. The reliability coefficients for all constructs exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency and confirming the suitability of the instrument for statistical analysis (Hair et al., 2019; Nunnally & Bernstein., 1994).

The variables used in the study were operationalized as presented in Table 3.1.

Table 3.1: Operationalization and Measurement of Variables

Variable	Variable Type	Definition	Measurement
Financial	Dependent	The extent to which	Measured by participation in

Variable	Variable Type	Definition	Measurement
Inclusion	Variable	individuals’ access and actively use formal financial services.	banking services, regular usage of banking products, and willingness to remain engaged with banks (Demirgüç-Kunt et al.,2018).
Awareness and Understanding of Transaction Charges	Independent Variable	The extent to which customers possess knowledge of the existence, purpose, structure, frequency, and application of commercial bank transaction charges.	Measured by customers' knowledge of transaction charges, understanding of charge categories, awareness of reasons for charges, and familiarity with bank fee structures (Lusardi & Mitchell.,2014;Ozili, 2021).
Commercial Bank Transaction Costs	Independent Variable	Fees imposed by banks for financial transactions such as transfers, withdrawals, and account maintenance.	Measured by customers' awareness and experience of charges for electronic transfers, ATM usage, USSD transactions, SMS alerts, and account maintenance (Ozili, 2025).
Customer Perception	Independent Variable	Customers' evaluation of the fairness, transparency, and affordability of bank transaction charges.	Measured through perceptions of fairness, clarity of charges, affordability, transparency, and satisfaction with bank pricing structures (Cull et al., 2014; Engel et al., 1995).
Usage Behaviour	Independent Variable	The frequency and manner in which customers utilize formal banking services and financial products.	Measured by frequency of electronic transfers, mobile banking usage, ATM transactions, digital banking engagement, and reliance on formal banking channels for financial activities (Allen et al., 2016;Demirgüç-Kunt et al., 2022).

SOURCE: Author’s compilation (2026).

Model Specification

The empirical model was specified in line with the study objectives and the theoretical framework. Financial inclusion served as the dependent variable, while commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour constituted the explanatory variables.

The functional form of the model is expressed as:

$FI = f(TC, AW, CP, UB)$

Where:

FI = Financial Inclusion
TC = Commercial Bank Transaction Charges
AW = Customer Awareness and Understanding of Transaction Charges
CP = Customer Perception of Transaction Charges
UB = Usage Behaviour of Banking Services

The econometric form of the model is specified as:

$$\mathbf{FI_i = \beta_0 + \beta_1 TC_i + \beta_2 AW_i + \beta_3 CP_i + \beta_4 UB_i + \varepsilon_i}$$

Where:

FI_i = Financial inclusion of respondent i
TC_i = Transaction charges experienced by respondent i
AW_i = Awareness and understanding of transaction charges
CP_i = Perception of fairness, transparency, and affordability of transaction charges
UB_i = Usage behaviour of banking services
β_0 = Constant term
β_1–β_4 = Regression coefficients
ε_i = Error term

The model estimates the extent to which commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour influence financial inclusion. Positive coefficients indicate that an explanatory variable enhances financial inclusion, whereas negative coefficients suggest a reduction in financial inclusion.

Data Analysis Technique

The data were coded and analysed using Jamovi (Version 2.6.26). Descriptive statistics, including mean, standard deviation, minimum, and maximum values, were used to summarize the characteristics of the study variables. Pearson correlation analysis examined the relationships among the variables, while the Variance Inflation Factor (VIF) assessed multicollinearity.

To ensure the suitability of the data for regression analysis, diagnostic tests for heteroskedasticity and autocorrelation were conducted. Thereafter, multiple linear regression analysis was employed to examine the effect of commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour on financial inclusion. All statistical inferences were evaluated at the 5 percent level of significance.

Ethical Considerations

Participation in the study was voluntary. Respondents were informed of the purpose of the research before completing the questionnaire and were assured that their responses would be treated confidentially and used solely for academic purposes. No personally identifiable information was collected, thereby ensuring respondents' anonymity and privacy.

4.0 RESULTS AND DISCUSSION

This section presents the empirical findings of the study. The analysis begins with descriptive statistics, followed by diagnostic tests, correlation analysis, regression results and discussion of the findings. The reliability of the measurement scales was established during instrument validation using Cronbach's Alpha coefficients exceeding the recommended threshold of 0.70 (Hair et al.,2019; Nunnally & Bernstein,1994).

Descriptive Statistics

Descriptive statistics were computed to summarize the characteristics of the study variables using the mean, standard deviation, minimum, and maximum values. The results are presented in Table 1.

Table 1. Descriptive Statistics

	TC	AW	CP	UB	FI
N	540	540	540	540	540
Missing	0	0	0	0	0
Mean	3.78	2.19	1.57	4.27	4.77
Median	3.80	2.20	1.60	4.20	4.80
Standard deviation	0.176	0.211	0.212	0.753	0.156
Minimum	2.60	1.00	1.00	3.40	3.80
Maximum	5.00	3.60	3.60	14.2	5.00

Source:Jamovi output (2026).

A total of 540 valid responses were analysed, with no missing observations. Financial Inclusion (FI) recorded the highest average score (Mean = 4.77, SD = 0.156), followed by Usage Behaviour (UB) (Mean = 4.27, SD = 0.753), indicating relatively high levels of financial participation and active utilization of banking services among respondents. Commercial Bank Transaction Charges (TC) recorded a mean score of 3.78 (SD = 0.176), suggesting that respondents generally experienced moderate to relatively high banking charges.

Conversely, Awareness and Understanding of Transaction Charges (AW) recorded a comparatively lower mean (2.19, SD = 0.211), while Customer Perception (CP) reported the lowest mean (1.57, SD = 0.212). These findings suggest limited understanding of transaction charges and relatively unfavourable perceptions regarding their fairness, transparency, and affordability. The relatively small standard deviations observed across most variables indicate a high degree of consistency in respondents' responses.

Diagnostic Tests

Diagnostic tests were conducted to verify that the assumptions underlying multiple regression analysis were satisfied. The assessment included tests for normality, heteroskedasticity, and multicollinearity

Normality Test Results

Table 2. Distribution of Data Normality Assessment

	TC	AW	CP	UB	FI
N	540	540	540	540	540
Skewness	-1.41	0.886	2.68	10.9	-3.19
Std. error skewness	0.105	0.105	0.105	0.105	0.105
Kurtosis	16.4	16.3	27.9	129	12.9
Std. error kurtosis	0.210	0.210	0.210	0.210	0.210
Shapiro-Wilk W	0.510	0.521	0.543	0.181	0.482
Shapiro-Wilk p	<.001	<.001	<.001	<.001	<.001

Source:Jamovi output (2026).

The normality assessment indicates that all variables deviated from normality. As shown in Table 2, the Shapiro–Wilk test was statistically significant for all variables ($p < .001$), while several variables exhibited substantial skewness and kurtosis. Although these results indicate departures from normality, such findings are common with large samples and Likert-scale data (Field, 2018). Given the sample size of 540 respondents, the Central Limit Theorem supports the application of parametric statistical techniques because the sampling distribution of the estimates approaches normality regardless of the underlying data distribution (Tabachnick&Fidell, 2013). Accordingly, the observed non-normality does not invalidate the regression analysis.

Heteroskedasticity Test Results

Heteroskedasticity occurs when the variance of the regression residuals is not constant across observations. The presence of heteroskedasticity may lead to inefficient parameter estimates and biased standard errors, thereby affecting the reliability of statistical inferences such as hypothesis tests and confidence intervals (Field, 2018). To assess whether the assumption of homoscedasticity was satisfied, a heteroskedasticity test was conducted. The results are presented in Table 3.

Table 3. Heteroskedasticity Tests

	Statistic	**p**
Breusch-Pagan	52.2	0.061
Goldfeld-Quandt	0.248	1.000
Harrison-McCabe	0.749	1.000

Note. Additional results provided by *moretests*

Source:Jamovi output (2026).

The Breusch–Pagan test produced a p-value of 0.061, exceeding the 5 percent significance level. Similarly, the Goldfeld–Quandt and Harrison–McCabe tests yielded non-significant results (p = 1.000). Collectively, these findings indicate that the assumption of homoscedasticity was satisfied, suggesting that the residual variance remained relatively constant across observations and that the regression estimates were not adversely affected by heteroskedasticity.

Multicollinearity

Multicollinearity occurs when independent variables are highly correlated, making it difficult to isolate their individual effects on the dependent variable. It is commonly assessed using Variance Inflation Factor (VIF) and Tolerance values. VIF values above 5 and Tolerance values below 0.20 may indicate multicollinearity concerns (Field,2018;Pallant, 2020).

Table 4: Collinearity Statistics

	VIF	**Tolerance**
TC	1.02	0.977
AW	1.10	0.907
CP	1.11	0.904
UB	1.02	0.980

Source: Jamovi output (2026).

The collinearity statistics indicate that the Variance Inflation Factor (VIF) values ranged from 1.02 to 1.11, well below the commonly accepted threshold of 5.0, while Tolerance values ranged from 0.904 to 0.980, exceeding the recommended minimum value of 0.20. These results confirm the absence of multicollinearity among the explanatory variables, indicating that each predictor contributes unique information to the regression model

Correlation Analysis

Before estimating the regression model, Pearson correlation analysis was conducted to examine the strength, direction, and significance of the relationships among the study variables. Table 5 presents the Pearson correlation matrix showing the relationships among the study variables.

Table 5: Correlation Matrix

		TC	AW	CP	UB	FI
TC	Pearson's r	—				
	p-value	—				
AW	Pearson's r	-0.044	—			
	p-value	0.306	—			
	p-value	0.001	<.001	—		
UB	Pearson's r	0.059	0.120	-0.015	—	
	p-value	0.169	0.005	0.724	—	
FI	Pearson's r	0.396	-0.210	-0.216	-0.074	—
	p-value	<.001	<.001	<.001	0.088	—

Source:Jamovioutput, 2026.

Pearson correlation analysis was conducted to examine the direction and strength of the relationships among the study variables before estimating the regression model.

Commercial Bank Transaction Charges (TC) exhibited a positive and statistically significant correlation with Financial Inclusion (FI) ($r = 0.396$, $p < .001$). Awareness and Understanding (AW) ($r = -0.210$, $p < .001$) and Customer Perception (CP) ($r = -0.216$, $p < .001$) were negatively associated with Financial Inclusion, while Usage Behaviour (UB) showed a weak and statistically insignificant relationship ($r = -0.074$, $p = 0.088$).

It is important to note that these correlation coefficients represent bivariate associations and do not account for the simultaneous influence of other explanatory variables. Consequently, the regression analysis provides a more robust basis for evaluating the independent effect of each predictor on financial inclusion.

Regression Analysis

Table 6. Model Fit Measures

				Overall Model Test			
Model	**R**	**R^2**	**Adjusted R^2**	**F**	**df1**	**df2**	**p**
1	0.462	0.213	0.208	36.3	4	535	<.001

Note. Models estimated using sample size of N=540

Source: Jamovi output (2026).

The regression results indicate that the overall model is statistically significant ($F = 36.3$, $p < .001$). The model produced a correlation coefficient ($R = 0.462$) and a coefficient of determination ($R^2 = 0.213$), indicating that approximately 21.3 percent of the variation in financial inclusion is jointly explained by commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour. The adjusted R^2 (0.208) confirms the stability of the model after adjusting for the number of predictors. Although the explanatory power is moderate, it is considered acceptable for behavioural and survey-based studies where financial decisions are influenced by multiple observable and unobservable factors.

Regression Coefficients

Table 7 further presents the regression results for the effect of commercial bank transaction charges and related behavioural variables on financial inclusion.

Table 7: Model Coefficients - FI

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	3.9610	0.15411	25.70	<.001	
TC	-0.3351	0.03444	-9.73	<.001	-0.3775

Table 7: Model Coefficients - FI

Predictor	Estimate	SE	t	p	Stand. Estimate
AW	0.1110	0.02979	3.73	<.001	0.1500
CP	-0.0902	0.02976	-3.03	0.003	-0.1223
UB	0.0166	0.00805	2.06	0.040	0.0799

Source: Jamovi output (2026).

The regression coefficients indicate that Commercial Bank Transaction Charges (TC) exert a negative and statistically significant effect on financial inclusion ($\beta = –0.335$, $p < .001$), implying that higher transaction charges reduce financial inclusion.

Customer Awareness and Understanding (AW) exhibited a positive and significant effect ($\beta = 0.111$, $p < .001$), indicating that improved awareness enhances financial inclusion by enabling customers to make more informed financial decisions.

Customer Perception (CP) recorded a negative and significant coefficient ($\beta = –0.090$, $p = 0.003$), suggesting that unfavourable perceptions regarding the fairness, transparency, and affordability of transaction charges reduce customers' willingness to engage with formal financial institutions.

Usage Behaviour (UB) had a positive but relatively small effect on financial inclusion ($\beta = 0.017$, $p = 0.040$), indicating that increased utilization of banking services contributes modestly to improved financial inclusion.

Discussion Of Findings

The regression results indicate that commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour significantly influence financial inclusion in Nigeria. The findings highlight that financial inclusion is shaped not only by the cost of banking services but also by customers' behavioural responses to those costs, consistent with the propositions of the Theory of Planned Behaviour and Consumer Behaviour Theory.

Transaction Charges and Financial Inclusion

Commercial bank transaction charges exert a significant negative effect on financial inclusion ($\beta = –0.335$, $p < .001$), indicating that higher banking charges discourage customers from actively participating in the formal financial system. This finding is consistent with Bognet and Momoh (2020) ; Ofosu-Mensah Ababio et al.(2021) who identified excessive banking charges as a major barrier to financial participation in Nigeria. The result supports Consumer Behaviour Theory, which suggests that customers evaluate banking services by comparing perceived benefits with associated costs. Consequently, higher transaction charges reduce the perceived value of formal banking services and discourage sustained financial participation.

Customer Awareness and Understanding of Transaction Charges

Customer awareness and understanding positively and significantly influence financial inclusion ($\beta = 0.111$, $p < .001$), suggesting that customers who better understand transaction charges are more likely to engage with formal banking services. This finding implies that awareness reduces uncertainty, enhances confidence, and enables customers to make informed financial decisions. Although Dairo and Joseph (2021) argued that awareness of banking charges may discourage usage because of perceived cost burdens, the present finding suggests that, within the Nigerian context, greater understanding promotes transparency and strengthens financial participation. This finding supports the Theory of Planned Behaviour, particularly the role of perceived behavioural control in influencing behavioural decisions.

Customer Perception and Financial Inclusion

Customer perception of transaction charges has a significant negative effect on financial inclusion ($\beta = -0.090$, $p = 0.003$), indicating that unfavourable perceptions regarding the fairness and affordability of banking charges discourage participation in formal financial services. This finding agrees with Akinwunmi and Ilesanmi (2025) and Dairo and Joseph (2021) who reported that excessive banking charges reduce customers' confidence and engagement with banking services. The result demonstrates that customers' perceptions of transaction charges constitute an important behavioural determinant of financial inclusion beyond the actual level of banking costs.

Usage Behaviour and Financial Inclusion

Usage behaviour exhibits a positive and significant effect on financial inclusion ($\beta = 0.017$, $p = 0.040$), indicating that increased utilization of banking services enhances financial inclusion. This finding supports Nwankwo et al. (2025) and Kumar et al. (2024), who argued that meaningful financial inclusion depends on the sustained use of formal financial services rather than access alone. However, the relatively small coefficient suggests that the positive contribution of usage behaviour may be constrained by persistent barriers such as transaction costs and unfavourable customer perceptions.

5.0 CONCLUSION AND RECOMMENDATIONS

This study examined the effect of commercial bank transaction charges, customer awareness and understanding, customer perception, and usage behaviour on financial inclusion in Nigeria. The findings demonstrate that financial inclusion is influenced by both economic and behavioural factors, with commercial bank transaction charges emerging as the most significant determinant. Specifically, higher transaction charges significantly reduce financial inclusion by discouraging customers from actively engaging with formal financial services. Conversely, greater awareness and understanding of transaction charges enhance financial inclusion by enabling customers to make informed financial decisions and sustain their participation in the banking system. The study also established that unfavourable customer perceptions regarding the fairness and affordability of transaction charges reduce financial inclusion, while increased usage behaviour contributes positively, though modestly, to financial participation.

Overall, the study extends existing literature by demonstrating that the relationship between transaction charges and financial inclusion is not solely an issue of affordability but also a behavioural phenomenon. By integrating commercial bank transaction charges with customer awareness and understanding, customer perception, and usage behaviour within a unified framework, the study provides empirical evidence that financial inclusion is shaped by both customers' evaluation of banking costs and their behavioural responses to those costs. The findings therefore reinforce the complementary relevance of the Theory of Planned Behaviour and Consumer Behaviour Theory in explaining financial participation within the Nigerian banking context.

Based on the findings, the following recommendations are proposed:

1. **Review transaction charge policies:** The Central Bank of Nigeria should periodically review commercial bank transaction charges to ensure they remain fair, transparent, and affordable, particularly for low-income and financially vulnerable customers.
2. **Enhance transparency in banking charges:** Commercial banks should communicate transaction charges clearly and in simple, customer-friendly formats to improve customers' understanding and reduce negative perceptions.
3. **Strengthen financial literacy initiatives:** Banks and regulatory authorities should intensify financial education programmes aimed at improving customers' awareness and understanding of banking charges to encourage informed financial participation.
4. **Promote customer-centred banking practices:** Commercial banks should simplify fee structures, improve service transparency, and adopt customer-focused pricing policies that strengthen trust and encourage continued use of formal financial services.
5. **Support sustained banking usage:** Policymakers and financial institutions should continue investing in affordable digital banking infrastructure and customer-oriented financial products that encourage regular use of formal banking services and deepen financial inclusion.

This study is limited by its focus on commercial bank customers in Nigeria and its reliance on cross-sectional survey data, which may restrict the generalisability of the findings and the ability to establish causal relationships. In addition, the study concentrated on selected behavioural and cost-related variables, while other factors that may influence financial inclusion were not examined.

Future studies should incorporate additional socio-economic and institutional factors, such as income, financial literacyand digital infrastructure while adopting longitudinal or mixed-method approaches to provide deeper insights into customers' financial behaviour. Comparative studies across different countries or regions would also enrich understanding of how contextual factors influence the relationship between transaction charges and financial inclusion.

References

Adeyinka, A., Adewale, O., Moshood, A., &Omotivie, E. (2022). Effect of Commercial Banks Charges on Customer Savings in Nigeria. *NIU Journal Of Humanities*, 7(4), 7 19. doi:10.58709/niujhu.v7i4.1550

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Akinwunmi, A. Oand Ilesanmi, D. O (2025). An Assessment of Barriers to Effective Digital Banking Service Delivery in Nigerian Commercial Banks: Customers Perspective. *AsianJournal of Economics, Business and Accounting* 25 (10):188–202. https://doi.org/10.9734/ajeba/2025/v25i102007.

Allen, F., Demirgüç-Kunt, A., Klapper, L., & Martinez Peria, M. S. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation, 27*, 1–30. https://doi.org/10.1016/j.jfi.2015.12.003

Beck, T., Senbet, L., &Simbanegavi, W. (2015). Financial inclusion and innovation in Africa: An overview. *Journal of African Economies, 24*(Suppl. 1), i3–i11. https://doi.org/10.1093/jae/eju031

Bognet, A. C., & Momoh, A. O. (2020). Survey an Bank Charges And the Usage Of E Banking Channels In Kaduna Metropolis. *International Journal of Management, Social Sciences, Peace and Conflict Studies (IJMSSPCS)* (3) 3. 411 - 429; ISSN: 2682-6135

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Cull, R., Ehrbeck, T., &Holle, N. (2014). *Financial inclusion and development: Recent impact evidence*. CGAP Focus Note No. 92. Consultative Group to Assist the Poor.

Dairo, R., & Joseph, T. E. (2021). Effects of Bank Charges on Bank's Customers Saving and Income in Nigeria. *Journal of Economics, Management and Trade*, 27(3), 1–11. https://doi.org/10.9734/jemt/2021/v27i330331

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Demirgüç-Kunt, A., Klapper, L., Singer, D., Saniya, A., & Hess, J. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank.

Enhancing Financial Innovation and Access (EFInA). (2023). Nigeria's formal financial inclusion grows to 64% in 2023.https://a2f.ng/efina-report-nigerias formalfinancialinclusion-grows-to-64-in2023/

Engel, J. F., Blackwell, R. D., &Miniard, P. W. (1995). *Consumer behavior* (8th ed.). Dryden Press.

Field, A.P. (2018). Discovering Statistics Using IBM SPSS Statistics (5th Edition). Newbury Park: Sage Publications.

International Monetary Fund. (2023). *Financial access survey 2023: Trends and developments in financial inclusion*. International Monetary Fund.

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

Kumar, B. R. (2024). Economic development and the role of financial inclusion in developingcountries. In Research integration: Multidisciplinary insights and methodologies (pp. 281–292). Scribe & Scroll Publishing Ltd. https://doi.org/10.25215/8198133194.19

Lal, T. (2021). Impact of financial inclusion on economic development of marginalized communities through the mediation of social and economic empowerment. *International Journal of Social Economics*, 48(12), 1768-1793.

Li, C., Khaliq, N., Chinove, L., Khaliq, U., Ullah, M., Lakner, Z., & Popp, J. (2023). Perceived transaction cost and its antecedents associated with fintech users' intention: Evidence from Pakistan. *Heliyon*, *9*(4), e15140. https://doi.org/10.1016/j.heliyon.2023.e15140

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, *52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5.

Nunnally, J.C. and Bernstein, I.H. (1994). The assessment of reliability. Psychometric Theory, 3 (1)McGraw-Hill, 248-292.

Nwafor, I. N. (2025). The effects of deposit banks charges and youths entrepreneurial development in Nigeria. *International Journal of Finance, Accounting and Management Studies, 1*(5), 1–20. https://www.ijfams.com/index.php/ijfams/article/view/68

Mwania, P. M. (2019). The influence of transaction costs on financial inclusion of micro enterprises in Machakos County, Kenya. *Journal of African Interdisciplinary Studies, 3*(8), 83–94. http://cedred.org/jais/index.php/issues

Ofosu-Mensah Ababio, J., Attah-Botchwey, E., Osei-Assibey, E., &Barnor, C. (2021). Financial inclusion and human development in frontier countries. *International Journal of Finance & Economics*, 26(1), 42-59.

Ozili, P. K. (2021). Financial inclusion research around the world: A review. Forum for SocialEconomics, 50(4), 457–479. https://doi.org/10.1080/07360932.2020.1715238

Ozili, P. K. (2025). Determinants of financial inclusion in Nigeria: The monetary policy and banking sector factors. In From digital disruption to dominance: Leveraging FinTech applications for sustainable growth. *Emerald*. https://doi.org/10.1108/978-1 83549608420251007

Ozili, P. K. (2026). *What level of financial inclusion should be achieved? That is the question*. In *Building Inclusive and Resilient Financial Ecosystems in the Digital Age*. Springer. https://doi.org/10.2139/ssrn.6888618

Pallant, J. (2020). *SPSS Survival Manual: A Step-by-Step Guide to Data Analysis Using IBM SPSS*.(7th ed.) London: McGraw-Hill, Open University Press.

Shirono, K., Beyene, B., Fareed, F., Loots, C., Quevedo, A., & Naidoo, K. (2024). *Understanding barriersto financial access: Insights from bank pricing data*. International Monetary Fund.

Tabachnick, B. G., and Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Boston, MA: Pearson.

World Bank. (2024). *Global financial development report 2024: Financial inclusion and resilience*. World Bank.

World Bank. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. https://doi.org/10.1596/978-1 4648-1897-4