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# Assessing the Impact of Non-Interest Banking on Financial Inclusion: A Study of Selected States in Nigeria

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**Abstract.** This paper investigated the transformative potential of non-interest banking on financial inclusion within selected Nigerian states. Non-interest banking, grounded in Islamic principles, has garnered substantial scholarly attention across Muslim-majority nations. However, its nuanced effects on financial inclusion in Nigeria necessitated comprehensive examination. This study sought to address this gap by scrutinizing the intricate dynamics and discerning whether non-interest banking engenders heightened financial inclusion and socio-economic advancement. Interrogating the linkages between accessibility of non-interest banking services, individuals' attitudes toward non-interest banking, customer satisfaction, government support, trustworthiness of non-interest banks, and their collective impact on financial inclusion constitutes the focal point of inquiry. The study adopted a quantitative research paradigm, employing purposive random sampling to solicit responses from 380 participants encompassing Nigeria's diverse geopolitical zones. A tailored questionnaire, informed by extant scholarship, was meticulously administered, with data analysis done using Structural Equation Modeling (SEM) facilitated by SmartPLS v3.2.7. The findings underscored that customer satisfaction, perceived government support, and trustworthiness of non-interest banks significantly and positively influence financial inclusion. Nevertheless, the nexus between accessibility of non-interest banking services and attitudes toward non-interest banking with financial inclusion did not attain statistical significance within this model. The research attains an R2 value of 0.704 for financial inclusion, signifying an explanatory capacity of 70.4%. This research extended valuable insights for policy formulation and decision-making, by accentuating the pivotal role of customer-centric strategies, governmental endorsement, and credibility in amplifying financial inclusion through non-interest banking channels.

**Keywords:** Non-interest banking, financial inclusion, Nigeria, Structural Equation Modeling

## 1. Introduction

The level of financial inclusion is essential to achieving and maintaining economic development in the financial system of a country. Financial inclusion is the range, quality and availability of financial services to the under-served and financially excluded. It is critical to the survival of the financial institutions as a determinant of their performance to the economy of a country anywhere around the globe. The performance of financial institutions can be traced to the banking sector which constitutes economic and business activities that are responsible for achieving competitive advantage. Therefore, the banking sector is catalyst to the economic growth and development of any country's economy.

Financial inclusion enhances the financial status as well as improves the standard of living of the poor and vulnerable. It further enables them to increase their participation in economic activities thereby increasing wealth and providing employment to members of the society. Furthermore, financial inclusion is crucial to achieving poverty reduction, addressing the challenges on economic participation of disadvantaged and low-income sector of the society.
From the Islamic perspective, financial inclusion is seen as a Shariah compliant financial scheme that continue to gain acceptance by economists who refer to it as critical for poverty reduction which may result in building a healthy and vibrant economy. Therefore, Islam has presented financial inclusion as a remedy to

close the gap between the poor and the rich through fair distribution of income.

Islamic finance has emerged in the recent years as an alternative means for providing financial services globally even in the non-Muslim countries. Nigeria has a Muslim population of over 80 million, representing a population of almost equals the whole Muslim population of Algeria, Morocco and Tunisia indeed offers a substantial market for Islamic banking operation in the country. Despite the fact that the ability to access finance is measured as a huge step in connecting the poor segment of the society to a higher and broader world (Abdullahi, Othman, & Kassim, 2021), yet World Bank stated that around 2 billion adults were financially excluded in 2014 and about 17% of them belonging to Sub-Saharan Africa. Yet again, 5 % of the financially excluded adults mentioned religious beliefs or reasons as the justification for financial exclusion and majority of these adults are likely to be Muslims.

The financial system of any country is a function of the growth of its economy. A growing economy portrays more tasks on the financial sector to organize the required capital to facilitate production, create employment and income. On the other hand, economy that does not experience growth on constant basis is likely to have a very inactive financial sector as there are no encouragements. Thus, access to financial services is a matter of concern for most of the low-income member of the society as well as the potential entrepreneurs among them regarding lack of adequate security to access asset-financing. Particularly, financial inclusion, it is still poor in Nigeria.

The benefit of this study is to assess the impact of financial inclusion through providing Islamic banking services which is an emerging and alternative mode of banking that can result in improved economic welfare. It can further assist managers to identify Islamic banking services to prioritize and allocate resources to attract prospective customers increasing the financial inclusion. Generally, financial inclusion has been recognized to be associated to desirable economic outcomes. Notably, the association between financial penetration and long-term economic growth is constantly stronger in countries that tend to perform better on financial inclusion. However, Nigeria like other sub-Saharan African countries is faced with the issue of access to financial services, which is generally lower in sub-Saharan Africa, especially in the region's fragile and low-income countries, compared with other developing regions (Cuberes & Teignier, 2015). Non-interest banking could be a veritable tool in closing the gaps in financial inclusion, along the lower income group, it could reduce income inequality.

The adoption of non-interest banking became a well-researched field across the Muslim majority countries involving a wide spread of study areas, problems and issues related to non-interest banking. For instance, past studies have examined awareness and challenges of adoption of Islamic banking (Butt, Ahmad, Naveed & Ahmed, 2018; Butt, Ahmed, Altaf, Jaffer & Mahmood, 2011; Islam & Rahman, 2017); another set of research focused on understanding the challenges and prospects in Islamic banking and finance ( Amin, Abdul-Rahman & Dzuljastri, 2014; Iqbal & Molyneux, 2005), while others have aimed to study on the role of Islamic banking on financial inclusion in recent years, Demirguc-Kunt, Klapper & Randall (2013)

For instance, a study such as one conducted in Pakistan, believed that the system has not been well-known among the grassroots due to the popularity of the conventional banking system. There has not been any study that specifically dwelt on the role of non-interest banking on economic welfare through financial inclusion in six geopolitical zones of Nigeria. The present study intends to fill this gap and to determine whether non-interest banking serve as a gateway to improving the economic welfare of the people. The broad objective of this study is to examine the effect of Non interest banking on the financial inclusion in selected states in Nigeria. The specific objectives include to examine:

i. the relationship between the accessibility of Non-Interest Banking Services and Financial Inclusion.
ii. the impact of individuals' attitudes towards Non-Interest Banking on Financial Inclusion
iii.customer satisfaction with Non-Interest Banking Services, analyze its influence on Financial Inclusion.
iv. the relationship between individuals' perception of government support and Financial Inclusion
v. individuals' perception of the trustworthiness of Non-Interest Banks, assess its impact on Financial Inclusion

## 2. Literature Review

### 2.1 Theoretical and Conceptual Review

This research work is anchored on Islamic banking theory which is based on the tenet of profit sharing and forbids interest payment on loans. According to Maberi and Nwokpfero (2019), there is no justification for a money owner to earn interest on funds except he is equally ready to share in the risk of loss. So,

benefiting from the increase in wealth presupposes that such wealth must be exposed to the risk of loss as well. The money owner should function as a shareholder in the business and the profit-sharing principle which is floating in nature must reflect on the actual return on investment. Equally, the Finance-growth theory can justify the non-interest banking practice. The theory advocates clearly that creates an enabling environment for economic growth through the "supply leading" and "demand following" effects. The theory holds that access to safe, affordable and easy finance, creates equal opportunities and enables socially excluded people to be actively integrated into the economy and lead to accelerated growth. Naveed and Kashif (2010) defined "Islamic bank as a non-interest financial institution which complies with Islamic laws which follows creative and progressive financial engineering efforts to offer efficient and competitive banking, investment, trade finance, commercial and real estate financial services".

Financial Inclusion on the other hand is a state where financial services are rendered by a range of providers mostly the private sector to reach everyone who could use them. Theoretically, increased access to deposit facilities enhances the ability of financial intermediaries to mobilize funds from the surplus sectors to the deficit sectors of the economy which facilitates economic growth and improved living standard of the people.

**2.2 Empirical Review**

Prior studies have been conducted on the nexus of non-interest banking and financial inclusion both in Nigeria and outside the country. Some of these studies are reviewed in this section.

Asaolu (2022) examined the link between non-Interest banking and financial inclusion in Nigeria. The study applied the descriptive analysis on the data generated from both primary and secondary urces. Interviews were also conducted to argument the questionnaire data. The results of the primary data analyzed confirmed the acceptance of non interest banking products of Jaiz bank which was the case in point while that of the secondary data confirmed the soundness of Jaiz bank to offer both the existing and prospective investors the needed comfort. Also in the same year, Aigbovo and Sibor (2022) evaluated the level of awareness, understanding and willingness of non-Muslims in patronizing Islamic banking in Nigeria. Data was derived from respondents who were drawn from customers of conventional banks. Analysis of data was done using the descriptive method which was basically the simple percentages. The results showed that respondents had very little knowledge of Islamic banking system and the level of willingness to patronize the Islamic banking products were equally very low.

Olunuga (2020) assessed the influence of non-interest banking on the growth of Micro and Small and Medium Enterprises (MSMEs) in Nigeria. The study made use of primary data derived from questionnaires distributed to MSMEs entrepreneurs and managers of banks. Data analysis was conducted using the regression method. The findings showed that non-interest banking significantly the growth of MSMEs in Nigeria.

Anifowose (2015) examined the effects of non-interest banking on Entrepreneurship development in Nigeria. The study being theoretical in nature, clearly identified that the most difficult factor bedeviling every entrepreneur was the sourcing of capital yet Islamic banking came to break the barrier by ensuring that entrepreneurs are availed capital and funds where applicable.

David, Abubakar and Aminu (2018) conducted an impact analysis of Islamic finance on financial inclusion and economic growth in selected Muslim countries with focus on lessons for Nigeria. The countries investigated included Saudi Arabia, Malaysia, UAE, Kuwait, Qater, Turkey, Indonesia, Bahrain and Pakistan. The study adopted the simultaneous Equation Model (SEM) with panel data from 2011 to 2014. The major results revealed significant relationship between Islamic finance and economic growth in Nigeria. The results also confirmed that financial inclusion was positively impacted by Islamic finance.

Mbaeri and Nwokefero (2019) explored the issues and justification for Islamic banking in Nigeria. The authors noted that the aim of the introduction of the Islamic banking system was to accelerate economic growth and development through risk sharing and prohibition of interest on loans. The study adopted descriptive survey design thus questionnaires were administered to both entrepreneurs and bank staff within Imo State. The results showed that interest free banking positively impacted on entrepreneurs, reduced unemployment levels and positively affected the real sector of the Nigeria economy.

Akinyemi (2011) espoused on the survival of Islamic banking vis-à-vis non-interest banking in Nigeria. The author gave a theoretical insight on the enabling laws and guidelines on the operations of non-interest banking as well as laying bare the inherent benefits of

the banking system. The study concluded that the Islamic banking system should be giving a chance to succeed as it serves as a veritable tool for eco nomic growth and development.

Emmanuel (2022) assessed the impact of free banking on sustainable economic development in Nigeria. The study adopted the logistic model and multiple probability regression analysis on data collected via structured questionnaires. The results confirmed that the absence of regulation is equal to free banking regime. The study noted that the heavy regulation practiced by the Central Bank of Nigeria (CBN) imposed on the market demand a lot of improvements and structuring. The author recommended that the operational guidelines for free banking should be revisited to inculcate other non-Muslim banking products. The results confirmed that interest free banking significantly impact on sustainable economic development in Nigeria.

The various studies reviewed clearly showed that the acceptance of non-interest bank is still at its lowest ebb and that scanty literature exist on the impact of non-interest banking on financial inclusion in Nigeria. The available results however, suggest that a link exist between non-interest banking and financial inclusion in Nigeria and other countries especially in the Muslim states. Therefore, the need for further studies to unravel the impact of non-interest banking on financial inclusion cannot be overemphasized.

## 3. Research Methodology

The study focuses on customers subscribed to non-interest banking in selected states where non-interest banking is operational both from the Northern and Southern parts of Nigeria. In terms of period of coverage, the study searchlight covers from 2012, when the first non-interest Bank started operations to date which is a sufficient period saturated enough to warrant a study.

A quantitative approach would be employed. Quantitative data would be collected and analyzed from non-interest (Jaiz and Taj) bank subscribers across the six geo-political zones in Nigeria. Morgan and Krjcie &1970) table would be used to determine the sample size of the study from the obtained population using Purposeful Random Sampling method. The questionnaire of the study was adapted from extant studies will consist of two sections. Part A will contain the profiles of respondents, whereas Part B shall encompass the constructs and all the items used to test them. The items will be rated on a five-point Likert Scale with "1" denoting Strongly Disagree and "5" for Strongly Agree. Additionally, the questionnaire's validity and reliability will be assessed. All items were adapted from the studies of (Zauro et al., 2016). Three Hundred and Eighty Respondents were sampled from a population of 750,000 Jaiz and Taj Bank Customers using purposeful sampling.

Expert assessment will be used to ensure the content validity of the questions. A pilot study will be conducted to determine reliability of the question. To collect the Data (survey), six research assistants who are based in each of Nigeria's six geo-political zones would be trained and employed to administer the survey questions. For better understanding, professional translators shall translate the questionnaire into local Languages of Hausa, Igbo and Yoruba. Measurement instruments for the study shall be adapted from extant studies. The reliability analysis and content validity of the instruments shall be carried out prior to the main study. Equally, to analyse the Quantitative Data for this study, Statistical Package for Social Sciences (descriptive statistics /demographics) and SmartPLS v3.2.7 (Ringle, Christian., Wende, Sven, & Becker, 2016) would be used.

The study focused on customers subscribed to non-interest banking in Nigeria's six geopolitical zones (North Central (NC), North East (NE), North West (NW), South West (SW), South East (SE) and South (SS)). In terms of period of coverage, the study searchlight will cover from 2012, when the first non-interest Bank started operations to date which is a sufficient period saturated enough to warrant a study.

### 3.1 Data Analysis and Result

This research used the Statistical Package for Social Science (SPSS) version 23 to analyse the descriptive statistics of the respondent. Inferential statistics were achieved utilizing PLS-SEM strategy employing SmartPLS 3.2.7 (Ringle et al., 2016). Data screening was carried out prior to the analysis to ensure the cleanliness of the data. The selection of PLS-SEM, in particular, the choice of using SmartPLS was attained from its capability to deal with small samples and data that is not distributed normally (Hair et al., 2014, p. 19). Therefore, the use of PLS-SEM method was reasonable with the small sample size of 380 respondents. Also, PLS-SEM has been used in most recent studies across different disciplines. For example, in Management Information System (Owusu, Ghanbari-Baghestan, and Kalantari, 2017; Owusu et al., 2017; Weli, 2019), and in Advertising and Marketing (Abdurrahaman and Osman, 2016;

Abdurrahaman, Owusu, Soladoye, and Kalimuthu, 2018; Bakare, Owusu, and Abdurrahaman, 2017)

### 3.2 Demographic Profile of Respondents

The demographic profile of the respondents (N = 380) revealed diverse characteristics across various demographic variables. In terms of age, the distribution was as follows: 16.8% of the respondents fell within the age range of 18-24, while 22.6% were aged between 25-34. The largest age group consisted of individuals aged 35-44, accounting for 31.3% of the sample. Additionally, 11.1% of the respondents were aged 45-54, and 18.2% were 55 years old or above.
Regarding gender, the majority of the respondents identified as male, comprising 75.0% of the sample, while female respondents accounted for the remaining 25.0%.

In terms of educational qualification, the respondents exhibited a range of educational backgrounds. Bachelor's degree holders constituted the largest group, representing 46.6% of the sample. The next highest group consisted of individuals with a Master's degree, accounting for 31.8% of the respondents. Those with a Diploma comprised 6.3% of the sample, while the same percentage of respondents held a Ph.D. Furthermore, individuals with primary/secondary education constituted 8.9% of the total.

The respondents exhibited various occupational profiles. The largest proportion of respondents (48.7%) reported being employed, followed by students (28.2%) and self-employed individuals (13.4%). Retirees accounted for 8.7% of the sample, while smaller percentages were observed among those employed as a student (0.8%), unemployed (0.3%), and employed while being a student (0.8%).

Geographically, respondents were distributed across different regions of Nigeria. The North West region had the highest representation, accounting for 34.5% of the sample, followed by the North Central - Middle Belt region (21.6%). The South West region comprised 17.6% of the respondents, while the North East, South East, and South-South regions represented 12.1%, 10.0%, and 4.2% of the sample, respectively.

Regarding previous experience with non-interest banking, 61.1% of the respondents reported not having used such services. On the other hand, 25.5% indicated that they had used non-interest banking services. A smaller proportion (8.7%) reported non-applicability or lack of familiarity with non-interest banking, while 4.7% expressed uncertainty or lack of knowledge regarding the subject.

### 3.3 Inferential Statistics

The data was subjected to analysis using SmartPLS 3 software to examine the measurement and structural model. The analysis involved two main stages. The measurement model assessment and structural model evaluation. (Hair et al., 2017, p. 171).

During the measurement model assessment, we assessed the relationships between observed variables and their underlying latent constructs. We ensured the reliability and validity of the measurement model by examining internal consistency measures such as Cronbach's alpha and composite reliability. Additionally, we evaluated the factor loadings of the observed variables to establish convergent validity, and compared the average variance extracted (AVE) to assess discriminant validity.

In the structural model evaluation, we tested the hypothesized paths and causal relationships between latent constructs. We conducted hypothesis testing to determine the significance and directionality of the estimated path coefficients. To assess the overall fit of the structural model, we used various fit indices, including the chi-square test, CFI, TLI, and RMSEA. These indices provided insights into how well the proposed model explained the observed data.
By utilizing SmartPLS 3 software, we were able to analyze the structural equation model effectively. This software facilitated the input of data, specification of latent constructs and indicators, and the execution of reliability and validity assessments. It also enabled hypothesis testing, evaluation of model fit, and interpretation of path coefficients.
Overall, the analysis conducted using SmartPLS 3 software has provided valuable insights into the relationships among variables and the theoretical model under investigation. The findings will be presented in the subsequent sections, highlighting the measurement model's reliability and validity, as well as the structural model's significant paths and overall fit.

### 3.4 Construct Reliability and Validity

The table presents the reliability and validity measures for each construct. Cronbach's Alpha values indicate the internal consistency of the constructs, with values ranging from 0.752 to 0.884, demonstrating good reliability (Hair et al., 2014, p. 107; Nunnally, 1978). The rho_ A values, which assess the construct's reliability when the measurement model is considered reflective, range from 0.811 to 0.931, indicating satisfactory reliability. Composite Reliability values,

ranging from 0.819 to 0.906, also indicate good internal consistency.

The Average Variance Extracted (AVE) values, ranging from 0.538 to 0.660, represent the construct's convergent validity (Hair et al., 2017). These values exceed the recommended threshold of 0.5, indicating adequate convergent validity.

Overall, the constructs in the model exhibit good internal consistency reliability and satisfactory validity, suggesting that they are reliable and accurately measure the intended latent variables.

The Heterotrait-Monotrait Ratio (HTMT) was employed to assess the discriminant validity between the constructs in the model. The HTMT values provide insights into the extent to which the constructs measure distinct underlying concepts. The diagonal values in the HTMT matrix represent the reliability and validity of each construct, as they compare a construct with itself. These values should ideally be below 1.000 to demonstrate discriminant validity.
When examining the off-diagonal values, which represent the heterotrait-monotrait ratios, it can be determined whether pairs of constructs exhibit discriminant validity. In general, for discriminant validity, the HTMT values should be below a threshold of 0.85 (Hair et al., 2017).

Upon analyzing the HTMT values presented in the table, the following conclusions can be drawn regarding the discriminant validity:

The construct of "Accessibility of Non-Interest Banking Services" demonstrates discriminant validity from "Attitude towards Non-Interest Banking" (HTMT = 0.386), indicating that these constructs capture distinct concepts. "Customer Satisfaction with Non-Interest Banking" exhibits discriminant validity from both "Accessibility of Non-Interest Banking Services" (HTMT = 0.807) and "Attitude towards Non-Interest Banking" (HTMT = 0.476), supporting the distinctiveness of these constructs. "Financial Inclusion" demonstrates discriminant validity from "Accessibility of Non-Interest Banking Services" (HTMT = 0.557), "Attitude towards Non-Interest Banking" (HTMT = 0.402), "Customer Satisfaction with Non-Interest Banking" (HTMT = 0.834), and "Perceived Government Support" (HTMT = 0.379), thereby confirming that these constructs measure unique underlying concepts. "Perceived Government Support" exhibits discriminant validity from "Accessibility of Non-Interest Banking Services" (HTMT = 0.370), "Attitude towards Non-Interest Banking" (HTMT = 0.305), "Customer Satisfaction with Non-Interest Banking" (HTMT = 0.279), and "Perceived Trustworthiness of Non-Interest Banks" (HTMT = 0.379), indicating distinct conceptual domains. Similarly, "Perceived Trustworthiness of Non-Interest Banks" demonstrates discriminant validity from "Accessibility of Non-Interest Banking Services" (HTMT = 0.715), "Attitude towards Non-Interest Banking" (HTMT = 0.561), "Customer Satisfaction with Non-Interest Banking" (HTMT = 0.868), "Financial Inclusion" (HTMT = 0.847), and "Perceived Government Support" (HTMT = 0.325), substantiating the unique nature of this construct.

These findings provide evidence for the discriminant validity of the constructs in the structural equation model, indicating that they measure distinct underlying concepts.

| | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| **Accessibility _of Non-Interest Banking Services** | 0.830 | 0.867 | 0.877 | 0.591 |
| **Attitude towards_Non-Interest Banking** | 0.752 | 0.920 | 0.819 | 0.538 |
| **Customer Satisfaction _with Non-Interest Banking** | 0.852 | 0.857 | 0.894 | 0.629 |
| **Financial Inclusion** | 0.875 | 0.899 | 0.902 | 0.540 |
| **Perceived _Government _Support** | 0.884 | 0.931 | 0.906 | 0.660 |
| **Perceived _Trustworthiness _of Non-Interest Banks** | 0.797 | 0.811 | 0.861 | 0.556 |

$R^2$ Coefficient of Determination

The $R^2$ value for Financial Inclusion is 0.704, indicating that approximately 70.4% of the variance in the Financial Inclusion construct can be explained by the latent variables included in the model. The $R^2$ Adjusted value of 0.700

suggests that the model accounts for a substantial portion of the variability in Financial Inclusion while considering the number of predictors.

### $F^2$ Effect Size

The $f^2$ values in the table represent the amount of variance in each dependent variable (construct) that is explained by the predictors (independent variables). From the table, we can observe that the Accessibility of Non-Interest Banking Services has a small effect on Financial Inclusion (f Square = 0.060). Similarly, Attitude towards Non-Interest Banking and Perceived Government Support have negligible effects on the Financial Inclusion construct (f Square = 0.006 and 0.134, respectively). However, Customer Satisfaction with Non-Interest Banking and Perceived Trustworthiness of Non-Interest Banks have a moderate impact on Financial Inclusion (f Square = 0.379 and 0.252, respectively).

### Fit Summary

The model fit indices were assessed to evaluate the adequacy of the estimated model compared to the saturated model. These indices provide insights into how well the estimated model fits the observed data.
The fit summary for the saturated model and the estimated model is presented in the table. The standardized root mean square residual (SRMR) is a measure of the discrepancy between the model-implied and observed covariance matrices. In both the saturated model and the estimated model, the SRMR value is 0.133, indicating a reasonable fit to the data. The d_ULS and d_G indices measure the model's departure from the ideal saturated model. In this case, both the saturated model and the estimated model have a value of 9.383 for d_ULS and 5.521 for d_G, suggesting a relatively good fit.

The chi-square test statistic assesses the difference between the observed covariance matrix and the model-implied covariance matrix. For both the saturated model and the estimated model, the chi-square value is 7967.808. It is worth noting that the chi-square statistic is influenced by sample size, and in larger samples, even minor discrepancies can lead to significant chi-square values.

Lastly, the normed fit index (NFI) compares the fit of the estimated model to the fit of a baseline model. In this case, both the saturated model and the estimated model have an NFI value of 0.400. This suggests that the estimated model does not provide a better fit to the data compared to the baseline model.
Overall, the fit indices indicate that the estimated model fits the data reasonably well, as evidenced by the SRMR, d_ULS, and d_G values. However, the chi-square test statistic and NFI values suggest that the model may not provide a significant improvement over a baseline model.

**Assessment of Structural Model**

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **Accessibility _of Non-Interest Banking Services -> Financial Inclusion** | -0.195 | -0.191 | 0.056 | 3.469 | 0.001 |
| **Attitude towards Non-Interest Banking -> Financial Inclusion** | -0.049 | -0.044 | 0.041 | 1.217 | 0.224 |
| **Customer Satisfaction _with Non-Interest Banking -> Financial Inclusion** | 0.555 | 0.553 | 0.071 | 7.814 | 0.000 |
| **Perceived _Government _Support -> Financial Inclusion** | 0.219 | 0.218 | 0.032 | 6.874 | 0.000 |
| **Perceived _Trustworthiness _of Non-Interest Banks -> Financial Inclusion** | 0.422 | 0.421 | 0.064 | 6.573 | 0.000 |

The bootstrapped structural model results for the hypothesized relationships are presented in the table, including the mean, standard deviation, t-statistics, and p-values. These results provide insights into the significance anddirectionality of the relationships between the latent constructs in the model.

Regarding the relationship between "Accessibility of Non-Interest Banking Services" and "Financial Inclusion," the original sample coefficient is -0.195. The sample mean coefficient is -0.191, indicating a negative association. The standard deviation is 0.056, suggesting relatively low variability in the estimates. The t-value of 3.469 indicates that the relationship is statistically significant at a significance level of 0.001.

For the relationship between "Attitude towards Non-Interest Banking" and "Financial Inclusion," the original sample coefficient is -0.049. The sample mean coefficient is -0.044, suggesting a negative association. The standard deviation is 0.041, indicating relatively low variability in the estimates. The t-value of 1.217 suggests that the relationship is not statistically significant ($p = 0.224$).

The relationship between "Customer Satisfaction with Non-Interest Banking" and "Financial Inclusion" shows an original sample coefficient of 0.555. The sample mean coefficient is 0.553, indicating a positive association. The standard deviation is 0.071, suggesting moderate variability in the estimates. The t-value of 7.814 indicates that the relationship is highly significant ($p < 0.001$).

Regarding the relationship between "Perceived Government Support" and "Financial Inclusion," the original sample coefficient is 0.219. The sample mean coefficient is 0.218, indicating a positive association. The standard deviation is 0.032, suggesting relatively low variability in the estimates. The t-value of 6.874 indicates that the relationship is highly significant ($p < 0.001$).

Finally, the relationship between "Perceived Trustworthiness of Non-Interest Banks" and "Financial Inclusion" exhibits an original sample coefficient of 0.422. The sample mean coefficient is 0.421, indicating a positive association. The standard deviation is 0.064, suggesting moderate variability in the estimates. The t-value of 6.573 indicates that the relationship is highly significant ($p < 0.001$).

In summary, the results of the bootstrapped structural model support the hypothesized relationships. "Customer Satisfaction with Non-Interest Banking," "Perceived Government Support," and "Perceived Trustworthiness of Non-Interest Banks" have a significant positive impact on "Financial Inclusion." However, "Accessibility of Non-Interest Banking Services" and "Attitude towards Non-Interest Banking" do not show significant relationships with "Financial Inclusion" in this model.

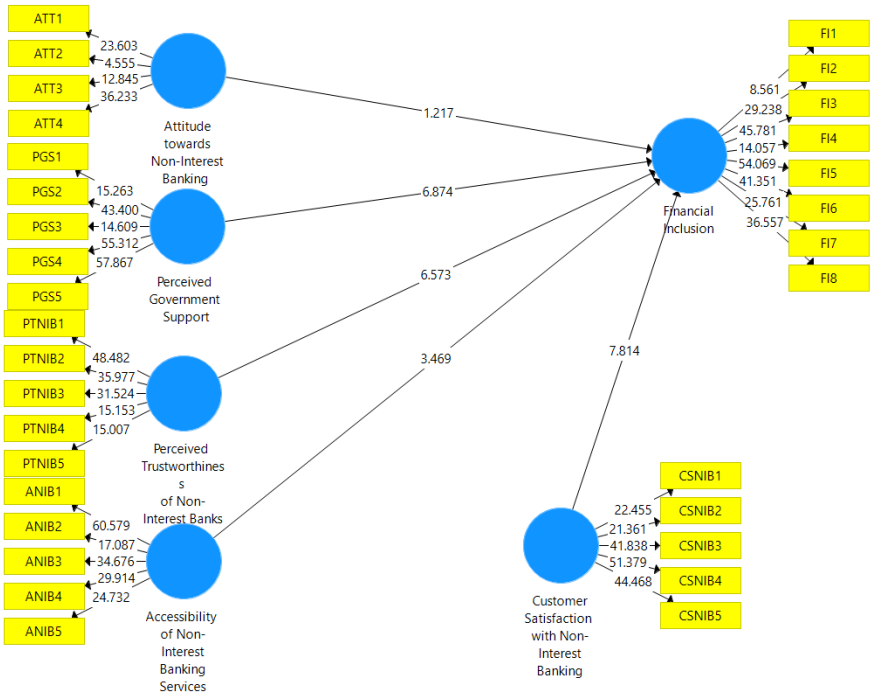
**Blindfolding**

According to Fornell (1994), a model should attain a $Q^2$ value higher than 0 to achieve predictive importance. The results from blindfolding using cross-validated redundancy are presented in the table, indicating the sum of squares explained (SSO), sum of squares error (SSE), and $Q^2$ values for each latent construct in the model.

For the latent construct "Financial Inclusion," the SSO value is 3056.000, indicating the total sum of squares explained by the model. The SSE value is 1937.554, representing the sum of squares error or unexplained variance. The $Q^2$ value, calculated as 1 minus SSE divided by SSO, is 0.366. This suggests that the model explains approximately 36.6% of the variance in "Financial Inclusion," indicating a moderate level of predictability.

The other latent constructs, including "Accessibility of Non-Interest Banking Services," "Attitude towards Non-Interest Banking," "Customer Satisfaction with Non-Interest Banking," "Perceived Government Support," and "Perceived Trustworthiness of Non-Interest Banks," have equal values for SSO and SSE, indicating that the model explains the same amount of variance as the unexplained variance for these constructs.

Overall, the blindfolding analysis using cross-validated redundancy provides insights into the extent to which the model captures and explains the variance in the latent constructs. The $Q^2$ value for "Financial Inclusion" suggests a moderate level of predictability, while the equal SSO and SSE values for the other constructs indicate that the model may have limited explanatory power for these variables.




## 4. Conclusion and Recommendations

### 4.1 Conclusion

In conclusion, this study examined the nexus of non-interest banking and financial inclusion in Nigeria across the six geopolitical zones in Nigeria. The study made use of primary data sourced from the distribution of structured questionnaires to bankable public which constitutes customers of existing non-interest banks in Nigeria and non-customers as well. In summary, the results of the bootstrapped structural model support the hypothesized relationships. "Customer Satisfaction with Non-Interest Banking," "Perceived Government Support," and "Perceived Trustworthiness of Non-Interest Banks" have a significant positive impact on "Financial Inclusion." However, "Accessibility of Non-Interest Banking Services" and "Attitude towards Non-Interest Banking" do not show significant relationships with "Financial Inclusion" in this model.

Based on the data and analysis, the lack of a significant relationship between "Attitude towards Non-Interest Banking" and "Financial Inclusion" may suggest that other factors not accounted for in the model, such as economic considerations, cultural beliefs, or individual preferences, could play a more prominent role in influencing financial inclusion outcomes. Additionally, it is possible that the measurement of "Attitude towards Non-Interest Banking" or the operationalization of "Financial Inclusion" in the current study may not fully capture the complex nature of their relationship. Further research and exploration are needed to better understand the potential reasons behind this non-significant finding.

### 4.2 Recommendations

The government of Nigeria through the apex bank should mount more sensitization campaigns both in print and electronic media to enhance positive altitudinal dispositions with a view to boosting the patronage of non-interest banking products especially in the southern part of the country.

The regulatory authority i.e., the Central Bank of Nigeria (CBN) should revisit and overhaul the framework of non-Interest banking in Nigeria to capture non-Islamic-faith based products and services to guarantee the full patronage of non-Muslims in Nigeria.

The account opening modalities should be made as flexible as possible and conditions for obtaining credit facilities should recognize the peculiarities of MSMEs entrepreneurs who are the drivers of the economy for better product penetration and patronage.

More training and retraining should be targeted towards building capacity in terms of experts in non-

interest banking to drive the entire process of marketing and monitoring the non-interest credit facilities in Nigeria especially in the southern part of the country where patronage is at the lowest ebb.

The government through the Central Bank of Nigeria (CBN) should consciously develop incentives to customers in the form of tax holidays and waivers on profit shared from the proceeds of non-interest loans especially for MSMEs entrepreneurs that are in critical sectors of the economy.

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