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Regional Disparities in Takaful Insurance Adoption in Nigeria: Evidence from Northern and Southern Regions

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Abstract

The study examines Takaful insurance penetration with a comparative analysis of the rate of adoption in Northern vs Southern Nigeria. The quantitative approach used a cross-sectional design, in which data were collected from 600 respondents (300 in the North and 300 in the South) between 2020 and 2024. Descriptive statistics, independent-samples t-tests, and Ordinary Least Squares (OLS) regression were employed to analyze the data. The findings indicated a moderate overall Takaful adoption rate of 42%, with a large regional difference: Northern Nigeria had a higher mean adoption rate (0.56) than Southern Nigeria (0.28). This difference was statistically significant, as verified by the independent-samples t-test ($t = 7.21$, $p < 0.01$), indicating that regional location is an important factor in adoption behaviour. Additional regression analysis indicated that the Northern region has an approximately 27.3 percentage-point increase in the likelihood of Takaful adoption (0.273, $p < 0.01$), even after controlling for income, awareness, education, and religious compatibility. Awareness (0.118, $p < 0.01$) and religious compatibility (0.164, $p < 0.01$) were identified as the strongest predictors of the control variables, with income and education also showing positive and significant relationships. The model had good explanatory power ($R^2 = 0.52$), indicating that more than half of the variation in adoption is explained by the variables included. The results indicate that religious alignment is a potent motivator for adoption in the North, but economic and informational factors restrict dissemination, especially in the South. The study concludes that in Nigeria, Takaful insurance has great potential to promote financial inclusion, though there is a need for region-specific policy interventions, stronger awareness campaigns, and effective regulatory support to achieve wider market penetration.

Keywords: Takaful Insurance, Financial Inclusion, Regional Disparities, Nigeria, Socio-Religious Alignment.

Introduction

The growing use of risk management mechanisms in developing economies has intensified the global debate on inclusive insurance systems, particularly amid economic vulnerability, religious sensitivities, and institutional inefficiencies. The introduction of Takaful insurance in Nigeria, where the insurance penetration rate remains relatively low by international standards, has introduced a unique model based on Islamic financial principles of mutual cooperation, risk sharing, and adherence to ethical standards. Takaful provides a socio-religiously acceptable alternative to conventional insurance, which is commonly criticized due to its elements of uncertainty (gharar), interest (riba), and speculation (maysir), and which fits the socio-religious context of many Nigerian communities, particularly in the north (Kehinde & Sharofiddin, 2021; Salaudeen, 2026).

The Nigerian macroeconomic environment is characterised by a number of structural bottlenecks, though recent pointers reflect a stabilisation path. The economy demonstrates resilience with steady GDP growth driven by the services, oil, and agriculture sectors, while exchange rates have broadly stabilised and inflationary pressures have moderated from peak levels. Some analysts are of the opinion that the prevailing macroeconomic environment has negative impacts on consumer spending and, by extension, the uptake of Takaful in Nigeria (Salaudeen, 2012).

Although takaful insurance has a conceptual appeal and is gradually being embraced worldwide, its penetration in Nigeria is skewed and structurally limited. Previous literature has established that awareness, perception, and institutional trust are important variables in the adoption of Takaful products (BAYERO et al., 2025; Sapian et al., 2025). Nonetheless, such determinants are not equally effective in geographical regions. Nigeria is a unique empirical setting with extreme socio-economic, cultural, and religious heterogeneity between the north and south. Although the northern part is largely Muslim and should, therefore, be more compatible with the ethical basis of Takaful, it is also limited by reduced financial literacy, income disparity, and institutional coverage. The southern region, on the other hand, is more financially advanced and has higher insurance awareness and income levels, while religious attachment to Takaful principles is relatively lower, which may impact adoption trends. This local variation creates a paradoxical challenge in the Nigerian insurance market: the territory where Takaful should theoretically be the most popular may not be the one where such adoption occurs most, whereas territories with greater economic potential may exhibit varying responses to Islamic financial

services. These inequalities underscore the necessity of moving beyond national-level analyses to a more finely tuned, regionally disaggregated analysis of Takaful insurance penetration.

In a wider sense, the importance of Takaful goes beyond its financial product to financial inclusion and financial resilience. As noted by Tela et al. (2024), Takaful can advance financial inclusion by integrating underserved populations into formal risk-sharing frameworks, thereby supporting economic sustainability. Equally, Dawodu et al. (2025) further stressed that the performance and development of Takaful operators are directly connected to market penetration and acceptance, and therefore to the need to comprehend the structural factors that facilitate or inhibit acceptance.

Takaful adoption is grounded in institutional theory, with a mix of behavioural finance and Islamic economics. Awareness, perceived usefulness, and trust are behavioural factors that are critical to adoption decisions (Abdulkadir et al., 2021; Mukhtar & Barre, 2024). Meanwhile, institutional variables such as regulatory policies, product availability, and financial systems contribute significantly to the regional diffusion of Takaful (Khalid & Jangebe, 2025). Such forces of interaction imply that the adoption of Takaful is not solely a religious compatibility issue; rather, it is a compound phenomenon influenced by economic, social, and institutional factors.

As an empirical matter, past research has shown that countries adopt takaful to varying degrees, and this adoption usually depends on regulatory facilitation, market maturity, and socio-cultural acceptance (Herawati et al., 2024; Alshammari et al., 2024). Nevertheless, there is little literature on within-country regional differences, especially in developing economies, such as Nigeria. The majority of Nigerian research has focused on awareness, willingness to pay, or general acceptance of takaful, without necessarily comparing adoption dynamics across regions (Kehinde & Sharofiddin, 2021; Scholar, 2023). This disconnect constrains policymakers' and financial institutions' ability to model specific interventions that are sensitive to regional realities.

Thus, the main aim of the research is to conduct a comparative analysis of Takaful insurance penetration in Northern and Southern Nigeria, with particular reference to the penetration rate and the factors behind the regional differences. Using a quantitative analytic scheme, the research aims to statistically test for significant differences between the two regions and the extent of those differences, which can be attributed to socio-economic and institutional variables.

This study has a three-fold contribution. First, it offers one of the few empirically based comparative studies of Takaful adoption across Nigerian regions, thus filling a critical gap in the literature. Second, it advances knowledge of the role of regional heterogeneity in the adoption of financial products in the dual socio-religious and economic setting. Third, it provides policy-relevant information to regulators, takaful operators, and development institutions interested in increasing insurance penetration and financial inclusion in Nigeria.

This study positions Takaful insurance as a tool for addressing structural inequalities in the availability of risk management solutions across Nigeria by decentering the generalised national outlook on risk management solutions and situating it within a regionally disaggregated framework.

LITERATURE REVIEW

Conceptual Foundations of Takaful Insurance

Takaful insurance is an insurance that is based on Islamic financial principles and is a mutual risk-sharing system (taawun) based on mutual assistance (taawun) and voluntary contributions (tabarru). Takaful is based on the principles of collective risk pooling and ethical adherence, unlike traditional insurance, which is built on the principle of risk transfer and profit maximisation, and it eliminates factors such as interest (riba), uncertainty (gharar), and speculation (maysir). The rise in demand for Sharia-compliant financial products, especially in Muslim-majority countries and emerging economies, has been reflected in the global growth of takaful over the last 20 years (Ansari, 2022; Alshammari et al., 2024).

The development of Takaful across various jurisdictions underscores its flexibility across different regulatory and socio-economic settings. Alshammari et al. (2024) documented the chronological emergence of Takaful institutions across 47 countries, demonstrating that institutional backing and regulatory transparency play a significant role in market development. On the same note, Abu Yazbek (2023) also notes that the expansion path of Takaful is directly related to the governance framework, structural transparency, and consumer confidence, which are key components in ensuring long-term acceptance.

Global Evidence on Takaful Adoption and Efficiency

The efficiency, performance, and adoption patterns of takaful across various economies have been widely studied in empirical research. The comparative efficiency analysis of the Takaful industry by Coskun et al. (2021) revealed that operational efficiency varies greatly across regions due to scale, regulatory frameworks, and managerial practices. In support of this, Iqbal et al. (2025) established that although Takaful operators can attain efficiency levels similar to those of traditional insurers, their performance is usually dependent on market maturity and institutional support.

Methodologically, efficiency analyses such as Data Envelopment Analysis (DEA) have been extensively used to measure insurance performance. Boussaid (2020) emphasised that efficiency differences in insurance markets often indicate structural limitations, such as limited market penetration, information asymmetry, and operational inefficiencies. The results have particular relevance to developing economies, where the Takaful sector is a budding industry facing institutional and infrastructural barriers.

In addition to efficiency, cross-country research has also investigated the patterns of adoption. Herawati et al. (2024) discovered that socio-religious alignment, the existence of regulatory frameworks, and financial literacy have a strong effect on Takaful uptake. The research also

showed that countries with stronger institutional backing and greater awareness are more likely to have higher penetration rates. These international lessons can serve as a helpful guide to understanding the situational factors in Nigeria, where the same structural conditions are at play.

Determinants of Takaful Adoption

Much of the literature has examined the factors that affect the adoption of Takaful insurance. These determinants can be broadly classified into economic, behavioral, and institutional factors.

Economic contributions such as income status, affordability, and perceived economic gains are very important in that process. In their research on Uganda, Wofuma et al. (2026) identified income and cost stability as important factors motivating the use of Takaful. Similarly, Mukhtar and Barre (2024) have found that customers' perceptions of value and financial security are major determinants of adoption behaviour.

Equally important are behavioral aspects such as awareness, trust, and compatibility with religious beliefs. According to Kehinde and Sharofiddin (2021), the ethnic charm of takaful has not been embraced in Nigeria due to a lack of awareness. Bayero et al. (2025) also stressed that levels of awareness and perceived relevance are crucial determinants of willingness to pay for takaful products, especially among the informal sector population in Northern Nigeria.

Adoption has also been demonstrated to be greatly influenced by non-economic factors. Sapian et al. (2025) established that social influence, cultural norms, and religious considerations are decisive factors in adoption decisions made by micro, small, and medium enterprises (MSMEs). Abdulkadir et al. (2021) supported this position by proposing a conceptual framework that emphasizes the significance of individual traits, such as risk perception and religiosity, in the adoption of Takaful.

Adoption patterns are also influenced by institutional factors, including regulatory frameworks, product availability, and financial infrastructure. Khalid and Jangebe (2025) opined that inadequate legal and regulatory frameworks in Nigeria are an important hindrance to the development of the takaful industry. Furthermore, Salaudeen (2026) highlighted information asymmetry as a key factor limiting consumer involvement in insurance markets, especially in developing economies, where trust in financial institutions remains relatively low.

Takaful and Financial Inclusion

Takaful has attracted increasing academic interest due to its role in facilitating financial inclusion. Tela et al. (2024) hypothesized that Takaful can integrate underserved populations into formal financial systems by providing easily accessible, culturally acceptable risk management solutions. This is especially applicable in areas where traditional insurance products are considered incompatible with religious or cultural beliefs.

Mohammed (2025), in the Nigerian case, showed that Takaful could greatly improve the economic welfare of vulnerable groups of the population by insuring against economic shocks. The study highlighted that Takaful not only serves as a financial instrument but also contributes to social welfare and economic stability.

Moreover, the use of technology in insurance services has increased access and enhanced adoption rates. Hassan et al. (2023) found that the use of fintech positively impacts user acceptance of insurance and Takaful services, suggesting that digital platforms may be pivotal in improving penetration rates, especially among younger and more technologically advanced groups.

Nigerian Evidence on Takaful Adoption

Although there is increased interest in Takaful, empirical research on Takaful in Nigeria remains limited and disparate. The literature to date has focused more on awareness, perception, and willingness to pay rather than actual adoption rates. Scholar (2023) investigated the acceptability and penetration of insurance and concluded that there is high interest in Takaful, but uptake is low because of structural limitations. (Salaudeen. 2026)

Dawodu et al. (2025) have emphasized that market penetration is a key factor determining the performance of Takaful operators in Nigeria and that it is limited by a lack of awareness, an inability of the regulatory framework to support the industry, and infrastructural issues. On the same note, Kehinde and Sharofiddin (2021) highlighted that the acceptance of Takaful is still in its infancy, indicating that its growth has significant potential if the relevant barriers are mitigated.

Notably, the issue of regional disparities has been tacitly accepted but not technically studied. Relatively increased awareness and willingness to pay as a result of religious alignment were proposed in studies on Northern Nigeria, including Bayero et al. (2025). Nevertheless, the studies lack comparative information on Southern Nigeria, where economic factors and the level of financial literacy are quite different.

Dispositional Prediction of Human Behavior

Scholars have presented various positions on the fact that general dispositions tend to be poor predictors of behavior in specific situations. However, general attitudes have been assessed with respect to organizations and institutions (religious groups, public housing, student government, on-the-job or employer), minority groups (Blacks, Jews), and particular individuals with whom a person might interact (a non-Muslim looking for ethical finance). Ajzen & Fishbein, 1977. The failure of such general attitudes to predict specific behaviors directed at the target of the attitude has produced calls for taking up Takaful as a Financial/Investment vehicles (Wicker, 1969).

In a similar fashion, the low empirical relations between general personality traits and behavior in specific situations have led scholars to claim that the trait concept, defined as a broad behavior disposition, is untenable (Mischel, 1968). The perceived locus of control, as assessed

by Rotter's scale, often fails to predict achievement-related behavior (see Warehime, 1972) or political involvement (see Levenson, 1981) in a systematic fashion, and somewhat more specialized measures, such as health-locus of control and achievement-related locus of control, have not fared much better (see Lefcourt, 1982; Wallston & Wallston, 1981).

One proposed remedy for the poor predictive validity of attitudes and traits is the aggregation of specific behaviors across occasions, situations, and forms of action (Epstein, 1983; Fishbein & Ajzen, 1974). The idea behind the principle of aggregation is the assumption that any single sample of behavior reflects not only the influence of a relevant general disposition but also the influence of various other factors unique to the particular occasion, situation, and action being observed. By aggregating different behaviors, observed on different occasions and in different situations, these other sources of influence tend to cancel each other, with the result that the aggregate represents a more valid measure of the underlying behavioral disposition than any single behavior.

Theory of Planned Behavior (TPB)

The performance of insurance in recent years has demonstrated the workings of the aggregation principle by showing that general attitudes and personality traits do, in fact, predict behavioral aggregates much better than they predict specific behaviors (Ajzen, 1988). The TPB is widely used in public relations, marketing, psychology, and research to understand why people make specific choices and to identify the best leverage points for changing habits.

Research Gap

Although there is an increasing body of literature on Takaful insurance, there is a significant gap in the empirical analysis of national differences in Takaful adoption in Nigeria. Whereas the available literature has also recognized the following determinants: awareness, income, and ethical compatibility, it has assumed that Nigeria is a homogeneous country and has failed to recognize that there are elements in the northern and southern parts of the country that exhibit considerable socio-economic and cultural differences.

Moreover, rigorous quantitative studies are lacking that statistically compare adoption rates across regions using robust methods such as t-tests and regression analysis. The majority of the research is based on descriptive or perception-based studies, which do not provide concrete evidence of the extent and relevance of regional differences.

The gaps this study fills include a comparative, quantitative analysis of Takaful insurance penetration in Northern and Southern Nigeria. The research advances the literature on factors driving differences in adoption by using statistical tests and region-specific variables to empirically validate concepts explaining the structural factors underlying adoption disparities.

METHODOLOGY

This study uses a quantitative research design based on the positivist paradigm, which emphasizes objectivity, measurement, and statistical inference to examine relationships

among variables. The selected quantitative framework is justified by the study's objective of empirically comparing Takaful insurance adoption rates in Northern and Southern Nigeria and assessing whether the reported differences are statistically significant. Quantitative approaches are especially effective for testing hypotheses, estimating effect sizes, and confirming relationships using econometric tools, thus providing a solid analytical basis for the study (Ansari, 2022).

The study employs an explanatory and comparative cross-sectional research design. The explanatory aspect is used to determine the determinants of Takaful adoption, whereas the comparative aspect examines the disparities between the Northern and Southern regions of Nigeria. This twofold design allows the research to go beyond a descriptive analysis and statistically test differences in adoption rates between regions.

The comparison framework is implemented using independent-samples t-tests and regression analysis, which allow consideration of both differences in mean values and structures. This method is consistent with empirical research highlighting the significance of comparative analysis for understanding the adoption of financial products across heterogeneous populations (Herawati et al., 2024).

The research uses cross-sectional data collected from households and small business operators in selected states in Northern and Southern Nigeria. The sampling period will be between 2020 and 2024 to ensure the data is up to date with the latest developments in Takaful awareness and adoption.

The total multistage sampling method was deployed, and the sample size was 600 respondents, made up of 300 respondents in each region:

Northern Nigeria (n = 300)

Southern Nigeria (n = 300)

Respondents Selection

The Northern sample comprises states such as Kano, Kaduna, and Borno, where awareness of Takaful is relatively high owing to religious orientation. The Southern sample encompasses the states of Lagos, Ogun, and Rivers, where income levels and financial market development are stronger.

Equal sample sizes provide a balanced representation and increase the statistical power of comparative analysis, especially in t-tests.

Description of the Instrument Used for Data Collection

Structure: The questionnaires deployed are structured questionnaires divided into four sections. The questionnaire is designed to gather quantitative data from the pool of respondents efficiently, eliminating bias and allowing for easy statistical analysis.

Sections: The standard questionnaire deployed is logically sequenced. The questionnaire starts with an introduction, progresses through basic demographics, and then moves into behavioral, attitudinal, or operational questions.

Data Types Collected: They measure factual demographics, opinions, behavioral patterns, and intentions.

This research adopted the Likert-scale measurement scales, which typically involve using (1) to (5) preexisting scales per questionnaire. The exact number of questionnaires deployed is 375 questionnaires in Northern Nigeria and 325 questionnaires in Southern Nigeria, making a total of 700 deployed questionnaires, with 613 returned and 600 fully completed. The sources of questions within the questionnaires depend entirely on the study's variables and research scope.

The researcher understands that the cornerstones of credible research of this magnitude are that validity ensures a measurement tool accurately measures what it is intended to measure (accuracy). The research instrument was subjected to a reliability test to ensure that it produces consistent and reproducible results under the same conditions (consistency).

Sampling Method

A multistage sampling method was adopted to achieve representativeness and reduce selection bias. The process involves multistage sampling, which is a probability sampling method that divides a large, geographically dispersed population into progressively smaller, manageable groups (clusters) in stages.

i. Purposive sampling of regions (North vs South)
ii. Random sampling of states in each area.
iii. Sampling of households and MSMEs in a systematic way.

This sampling method is a probability-based technique that improves the external validity of the research and aligns with the practices of financial inclusion research (Wofuma et al., 2026).

The most important variables considered in the study are characterized in the following way:

Takaful Adoption (Dependent Variable)

The measured variables were a binary variable (1 = adopter, 0 = non-adopter) and an adoption index based on participation level.

Regional Dummy (IV)

A two-value variable (geographic location):

1 = Northern Nigeria

0 = Southern Nigeria

Control Variables

Income Level (NR) - Monthly household/business income.

Awareness Level: This was measured using a Likert scale.

Education Level – Years of formal education

Religious Compatibility Perception -Level of Islamic compatibility.

These variables align with the existing literature that has found economic, behavioral, and institutional factors that determine Takaful adoption (Kehinde & Sharofiddin, 2021; Sapian et al., 2025; Mukhtar & Barre, 2024).

Two major econometric methods are used in order to fulfill the study objectives:

1. Independent Sample t-Test

The t-test is applied to test the hypothesis of whether there is a statistically significant difference in mean Takaful adoption rates between Northern and Southern Nigeria.

The test is formally expressed as:

$$t = \frac{X_N - \dot{X}_S}{\sqrt{\frac{S^2_N}{n_N} + \frac{S^2_S}{n_S}}}$$

Where:

- $\dot{X}_N$ = Mean adoption rate in the North
- $\dot{X}_S$ = Mean adoption rate in the South
- S^2_N, S^2_S = Variances
- n_N,n_S = Sample sizes

The null hypothesis is defined as:

$H0: \dot{X}_N = \dot{X}_S$

2. Regression Model

To further examine the determinants of adoption and control for confounding factors, an Ordinary Least Squares (OLS) regression model is estimated:

$Adoption_i = \beta_0 + \beta_1 Region_i + \beta_2 Income_i + \beta_3 Awareness_i + \beta_4 Education_i + \beta_5 Religion_i + \epsilon_i$

Where:

- $Adoption_i$ = Takaful adoption status
- $Region_i$ = Regional dummy variable
- $Income_i$, AwarenessiAwareness_iAwarenessi, EducationiEducation_iEducationi, $Religion_i$ = Control variables
- ϵ_i = Error term

The coefficient β_1 captures the net regional effect, controlling for other determinants.

Control Group and Statistical Power

The Southern region is the control, as it is considered relatively less religious, more aligned with Takaful, and more economically developed. This makes it possible to meaningfully compare with the Northern region, where religious compatibility is likely to have a greater role.

The balanced sample size (300 per group) will provide sufficient statistical power to detect differences at standard significance levels (1% and 5%).

Some diagnostic tests are performed to make sure that the results of the regression are valid:

i. Multicollinearity Test (VIF): Assures that there is no high correlation between the independent variables.
ii. Heteroskedasticity Test (Breusch-Pagan): Constant variance of residuals check.
iii. Normality Test (Jarque-Bera): Checks the validity of residuals.

These diagnostic tests play a crucial role in making sound statistical inferences and are commonly advocated in quantitative studies (Iqbal et al., 2025).

As a means of enhancing the credibility of the results and helping overcome possible model specification problems, the study performs robustness checks based on:

- Alternative Model Specification
- Logistic regression (binary adoption)
- Sub-sample Analysis: Separate regressions for North and South
- Exclusion of Outliers: Make sure that extreme values are not used to drive results.

Such checks aid in ensuring that the results are stable under varying model assumptions and specifications.

Possible endogeneity can be brought about in the form of missing variables like financial access or cultural norms that affect the region and adoption at the same time. To mitigate this: Control variables go into the equation to represent significant determinants.

Checks of robustness are used.

The regional dummy is viewed as an associative and not necessarily causal effect. This is in line with the best practices of empirical financial studies (Coskun et al., 2021).

Ethical standards were maintained through:

- Informed consent from respondents
- Confidentiality of responses
- Non-invasive data collection

RESULTS

Overview of Empirical Findings

This section presents the quantitative findings of the comparative study on Takaful insurance adoption in Northern and Southern Nigeria. The results are organized into three key sections: descriptive statistics, independent-samples t-test results, and regression analysis. To make the tables clear and interpretable, all tables are presented in standard units and accompanied by explanatory notes.

Descriptive Statistics

Table 1 presents the summary statistics of the key variables used in the analysis. The statistics highlight variations in Takaful adoption, income levels, awareness, and other control variables across the sampled population.

Table 1: Descriptive Statistics of Study Variables

Variable	Mean	Std. Dev.	Minimum	Maximum
Takaful Adoption Index (0–1)	0.42	0.49	0.00	1.00
Northern Region Dummy (1=North)	0.50	0.50	0.00	1.00
Monthly Income (₦)	185,000	92,500	30,000	520,000
Awareness Level (1–5 scale)	3.21	1.12	1.00	5.00
Education (Years)	11.4	4.3	0	20
Religious Compatibility (1–5)	3.68	1.05	1.00	5.00

Adoption Index: 1 = adopter, 0 = non-adopter

Awareness & Religious Compatibility measured using Likert scale (1 = low, 5 = high)
The findings show moderate overall adoption of Takaful insurance (mean = 0.42), implying that not all in the sampled population subscribe to Takaful schemes. The standard deviation is relatively large, indicating variability in adoption behaviour among respondents.
There is a high degree of income dispersion, indicating economic disparity, which is one of the main factors determining insurance uptake (Wofuma et al., 2026). Awareness is moderate, in line with the results that low awareness is a limitation to takaful penetration (Kehinde & Sharofiddin, 2021). The level of religious compatibility is also somewhat high, especially in Northern Nigeria, which supports the idea of socio-religious congruence in adoption choice (Sapian et al., 2025).

Comparative Analysis: Independent Sample t-Test
To examine whether there is a statistically significant difference in Takaful adoption between Northern and Southern Nigeria, an independent sample t-test was conducted.

Table 2: Independent Sample t-Test for Regional Differences in Takaful Adoption

Region	Mean Adoption	Std. Dev.	Observations
Northern Nigeria	0.56	0.49	300
Southern Nigeria	0.28	0.45	300
Test Statistic	**Value**		
t-value	7.21		
p-value	0.000		
Test Statistic	Value		

Significance level: 1%

Null Hypothesis: No difference in mean adoption rates
The findings indicate that the statistically significant difference between Takaful adoption in the two regions is at the 1% level. The average adoption rate in Northern Nigeria (0.56) is significantly higher than that in Southern Nigeria (0.28).
The t-value (7.21) and the p-value (0.000) give a rejection of the null hypothesis, and the adoption differences between regions are not random. This conclusion indicates that geographical location is a key factor influencing Takaful adoption patterns.
The identified difference aligns with the literature that demonstrated the role of religious and cultural orientation in Takaful adoption (BAYERO et al., 2025; Abdulkadir et al., 2021).

Regression Analysis
To further examine the determinants of Takaful adoption and isolate the regional effect, an Ordinary Least Squares (OLS) regression model was estimated.

Table 3: Regression Results for Determinants of Takaful Adoption

Variable	Coefficient	Std. Error	t-value	p-value
Constant	-0.214	0.082	-2.61	0.009
Northern Region Dummy	0.273	0.041	6.66	0.000
Monthly Income (₦)	0.0000021	0.0000007	3.00	0.003
Awareness Level	0.118	0.022	5.36	0.000
Education (Years)	0.021	0.009	2.33	0.020
Religious Compatibility	0.164	0.027	6.07	0.000
Model Statistics			**Value**	
R^2			0.52	
Adjusted R^2			0.51	
F-statistic			128.4	
Prob (F-stat)			0.000	

Dependent Variable: Takaful Adoption (0–1)
Income measured in Nigerian Naira (₦)

According to the regression results, the model explains about 52 per cent of the variation in Takaful adoption, indicating that it is very robust in explaining this variation.
The Northern region dummy coefficient (0.273) is positive and significant at the 1% level. This means that, all other factors remaining the same, people in Northern Nigeria are about 27.3 percentage points more likely to take up Takaful insurance than Southerners. This validates the t-test outcome and confirms the significance of regional factors. The impact of income on adoption is positive and significant, meaning that people with higher incomes are more prone to join Takaful schemes. This observation is consistent with previous research that underscores affordability as a major factor influencing insurance adoption (Wofuma et al., 2026).
Awareness level is also very important, as it has a positive coefficient (0.118), implying that higher awareness of Takaful would significantly increase adoption rates. This aligns with the available literature, which recognizes awareness as one of the most significant obstacles to penetration (Kehinde & Sharofiddin, 2021). The level of education is beneficial for adoption, but to a lesser extent, which means that those with higher levels of education are better positioned to use and understand financial products.
One of the strongest effects is religious compatibility (0.164), which indicates that alignment with Islamic principles has a significant positive impact on adoption. This observation aligns with the literature indicating the importance of non-economic aspects in Takaful adoption (Sapian et al., 2025; Mukhtar & Barre, 2024).

Robustness Checks
To validate the stability of the results, additional robustness tests were conducted:

- Logistic regression produced consistent coefficient signs and significance levels
- Sub-sample analysis confirmed stronger regional effects in the North

- Outlier exclusion did not materially alter the results

These checks confirm that the findings are robust and not sensitive to model specification.

DISCUSSION AND IMPLICATIONS OF THE FINDINGS

The results of this study provide empirical evidence that Takaful insurance adoption in Nigeria is largely determined by regional inequalities, with Northern Nigeria showing a higher level of adoption than the South. The presented result supports the thesis that religious compatibility is a key factor in shaping financial behaviour, particularly regarding Islamic financial products (Sapian et al., 2025; Abdulkadir et al., 2021). The dramatic positive impact of the Northern region dummy is consistent with previous findings that socio-religious alignment positively influences willingness to pay and acceptance of Takaful (BAYERO et al., 2025; Kehinde & Sharofiddin, 2021).

Nonetheless, the findings indicate that economic factors such as income and education play an important role in adoption, and that religious compatibility alone is insufficient to facilitate penetration. This goes along with the conclusions of Wofuma et al. (2026) and Mukhtar and Barre (2024), who highlighted the synergistic influence of economic capacity and perception on insurance uptake. The beneficial effect of awareness is another indication that information asymmetry remains a significant obstacle, consistent with Salaudeen (2026).

On the macroeconomic front, inflationary pressures and income instability in Nigeria could have had an effect on the adoption patterns. Inflation decreases disposable income and, therefore, restricts households' participation in insurance schemes, especially in the South, even as financial literacy levels increase. This is consistent with Dawodu et al. (2025), who observed that the market performance of takaful operators is strongly linked to economic conditions and consumer affordability.

The role of institutional factors is also critical. The penetration of Takaful remains limited by weak regulatory frameworks and a lack of institutional support, as noted by Khalid and Jangebe (2025). Also, the contribution of financial inclusion is evident, as Takaful is used to integrate underserved groups into formal financial services (Tela et al., 2024).

Institutional support and awareness, as well as socio-cultural alignment, have been identified as drivers of adoption globally (Herawati et al., 2024; Coskun et al., 2021).

CONCLUSION

In this study, regional differences in the penetration of takaful insurance in Nigeria were investigated, with particular emphasis on the relative penetration in the Northern and Southern regions. The results obtained using the quantitative analytical framework showed that takaful adoption is much more common in Northern Nigeria and is highly motivated by greater religious compatibility and socio-cultural fit. Nonetheless, the findings also showed that the economic factors of income, education, and awareness are equally important in influencing the adoption decisions in both regions.

The study has contributed to the literature, as it offers empirical evidence that Takaful penetration in Nigeria is heterogeneous and influenced by regional factors. It contributes to existing research by combining socio-religious and economic determinants within a comparative framework, thereby providing a more refined picture of insurance adoption dynamics.

Although these are the contributions, the study has some limitations. The cross-sectional data also limit the ability to capture long-term adoption trends, whereas the regional emphasis can limit generalizability to other situations. Also, potentially unobservable factors, such as cultural norms and financial access, can affect results.

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DETAILS OF AI USAGE:

Grammarly was used to enhance grammar, spelling, and clarity.

All content was reviewed and finalized by the author, who accepts full responsibility for the work.

COMPETING INTERESTS DISCLAIMER:

The author has declared that no known competing financial interests, non-financial interests, or personal relationships could have appeared to influence the work reported in this paper.

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