ASSESSING THE EFFECTIVENESS OF FINANCIAL INCLUSION STRATEGIES ON POVERTY ALLEVIATION IN RURAL AREAS OF SOUTHWESTERN NIGERIA

OGUNSAKIN, AKINSOLA BASIRU,
AKINYEDE, OYINLOLA. M,
OLOWOGUNLE, OYINDAMOLA.
Department of Finance, Faculty of Management Sciences, Redeemer's University Ede.

ABSTRACT

The study investigated the relationship between Financial Inclusion and Poverty Level in Osun State, Nigeria. It examine how access to formal and informal financial services, use of digital financial services, and financial literacy as components of Financial Inclusion affect Poverty Level measured by income level and saving behaviour of individuals. A survey research design was used focusing on economically active adult in Osun State. Data were collected through multi-stage sampling techniques and analysed using descriptive statistics in SPSS and Partial Least Squares Structural Equation Modeling (PLS-SEM) via Smart-PLS. Result showed that access to formal and informal financial services did not have a statistically significant impact on poverty level. Conversely, digital financial services and digital channels were identified as efficient drivers of accessing and cost reduction in financial inclusion, while financial literacy empowers individuals to make financial decisions has great effect on the people's poverty level. The study concludes that poverty reduction in Osun State is driven by ***digital financial services and financial literacy****, rather than access to traditional formal or informal financial services alone. Policy recommendations include enhancing financial education, improving accessibility to digital services, reforming formal financial services, strengthening relationship between informal-reduce to formal financial services, and implementing financial policies.*

Keywords: *Financial Inclusion, Formal Financial Services, Informal Financial Services, Financial Literacy, Poverty Level, Digital Channels.*

Word Count: 199

1.1 INTRODUCTION

Poverty in Nigeria, which is often referred to as the "capital of poverty in the world" due to the large section of its population living below the poverty line, poverty is still one of the old development issues. As stated by the World Bank (2024), 47% of Nigerians survive below $2.15 a day, highlighting the level of extreme poverty that is prevalent in many states. Alaye and Ogunbanwo (2024) have attributed certain structural factors to Nigeria's poverty: bad infrastructure, high unemployment, low productivity, bad governance, corruption, and limited access to formal financial institutions and credit. These challenges call for strengthening financial inclusion so as to be a vehicle for sustainable economic empowerment along with enhanced access to resources.

They say Nigeria's fight against poverty would need better governance, economic development infrastructure, healthcare and education investment, stabilization of the economy, promotion of sustainable development, job creation, and providing more public access to financing. By confronting these underlying causes, Nigeria can eradicate poverty, create a more inclusive and equitable society, and achieve sustained economic growth (Alaye & Ogunbanwo, 2024).

Initiatives have been instituted over time by the Nigerian state and federal governments, as well as non-governmental organizations, to provide financial assistance in the form of grants and credits to individuals and organizations. Financial inclusion has created a vital linkage towards most of these interventions considered a crisis response to poverty and sustainable development in Nigeria. This study seeks to know in what way financial inclusion affects the poverty level. Osun State was selected more perhaps because financial inclusion is thought to be a relatively unexplored topic, and expanding access to financial services might have a big impact on the state's social welfare and economic results - (Oyewale & Alabi, 2024).

However, despite the fact that financial inclusion can be very important in reducing poverty levels, not much empirical research has been conducted on the four components of financial inclusion that are taken on this study on the effect levels of poverty. Additionally, there was insufficient data to support the extent to which these interventions actually impacted and addressed the needs of the poor within the state and in the nation of Nigeria as a whole, notwithstanding the efforts of governments at different levels toward strategizing to enhance individual access to finance and even working with financial institutions.

Despite the importance of financial inclusion, it became very relevant to determine the levels at which such programs were being functioning, and whether or not indeed they cut across the most vulnerable, the extent of financial inclusion, and how it has impacted on the poverty level in the state of Osun (Ajeigbe, 2021). Thus, this study investigated how poverty level in Osun State is impacted by formal financial services in general, informal financial services, usage of digital financial services, and financial literacy.

Another need for this study is the conflicting results obtained in some of the previous studies. For instance, studies such as Omar & Inaba (2020), Sumanta & Jie Qin (2022), Eze & Orji (2025), Ekpenyong & Agudo (2024) found that financial inclusion significantly reduced poverty in developing countries while other studies such as Ndume, (2024), Omenihu et al., Adeleke & Olomola (2022) found an insignificant effect of financial inclusion on poverty reduction. This study therefore contributes to existing literature by narrowing any gap in the study of the effect of financial inclusion on poverty reduction.

The main objective of this study was to investigate the impact of financial inclusion on poverty level in Osun State, Nigeria. However, the specific objectives were to:

i. determine how access to formal financial services influences poverty levels in Osun State, Nigeria.

ii. evaluate the effect of access to informal financial services on poverty levels in Osun State, Nigeria.
iii. examine the extent to which the use of digital financial services affects poverty levels in Osun State, Nigeria.
iv. assess how financial knowledge contributes to poverty reduction in Osun State, Nigeria.

This study focus was on the impact of financial inclusion on poverty level in Osun State, Nigeria. The study focus was on recent data to capture the most up-to-date trends in financial inclusion and poverty level in the state. It considered only the adult population within the State, because they are the economically active people. The focus was on cross section of the people, the employed and the unemployed, the agile and the people with special needs, the urban and the rural dwellers, the educated and the uneducated.

LITERATURE REVIEW

2.1 Theoretical Review

The relationship between financial inclusion and poverty alleviation is supported by some main theories. The Financial Intermediation Theory (Gurley & Shaw, 1960) states that financial intermediaries mobilize savings and allocate the funds in a productive manner, which leads to growth and reduced inequality; the theory has nonetheless been based on an assumption of a perfect market and has ignored aspects of informal systems. Modernization Theory (Rostow, 1960s) posited that access to modernity-institutions, including financial services, was a determinant of societal development; however, this may have been largely at the cost of ignoring local context and informal avenues. Poverty Reduction or Basic Needs Theory (Streeten & ILO, 1970s) emphasized that directly addressing multidimensional deprivations, including access to financial services, will empower households to improve their welfare; however, structural constraints may dilute this impact. lastly, in Sen's (1999) Capability Approach, poverty is regarded as a deprivation of capabilities, so that issues like financial literacy or access to services provide individuals with the freedom to make better economic choices, notwithstanding measurement difficulties. In all, these theories provide a conceptual framework for studying how formal and informal financial services, digital financial services, and financial literacy can alleviate poverty and promote economic wellbeing in Osun State.

2.2.1 Theory of Financial Intermediation

Financial intermediation theory captures the central position occupied by financial intermediaries, such as banks, investment funds, and insurance institutions, within the economy by facilitating funds between borrowers and savers. The theory relies on two key ideas: transaction costs and asymmetric information. Financial intermediaries help reduce the cost of transactions through the aggregation of funds, enabling the provision of services cheaper than would be in unique transactions (Diamond & Dybvig, 1983). In acting as middlemen, financial institutions simplify processes, and financial resources become readily accessible to individuals and corporations.

Asymmetric information refers to situations in which one party in a transaction is better or more informed than the other. This asymmetry has the potential to lead to moral hazard and adverse selection, where lenders cannot assess the credit-worthiness of the borrowers (Stiglitz & Weiss, 1981). Financial intermediaries solve potential borrowers and monitor their actions post-lending thereby protecting the interests of the savers by increasing the overall market efficiency through money flow (Gertler & Gilchrist, 1994).

Secondly, financial intermediaries provide risk management in lending and investment. Financial intermediaries are able to absorb more risk on a larger scale because they have diversified holdings, thus making the financial system stable (Holmström & Tirole, 2001).

2.2.4 Theory of Financial Deepening

Financial deepening theory assumes that financial sector development and growth are imperative in inducing economic development and growth. Financial deepening is vital in inducing mobilization of savings, ease in investment, as well as greater access to other socio-economic groups (Kiprop, 2013). Financial deepening is vital in inducing mobilization of savings, ease in investment, as well as efficiency of the financial system.

One of the outstanding characteristics of financial deepening is that it reduces the transaction cost and information asymmetry in the financial sector at reduced cost. Financial deepening, via the vast array of various financial instruments, provides households and businesses with better means of managing risk and the more efficient use of resources (Levine, 2005). For instance, when banks devise new appraisal techniques and information sharing facilities, they can lend to groups previously left out, such as SMEs and poor families. Inclusion of such groups stimulates entrepreneurship and economic activity by making it possible for new businesses to emerge (Akhator & Marcus, 2018).

Increased finance enhances macroeconomic stability by diversifying the sources of financing and the resilience of the economy against external shocks (IMF, 2020). As financial markets grow, there is a need for strong regulation to provide effective protection to the consumers and ensure systemic stability (Dabla-Norris et al., 2013). Financial services can be enhanced by the Theory of Financial Deepening to facilitate economic growth.

2.3 Empirical Review

The literature review on financial inclusion and poverty reduction, globally provides strong lessons on how economic progress can be influenced by access to financial services across contrasting settings. Financial inclusion is a major driver of economic progress, particularly in the developing world, as it can help reduce poverty and improve overall well-being.

Erlando, Riyanto & Masakazu (2020) examined financial Inclusion, economic growth, and poverty reduction: evidence from Eastern Indonesia using the Toda-Yamamoto VAR bivariate causality

model and dynamic Panel Vector Autoregression (PVAR) to analyze secondary data. The findings confirmed that there exists a positive link between financial inclusion, economic growth, and the alleviation of poverty. Also, the findings revealed that socio-economic growth positively impacts financial inclusion and negatively affects poverty levels and, however, financial inclusion was found to aggravate income inequality in Eastern Indonesia.

Ajeigbe (2021) examined financial inclusion, microcredit, and poverty alleviation among Nigerian women using secondary data from national financial inclusion reports and surveys. Literature review and qualitative analysis were used. Financial inclusion, particularly through microcredit, was discovered in the research to be a critical tool in poverty alleviation among women in Nigeria and reasserted that greater access to financial services empowers women to invest in income-generating activities, thereby improving their economic welfare and contributing to overall poverty alleviation.

Eze and Alugbuo (2021) examined the impact of financial inclusion on poverty reduction in Nigeria using evidence from the 2017 Global Findex survey by the World Bank. Applying both Instrumental Variable (IV) estimation and the logit model to eliminate potential endogeneity, their results verified that financial inclusion has a strong impact on decreasing Nigerian household poverty. Even after endogeneity bias had been addressed, the study concluded that individuals who had formal access to financial services were significantly less prone to be in the bottom 40% income category. These findings align with world evidence linking financial inclusion with better economic well-being of households.

Ndem et al., (2022) noted some of the challenges to financial inclusion in Osun state remain. There are much infrastructural deficits, low financial literacy, high transaction costs, and poor outreach by financial agencies that are all barriers to access for the majority.

Ajeigbe et al. (2023) probed the relationship between financial inclusion indices and performance of SMEs in Osun State. The result showed that improved access to banking services has a positive effect on the SMEs' performances on employment and earnings in the area. This also suggested the relationship between financial inclusion, business, and poverty alleviation.

Olaoye and Zerihun (2023) assessed that (ICT) plays a role in financial inclusion and poverty reduction in Nigeria, the study employed the Generalized Method of Moments (GMM) and Fully Modified Ordinary Least Squares (FMOLS) method. Their findings indicate that ICT reduce the impacts of unforeseen economic shocks, and ultimately lower poverty rates in the Nigerian economy.

Nyarko, Amoateng & Aboagye (2023) examined impact of financial inclusion on poverty through access to mobile money including mobile accounts and the use of two-step system GMM estimator for the analysis. The finding indicated that financial inclusion overall rose and lowers poverty over the sample period by a lot and is an effective policy tool for poverty reduction.

Nnoje, Doris & Ogochukwu (2024) estimated financial inclusion technology and poverty reduction in Nigeria from secondary data in various financial and economic reports. Trend analysis and econometric methods of error correction were employed in data analysis in this research and proved that ATMs and mobile payment systems have significant contributions towards poverty reduction and promotion of economic participation by the poor.

Oyewale & Alabi (2024) tested financial inclusion as a genuine channel of small and medium enterprise performance with empirical proof from Osun State, Nigeria based on primary data collected from 450 SMEs registered in Osun State, application of a simple random sampling method and multiple regression approach. The study concluded by revealing that there is statistical significance of financial inclusion on SME performance with a contribution of 71.4% positively.

2.4 Gaps Identified in Literature

Research in Osun State such as Clement (2019), Oyewale & Alabi (2024), Ajeigbe (2021) Hussaini et al. (2020) are focusing on microcredit that constitutes just a segment of financial inclusion, and how it affects small enterprises and women entrepreneurs without extensive research on how access to formal financial services, access to informal financial services, utilization of digital financial services and level of financial literacy affect poverty level in the state.

However, some national empirical evidence (Hussaini et al. (2018), Ndem et al. (2022), Olaoye & Zerihun (2023) examined the effect of digital financial services and formal financial services on poverty reduction in Nigeria and this study seeks to streamline the research to examine its impact on households and individuals in Osun state.

3.0 METHODOLOGY

This chapter discusses methodology conducted within the research design, population and sample size, sampling techniques, research instruments, validity and reliability procedures, model specification, along with the estimation techniques and a-priori expectations. Specifically, the study is intended to determine the effect of financial inclusion on poverty levels in Osun State, Nigeria. With the use of recent data, it captured the most recent trends in financial inclusion and the dynamics of poverty within the state; that population was adult, as being the economically active segment of society, and also included a cross-section of individuals, such as employed and unemployed, urban and rural dwellers, educated and uneducated persons, agile individuals, and persons with special needs.

3.1 Research Design

This study employs a survey research design to systematically collect data of information from the representative sample of the targeted population. The survey research enables the collection of information on the income level, access to formal and informal financial services, the use of financial services and level of financial knowledge.

3.2 Population of the Study

The economically active adult constitutes the population of the study. These include individuals across different segments of the state social-economy who are eighteen years and above. The latest available and reliable information about Osun State population estimates is the population estimates of Nigerian States as at 2016 published by the National Bureau of Statistics (NBS, 2020) on its website.

The estimated total population of the adult persons in Osun State based on the estimate is 2,844,058 (60.44% of 4,705,589 (total population)) (NBS, 2020).

3.3 Sample Size and Sampling Technique

3.3.1 Sample Size

The population of this study comprised economically active adults in Osun State, Nigeria, defined as individuals aged 18 years and above across different segments of the state's socio-economic spectrum. The latest reliable population data for Osun State is provided by the National Bureau of Statistics (NBS, 2020), which estimated the total population of the state as 4,705,589 in 2016. Of this, adults aged 18 years and above constitute approximately 60.44%, giving an estimated adult population of 2,844,058. Using the projected 2025 total population of 4,652,156, the targeted adult segment is estimated at 2,810,403 persons. The sample size for this study was determined using **Taro Yamane's (1967) formula**:

$$n=\frac{N}{1+N(\varepsilon)^2}$$

where:

n is the sample size

N is the total number of people in the study population

ε is the margin of error at 0.05 for 95% confidence level

While the total population for Osun state in 2025 is estimated at 4,652,156, the population of the targeted segment of the population (people eighteen (18) years and above is estimated at 60.44% of the total population which gives 2,810,403 persons. Hence the sample size was determined from the above equation thus:

$$n=\frac{2{,}844{,}058}{1+2{,}844{,}058(o.o5)^2}$$

$$n=\frac{2,844,058}{1+7,110.145}$$

$$n=\frac{2,810,403}{7,111.145}$$

n = 399.93 = 400

The sample size for this study was therefore estimated at 400.

3.3.2 Sampling Technique

This study makes use of multi-stage sampling techniques. Purposive sampling was used to select six local government areas, one from each of the six administrative zones of the state. This process is to ensure that there is a fair and true representation of the targeted population across the state. The six communities are mentioned below:

Ede Zone: Aritanganran is a community in the centre of Ede town which as diverse of mix people. It is inhabited mainly by low-income earners. They consist of artisans, self-employed etc. 67 copies of the questionnaires were administered in this community.

Ife Zone: Sabo community in Ile-ife in Ajebandele is the area where the northerners reside. They are mainly traders - shop owners and itinerant traders, daily paid laborers, housewives and a good number of urban poor. 67 copies of the questionnaire were administered in this community.

Ikirun Zone: Oni-oba is an agrarian and a rural community in Boripe Local Government area of Osun State. The inhabitants are mainly small holder farmers, artisans, small business owners etc. 67 copies of the questionnaire were administered in this community.

Ilesa Zone: Isotun is a rural community in Atakumosa West Local Government area, inhabited mainly by people cultivating cocoa and other cash and food crops as well as self-employed and low-income earners. 67 copies of the questionnaire were administered in this community.

Iwo Zone: Telemu is another rural in Olaoluwa Local Government area, Osun state. Inhabitants are mainly farmers and petty traders. 66 copies of the questionnaire were administered in this community.

Osogbo Zone: Fiwasaye is a community in the heart of Osogbo. The community host an economic and skill acquisition centre for people that are physically challenged. 66 copies of the questionnaire were administered in this community.

3.4 Research Instrument

The study made use of structured questionnaire to capture relevant information on relationship between financial inclusion and poverty reduction. The questionnaire is divided into six sections

which are the demographic information of the respondents, access to formal financial services, access to informal financial services, digital financial services, financial knowledge and poverty indicators such as income level. The questionnaire was designed using Likert scale which ranges from strongly disagree (1) to strongly agree (5), to enable measurement of respondent's perception. The instrument is self-constructed.

3.5 Validity and Reliability of Instrument

A content validity check was conducted for the study. The research instrument was reviewed by financial experts and academic supervisors to ensure that all key aspects of financial inclusion and poverty level, as related to the objectives of the study. The Cronbach's Alpha coefficient was used to test the consistency and reliability of the questionnaire. A value of 0.7 and above indicated that the instrument is reliable for the study. The result of the reliability test is reported in the next chapter.

3.6 Model Specification

The relationship between financial inclusion and poverty reduction can be mathematically represented using regression models Omar & Inaba, 2020; Saha & Qin, 2022; Eze & Orji, 2021; Abu et al., 2022, this study specifies poverty as a function of access to formal financial services, informal financial services, digital financial services, and financial literacy as follows:

$Pov = \beta_0 + \beta_1 AFFS + \beta_2 AIFS + \beta_3 DFS + \beta_4 FKL + \varepsilon$
Where:
Pov = Poverty level of individual (measured using income levels and savings behaviour)
AFFS = Access to formal financial services
AIFS = Access to informal financial services
DFS = Use of digital financial services
FKL = Financial knowledge level
ε = Error term

The Structural Equation Modeling (SEM) approach was used for the analysis of the relationship between the dependent variable (Poverty level) and the independent variables (Access to both formal and informal financial services, Use of digital financial services & Financial knowledge level). The path diagram for the SEM is presented in the figure 3 below.

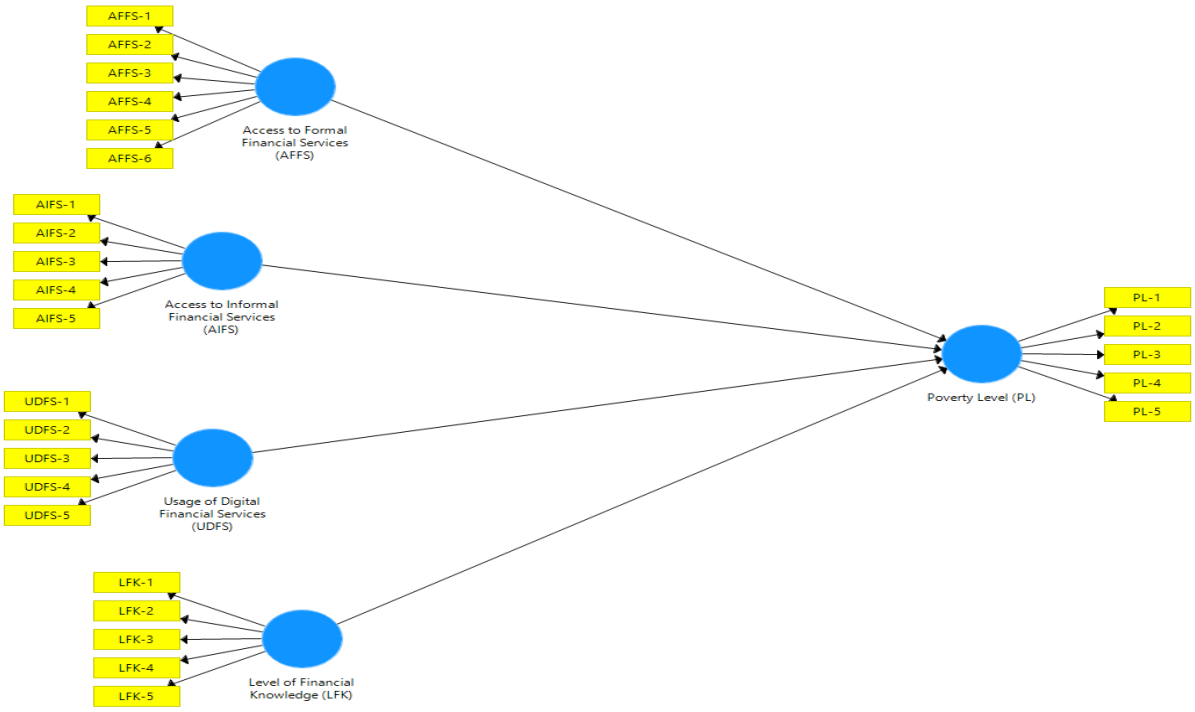

Figure 3.1 – SEM diagram for the econometric model

3.7 Estimation Techniques

The research employed the use of descriptive statistics to summarize the demographic data and the use of inferential statistics to analyze responses on the relationship between financial inclusion and poverty level. The descriptive statistical tools include the frequency table and percentages, via the SPSS software. The Partial Least Squares Structural Equation Modeling (PLS-SEM) technique was used for the estimation of the parameters in the SEM, via the Smart-pls software. The standardized factor loading, Cronbach Alpha test and composite reliability statistics were computed for the assessment of the measuring items in the questionnaire. In addition, the Average Variance Extracted (AVE), Fornell-Larcker and Heterotrait-Monotrait (HTMT) criteria were used to ascertain the convergent and discriminant validities. Lastly, the bootstrapping technique was used to estimate the parameters of the paths in the SEM.

3.8 A-*Priori* Expectation

Based on existing literature and economic theories, it is expected that access to formal financial services, informal financial services, digital financial services, and financial knowledge will **positively impact** poverty level in the following ways:

Variable	**Expected Relationship with Poverty Level**	**Rationale / Explanation**

Formal and Informal Financial Services	Negative (↓ Poverty Level)	Greater access enhances individuals' ability to save, invest, and manage risks, leading to improved financial stability and reduced poverty.
Digital Financial Services	Negative (↓ Poverty Level)	Use of digital platforms improves financial access, efficiency, and income opportunities, thereby improving economic conditions.
Financial Knowledge	Negative (↓ Poverty Level)	Better financial literacy enables informed decision-making and reduces vulnerability to financial shocks.

$Pov = \beta_0 + \beta_1 AFFS + \beta_2 AIFS + \beta_3 DFS + \beta_4 FKL + \varepsilon$
Where:
Pov = Poverty level
FFS = Access to formal financial services
AIFS = Access to informal financial services
DFS = Use of digital financial services
FKL = Financial knowledge level
ε = Error term

4.0 RESULTS AND DISCUSSIONS

The econometric analysis of the SEM includes the assessment of the measuring items of the construct variables and the estimates of their parameters. The necessary condition is for the construct variables to satisfy both reliability and validity criteria before being considered for the SEM.

4. 1 Factor Loading Assessment of the Measurement Items

The standardized factor loadings for the measuring items in each construct variable were determined using the smart-pls software. The minimum acceptable factor loading is 0.6 (60%) and some of the items do not satisfy this. Such items must be removed and only those who meet the loading condition can be retained for inclusion in the SEM. The retained items and their respective loadings are shown in figure 4.6.

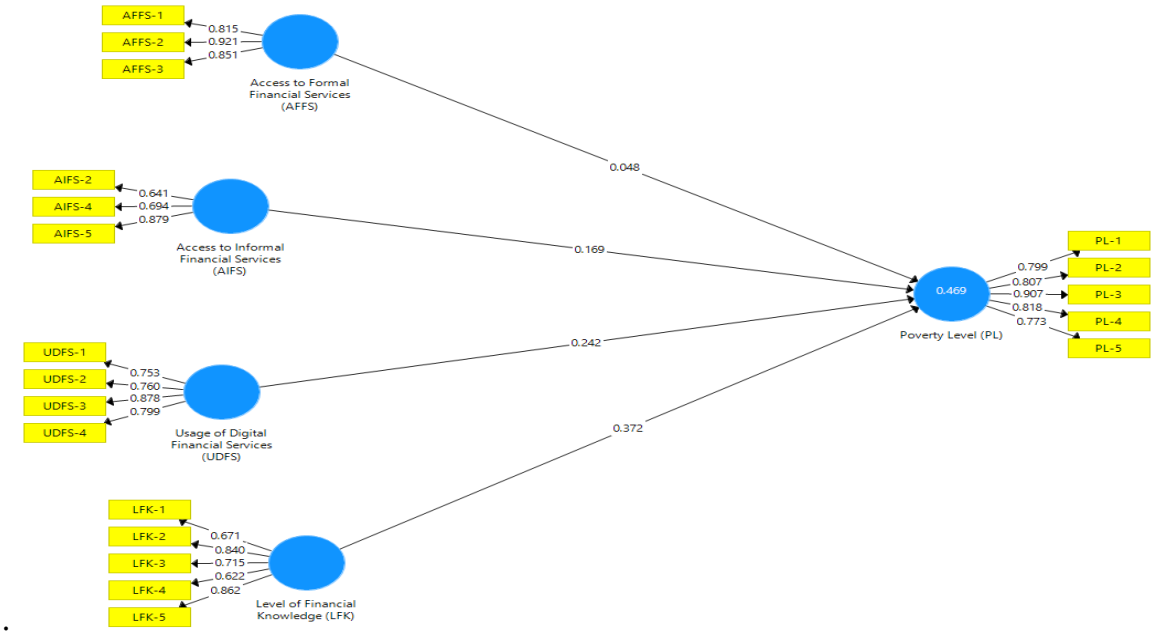

Fig 4.8 – Factor Loadings for the Retained Measuring Items

Source: *Smart-PLS 3 (2025)*

4.2. Construct Reliability and Validity

Table 4.7 – Construct Reliability and Validity

Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Access to Formal Financial Services (AFFS)	0.830	0.848	0.898	0.746
Access to Informal Financial Services (AIFS)	0.607	0.701	0.786	0.555
Level of Financial Knowledge (LFK)	0.803	0.852	0.862	0.559
Poverty Level (PL)	0.880	0.890	0.912	0.676
Usage of Digital Financial Services (UDFS)	0.815	0.877	0.876	0.638

Source: *Smart-PLS 3 (2025)*

The construct reliability results are shown in Table 4.7, including the Cronbach Alpha statistic, Composite reliability (rho-A & rho_C) and Average Variance Extracted (AVE). It is expected that Cronbach Alpha values must not fall below the minimum acceptable threshold of 0.6 (Mugenda & Mugenda, 2003). The results in Table 4.7 indicate that all the constructs have Alpha values above this threshold. Similarly, the composite reliabilities statistics (rho-A & rho_C) must be

above the 0.7 benchmark and results show that this has been satisfied. Hence, it can be concluded that all the retained measuring items are reliable in jointly measuring their individual constructs.

Furthermore, the Average Variance Extracted (AVE) indicates the convergent validity of construct variable and the rule of the thumb is a minimum threshold of 0.5. Results in Table 4.7 show that all the construct variables meet this requirement and which affirms their convergent validity.

4.3 Discriminant Validity

Discriminant validity is a necessary test to ascertain that there are no discriminant problems among the measuring items for the construct variables. The Fornell-Larcker and Heterotrait-Monotrait (HTMT) criteria are very popular and useful tools for testing discriminant in SEM. These were computed and the results presented in Tables 4.8 and 4.9 below.

The Fornell-Larcker criterion requires that the square root of the AVEs (diagonal & bolded values in Table 4.6) must be greater than any of the inter-construct correlations (other values). The results show that this condition has been met.

Table 4.8 – Fornell-Larcker

Construct Variables	AFFS	AIFS	LFK	PL	UDFS
Access to Formal Financial Services (AFFS)	**0.864**				
Access to Informal Financial Services (AIFS)	0.461	**0.745**			
Level of Financial Knowledge (LFK)	0.472	0.559	**0.748**		
Poverty Level (PL)	0.447	0.508	0.619	**0.822**	
Usage of Digital Financial Services (UDFS)	0.603	0.453	0.541	0.548	**0.799**

Source: *Smart-PLS 3 (2025)*

In addition, the Heterotrait-Monotrait (HTMT) requirement is for all HTMT ratios to be less than 0.9. Table 4.9 shows that all the HTMT ratios for the construct variables are below this threshold, which therefore implies that there is no problem of discriminant validity among them.

Table 4.9 – Heterotrait-Monotrait (HTMT)

Construct Variables	AFFS	AIFS	LFK	PL	UDFS
Access to Formal Financial Services (AFFS)					
Access to Informal Financial Services (AIFS)	0.611				
Level of Financial Knowledge (LFK)	0.546	0.789			
Poverty Level (PL)	0.510	0.651	0.657		
Usage of Digital Financial Services (UDFS)	0.695	0.579	0.596	0.614	

Source: *Smart-PLS 3 (2025)*

4.4 Path Model

The path diagram in figure 4.7 shows regression coefficients and their corresponding p-values for the linear relationship between the independent variables (access to formal services, access to informal services, usage of digital financial services & level of financial knowledge) and the dependent variable (poverty level). This is the basis for the parameter estimates and test of hypotheses.

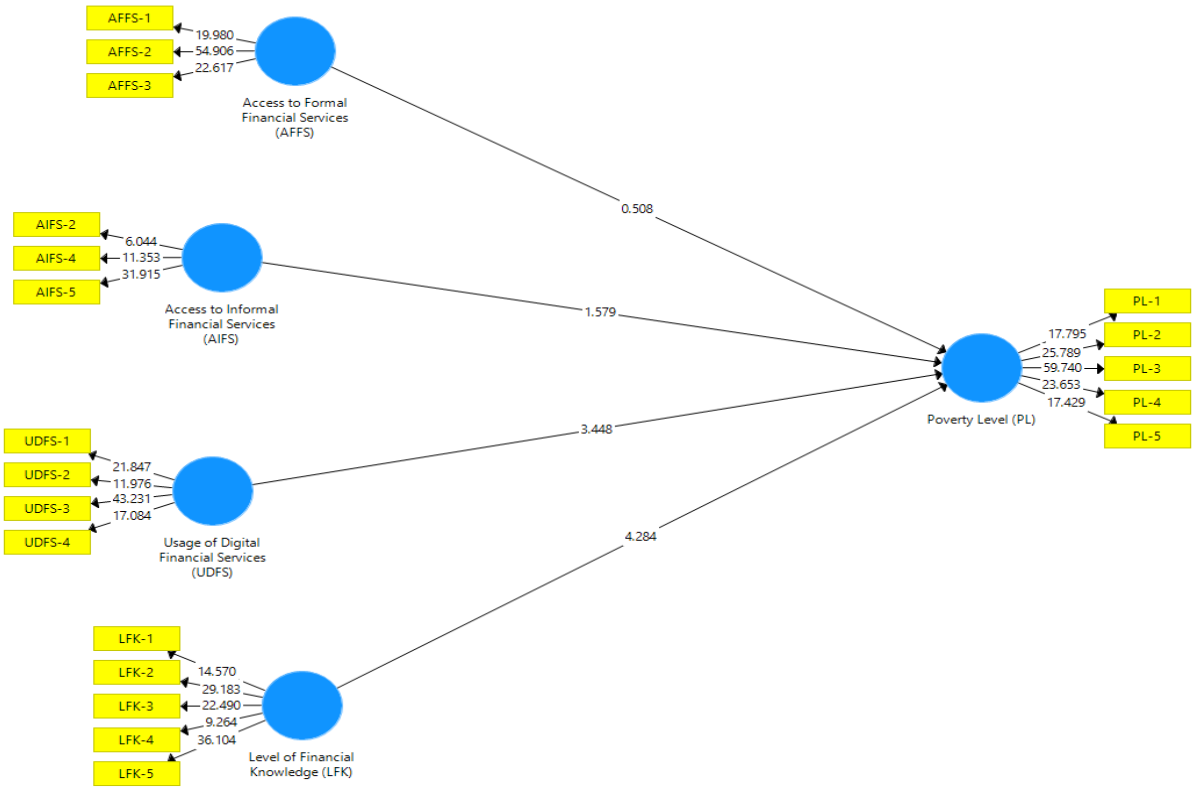

Figure 4.9 – Path Diagram for the Structural Model

4.2.4.1 Model Fit

Table 4.10 shows the result of the goodness of fit criteria for the structural model. The Standardized Root Mean Residual (SRMR=0.026) is within the maximum acceptable threshold of 0.08. Similarly, the overall model fit indices (d_ULS = 1.349 & d_G = 0.787) are both within their acceptable benchmarks ($HI._{95}$=1.74 & 1.27 respectively). In addition, the R-squared value of 0.469

suggest that the explanatory variables account for the variations in the exploratory variable. In summary, the various statistics for path model suggests a good model fit.

Table 4.10 – Model Fit Results

	Estimated Model	**Benchmark**
SRMR	0.026	< 0.08
d_ULS	1.349	<HI.95=1.74
d_G	0.787	<HI95=1.27
Chi-squared	1.668.189	
R-squared	0.469	

Source: *Smart-PLS 3 (2025)*

4.3 Test of Hypotheses

Table 4.11 – Path Estimates

Hypothesized Path	**Beta**	**T-Statistics**	**P-Values**	**Decision**
Access to Formal Financial Services (AFFS) -> Poverty Level (PL)	0.048	0.508	0.612	Supported
Access to Informal Financial Services (AIFS) -> Poverty Level (PL)	0.169	1.579	0.115	Supported
Usage of Digital Financial Services (UDFS) -> Poverty Level (PL)	0.242	3.448	0.001	Rejected
Level of Financial Knowledge (LFK) -> Poverty Level (PL)	0.372	4.284	0.000	Rejected

Source: *Smart-PLS 3 (2025)*

Table 4.11 show the estimates of the path coefficients for the hypothesized paths in the SEM. The results show that the path from 'Access to Formal Financial Services' to 'Poverty Level' is positive (β = 0.048), indicating a direct relationship. However, the t-statistic of this path (t = 0.508) is not statistically significant at the 5% level (p = 0.612). This implies that access to formal financial services has no significant effect on poverty level. Similarly, the beta coefficient of the path from 'Access to Informal Financial Services' to 'Poverty Level' is positive (β = 0.169), which also implies a direct relationship. However, the t-statistic of the path (t = 1.579) is not statistically significant at the 5% level (p = 0.115). Hence, it is concluded that access to informal financial services has no significant impact on poverty level.

Further results from Table 4.11 reveal that the path coefficient from 'Usage of Digital Financial Services' to 'Poverty Level' is positive (β = 0.242), implying a direct relationship. The t-statistic (t = 3.448) of this path is also statistically significant at the 5% level (p = 0.001). This implies that usage of digital financial services has a significant influence on poverty level. In addition, the path from 'Level of Financial Knowledge' to 'Poverty Level' is positive (β = 0.372), which indicates a direct relationship. The t-statistic (t = 4.284) of this path is also statistically significant at the 5%

level (p = 0.00). Therefore, it is concluded that level of financial knowledge has a significant effect on poverty level.

4.4 Discussion and Implication of Findings

This study has investigated the impact of four financial inclusion variables (access to formal financial services, access to informal financial services, usage of digital financial services and level of financial knowledge) on the poverty level. Empirical findings have shown that Access to Formal Financial Services has a direct but insignificant effect on Poverty Level. This suggests that access to formal financial services, such as bank accounts, credit facilities from commercial banks, and other regulated financial services, do not significantly impact the poverty level of residents in Osun state. The result negates the findings of Eze and Alugbuo (2021) which suggest that financial inclusion through formal financial institutions contributes immensely in the process of reducing the level of poverty.

The empirical result for objective one can be traced back to a number of reasons. First, access does not translate to effective usage or profitable engagement in financial activities. It means that the majority of them who have access may not be able to utilize the financial services. While distributing the questionnaires, most individuals, among the respondents with accounts were not utilizing the majority of the formal financial services products. Their reasons among others include lack of exposure, wrong beliefs that they would never be qualified for some of the services especially loan service. It was actually recorded that, although access to banks is open to majority of the respondents and that in fact they have bank accounts, the only purpose to which they utilized the bank accounts was the saving of money and withdrawal of same whenever needed. In insurance, having mortgage and pension services, a reasonable number of them reported that they knew but they never in fact utilized them except for a few that possess health insurance covers. This aligns with findings by Beck, et. al (2007), who established that access alone without affordability and utilization have very little capacity to reduce the level of poverty.

The insignificance of this path shows that there is a call for the government and the formal financial institutions in Osun State to go ahead and pursue intentional promotion and enlightenment of the public on the various products that have the capacity to reduce the level of poverty in the state. Registering this as business opportunity, official financial institutions in the State should develop products that match the needs of low-income families and reduce structural barriers that prevent active use.

The result from objective two has shown that access to informal financial services exhibit a positive but statistically insignificant influence on poverty level. This suggests that although informal financial channels (such as rotating savings associations, non-rotating savings associations, money lenders at the neighborhood level, and cooperative societies) are becoming more accessible, their role in poverty reduction remains less significant under these conditions. This may be due to the lack of regulation of informal financial services, which are primarily lacking in consumer protection, most of them operated on a modest scale, they are primarily for individual savings, and either they give very low loans or no loan. Also, informal financial services

would be used more in consumption smoothing rather than productive investment, thus, the system cannot permanently lift many individuals out of poverty. This is congruent and aligns with arguments of Aryeetey (1996) and Zeller and Sharma (2000), who noted that informal financial services, as much as they do provide financial gap bridging, fall short in providing transformative assistance for reduction in the level of poverty.

Further empirical findings have revealed that usage of digital financial services directly and significantly affect poverty level. This indicates that as individuals get more actively engaged with electronic financial systems such as mobile money, USSD banking, mobile banking applications, and online transfers, their poverty levels drop considerably. This result supports the arguments of Sumanta and Jie Qin (2022) and Nyarko, Amoateng & Aboagye (2023) that the more people are provided easy access to and use financial services at a reasonable cost, the less people live in a state of severe poverty, that is, improving financial inclusion through digital financial services reduces poverty level. Also, the above findings are corroborating the findings of Nnoje, Doris & Ogochukwu (2024) which are that ATMs and mobile payment systems have also been fundamental in helping to curb poverty by enhancing access to financial services and economic engagement by the poor.

In Osun State, this result implies that offering citizens experiential financial education has the potential to make it more effective for people to use formal and informal finance and digital platforms. This also underlines the argument that financial inclusion programs need to be followed by financial capability-building programs to be sustainable.

CONCLUSION AND RECOMMENDATIONS

5.2 Conclusion

Based on the findings of this study, access to formal financial services and access to informal financial services do not have a significant impact on reduction of poverty level in Osun state. It also concludes that usage of digital financial services and level of financial knowledge has a significant impact on reduction in the level of poverty in Osun state. This implies that while financial access (both formal and informal) is important, it is actually the effective utilization of digital platforms and financial literacy acquisition that have the greatest influence on the level of poverty in Osun State. Financial inclusion programmes should therefore move beyond the provision of infrastructure to include behavioural, educational, as well as technological components.

5.3 Recommendations

Based on the evidence gathered in this research, the following are policy recommendations to policymakers, financial institutions, development partners, and members of society:

Promote financial education at all levels; financial literacy was the most significant determinant of combating poverty. The government, non-governmental organisations (NGOs), and financial institutions should invest in sustainable financial education and sensitisation programmes, in particular for youths, women, and rural dwellers. This should include exposure to opportunities and procedures involved to access various financial services and products such as loans, insurance and pension. Financial literacy can be integrated into school curricula, community workshops, and religious or cultural groups' programmes which can be presented in local languages. Emphasis should be given to helping people to understand the benefits derivable from the financial services and products. Enhance the accessibility and usefulness of digital financial services. Considering the effect of usage of digital financial services on poverty reduction, development of digital financial services infrastructure over the place especially in remote markets and rural areas has to be improved upon. Banks and telecommunication firms must collaborate to minimize the risk of digital transactions, enhance network reliability, and deliver easy-to-use platforms.

5.4 Contribution to Knowledge

This study makes several important contributions to both the academic literature and practical understanding of the relationship between financial inclusion and poverty reduction in Nigeria, particularly within the context of Osun State. These includes providing empirical and regional information on financial inclusion and poverty, demonstration of the methodological significance of the use of SEM in social finance research, segmentation of financial inclusion into tractable, quantifiable components, determination of most significant contribution of digital financial services and financial literacy to poverty reduction, and provision of policy-relevant implications backed by robust analysis. It also adds to the development economics and financial inclusion literature, and lay a foundation for further research, particularly in other such developing nations that wish to learn how financial inclusion can be used effectively to reduce poverty level.

REFERENCES

Ajeigbe, H. O. (2021). Financial inclusion and poverty reduction in Nigeria: A case study of Osun State (Unpublished Ph.D. thesis). Department of Economics, Obafemi Awolowo University, Ile-Ife. *(No link available)*

Ajeigbe, H., Adedeji, A., & Oyewale, A. (2023). Financial inclusion and performance of SMEs in Osun State, Nigeria. *Journal of Business and Economic Studies*, 1(1), 45–60. *(No link available – likely local journal)*

Akhator, V. E., & Marcus, D. (2018). Financial deepening and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, 9(12), 1–10. https://www.iiste.org/Journals/index.php/JEDS/article/view/43927

Alaye, J. S., & Ogunbanwo, B. T. (2024). *Poverty in Nigeria: Causes, consequences, and solutions.* Ibadan University Press. *(No link available)*

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Financial Economics*, 84(1), 224–254. https://doi.org/10.1016/j.jfineco.2006.12.006

Clement, O. (2019). The impact of microloans on poverty reduction in Osun State (Unpublished M.Sc. thesis). Department of Finance, University of Ibadan. *(No link available)*

Dabla-Norris, E., Kochhar, K., Suphaphiphat, N., Yousefi, R., & Mirzoyan, N. (2013). Financial inclusion: Measuring progress and assessing impacts. *IMF Working Paper*, 13/28. https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Financial-Inclusion-Measuring-Progress-and-Assessing-Progress-40273

Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 401–419. https://www.jstor.org/stable/1837095

Eze, O., & Alugbuo, C. (2021). Financial inclusion and poverty reduction in Nigeria: Evidence from the 2017 Global Findex survey. *Journal of Developing Economies*, 6(1), 25–40. *(No link available – local)*

Gertler, M., & Gilchrist, S. (1994). Monetary policy, business cycles, and the behavior of small manufacturing firms. *The Quarterly Journal of Economics*, 109(2), 309–340. https://doi.org/10.2307/2118465

Holmström, B., & Tirole, J. (2001). LAPM: A liquidity-based asset pricing model. *The Journal of Finance*, 56(5), 1837–1867. https://doi.org/10.1111/0022-1082.00486

Hussaini, K., Ahmad, N., & Abubakar, S. (2018). The role of microfinance in poverty alleviation in Kebbi State, Nigeria. *Journal of Economics and Allied Sciences*, 3(1), 10–20. *(No link available)*

Hussaini, K., Ahmad, N., & Abubakar, S. (2020). Impact of microfinance on poverty reduction in Osun State. *Unpublished Research Report. (No link available)*

IMF. (2020). Financial inclusion: A policy agenda. *International Monetary Fund.* https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2020/06/29/Financial-Inclusion-A-Policy-Agenda-48641

Kiprop, S. (2013). Financial deepening and economic growth in Kenya. *Journal of Economics and Sustainable Development*, 4(14), 1–8. https://www.iiste.org/Journals/index.php/JEDS/article/view/7681

Levine, R. (2005). Finance and growth: Theory and evidence. In P. Aghion & S. Durlauf (Eds.), *Handbook of Economic Growth* (Vol. 1, pp. 865–934). Elsevier. https://doi.org/10.1016/S1574-0684(05)01012-9

NBS. (2024). Nigerian Living Standards Survey 2023. *National Bureau of Statistics.* https://nigerianstat.gov.ng/elibrary

Ndem, D., Okoro, A., & Eke, E. (2022). Financial inclusion of SMEs and poverty reduction in Akwa Ibom State, Nigeria. *Journal of Business and Financial Affairs*, 11(1), 1–15. https://www.hilarispublisher.com/open-access/financial-inclusion-of-smes-and-poverty-reduction-in-akwa-ibom-state-nigeria.pdf

Olaoye, A., & Zerihun, M. F. (2023). Digital financial services and poverty reduction in Nigeria. *International Journal of Finance and Economics*, 28(4), 456–470. https://doi.org/10.1002/ijfe.2700

Oyewale, I. O., & Alabi, E. (2024). Financial inclusion as a veritable tool for the performance of small and medium enterprises: Empirical evidences from Osun State, Nigeria. European J*ournal of Arts*, Humanities and Social Sciences, 1(2), 128-140. DOI: 10.59324/ejahss.2024.1(2).12.

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review*, 71(3), 393–410. https://www.jstor.org/stable/1802787

World Bank. (2024). Poverty & Equity Brief: Nigeria. *The World Bank.* https://databankfiles.worldbank.org/public/ddpext_download/poverty/987B9C90-CB9B-4D93-AE8C-750588BF00QA/AM2024/Global_PEB.pdf

World Bank Group. (n.d.). Financial Inclusion. Retrieved July 16, 2025, from https://www.worldbank.org/en/topic/financialinclusion

World Bank. (2017). *Poverty and Shared Prosperity 2016: Taking on inequality*. World Bank Publications. https://openknowledge.worldbank.org/handle/10986/25078

World Bank. (2020). Financial Inclusion. *World Bank.* https://www.worldbank.org/en/topic/financialinclusion