



## Patronage Factors of Motor Vehicle Takaful in Kano State, Nigeria

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### Abstract

The Nigerian insurance industry has been associated with low patronage, thus contributing less than 1% to Gross Domestic Product (GDP). The marketing and distribution segment of the Nigerian oil and gas industry also faces multiple challenges, including difficulties in transporting products by pipelines, which necessitates the use of alternative means of transportation by road (trucks). Therefore, the main objective of this study is to empirically examine the determinants of motor vehicle Takaful patronage by members of the National Association of Road Transport Owners-Petroleum Tanker Drivers (NARTO-PTD) in Kano State. The study population was 320 registered members of NARTO-PTD. Using the Taro Yamane sample size formula, the study arrived at a sample of 178 respondents who were selected using a simple random sampling technique. Then, Partial Least Square-Structural Equation Modeling (PLS-SEM) method was employed to test the study's hypotheses. The results revealed that while awareness was insignificant, perception and religiosity significantly affected motor vehicle Takaful patronage by NARTO-PTD members in Kano State. The study recommends that Takaful companies develop policies that will further encourage highly religious and attract those not highly religious by organizing educative programs in mosques and other religious avenues. Lastly, the study recommends developing policies that strengthen Takaful (NARTO-PTD) members' perceptions.

**Keywords:** Patronage, Motor Vehicle, Takaful, Structural Equation Modelling (SEM)

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## I. Introduction

### 1.1. Background

Insurance is regarded as a supportive service to trading and commercial activities in every economy and provides mitigation roles against possible losses or risks that may befall business activities. The link between the economic and insurance sectors is deemed as a symbiotic and mutual relationship, where each requires the other. Outreville (1997) believes that the insurance segment of the economy is the only sector that comes into existence to ensure the survival of the other sectors through reviving individual and corporate bodies to their status positions whenever they suffer losses through claims settlements. In other words, insurance plays an integral role in the economy's sustainability and growth by providing an extensive cover against loss and damages and enhancing all economic players' confidence in eventualities and unforeseen contingencies.

According to the National Bureau of Statistics the contribution of the insurance industry in Nigeria to the Gross Domestic Product (GDP) was below 1%. It was, however, a result of the low performance of conventional insurance in Nigeria (National Bureau of Statistics [NBS], 2017). The National Bureau of Statistics (NBS, 2017) has also shown positive growth in the insurance industry even though its contribution to the Nigerian economy's growth was lesser than the other sectors. Meanwhile, records from National Insurance Commission indicated a rise in GDP from 0.11% in 2007 to 0.225% in 2016. Despite the growth, the industry recorded a minimal contribution below that of other developing countries (National Insurance Commission [NAICOM], 2016).

Moreover, the idea for the implementation of Islamic insurance (*Takaful*) in Nigeria by the National Insurance Commission (NAICOM) is to enhance financial inclusion and ensure the participation of individuals who need ethical financing (Yaqub & Dandago, 2015). *Takaful* is an innovative and modern form of Islamic insurance permitted to operate in Nigeria as an alternative to conventional insurance. Despite the experience in many countries where *Takaful* was established after the introduction of Islamic banking, the case is different in Nigeria, where *Takaful* preceded Islamic banking almost a decade ahead (Ado, 2014).

In Nigeria, a mandatory third-party insurance cover is required for all vehicle owners to compensate for the loss of other parties only but not the interest of the insured vehicle, which requires an additional insurance policy to cover loss or damages in the interest of the insured party. The initiation of the *Takaful* scheme as an alternative to conventional insurance is regarded as an additional base for enhancing patronage on insurance, mainly as a policy plan toward attaining the financial inclusiveness of all parties involved in the

insurance business. Despite the mandatory policy requirement and the voluntary insurance policy, the scheme of insurance has yet to be accomplished the desired anticipated results (Darazo, 2011)

Due to the inability of conventional insurance to meet the religious and economic demands of the populace, *Takaful* insurance holds great potential in Nigeria. A large number of the business community is excluded based on rules of engagement that contradict the principles of Islam, and potential holders with the other participating holders may undoubtedly seem dissatisfied based on the erroneous relationship between them and the insurance company in settlement of claims and liabilities (Ardo & Saiti, 2017).

Furthermore, Nigeria missed out on a massive contribution to its economy because there were only about 800,000 policyholders in a population of over 198 million (Saleh, 2016), although the *Takaful* scheme has existed for more than a decade in Nigeria (Yaqub, 2016). For this reason, this study intends to unravel the factors behind the dismal patronage of motor vehicle *insurance* and enhance the acceptance of the alternative *Takaful* insurance to mitigate risks in petroleum transportation.

In this regard, the Nigerian insurance industry has been associated with low patronage, thus contributing less than 1% to the Gross Domestic Product (GDP). The total gross premium contribution was \$1.64 billion, ranked 62nd in the world with a 0.3% contribution to the country's GDP as of 2018 (Nigerian Stock Exchange [NSE], 2019). Darazo (2011) pointed out other reasons for low patronage in the insurance industry, including lack of awareness, negative perception, and delay in claim settlements.

Similarly, research has been conducted on the alternative means of insurance (*Takaful*) in Nigeria, including by Yakubu & Dandago (2015), Bello & Ayuba (2015), Maiyaki & Ayuba (2015), Ardo & Saiti (2015), Dandago (2012), Yusuf (2012), and Darazo (2011). However, no research was carried out on petroleum trucks and their haulage. It is vital to consider the associated risk level and the volume of capital deployed to the business.

Therefore, this study examined the determinants of motor vehicle *Takaful* patronage by members of the National Association of Road Transports Owners (Petroleum Tanker Division) in Kano State.

## 1.2. Objectives

The main objective of this study is to examine the determinants of motor vehicle *Takaful* patronage by members of the National Association of Road Transport Owners (PTD) in Kano State. Meanwhile, the specific objectives of the study are to (i) determine the effect of awareness of members of the National Association of Road Transport Owners (PTD) on the patronage of

motor vehicle *Takaful* in Kano State, (ii) to assess the impact of perception of members of National Association of Road Transport Owners (PTD) on the patronage of motor vehicle *Takaful* in Kano State, and (iii) to examine the effect of religiosity of members of National Association of Road Transport Owners (PTD) on the patronage of motor vehicle *Takaful* in Kano State.

## II. Literature Review

### 2.1. Background Theory

The theory of planned behavior (TPB) is one of the most influential and popular conceptual frameworks for studying human action (Ajzen, 2001). Basically, TPB is an extension of the TRA (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Husin & AbRahman, 2016). TPB was developed with the inclusion of perceived behavioral control as a function of control beliefs and represented the perceived ease or difficulty of performing the behavior. It is a belief regarding possessing requisite resources and opportunities for performing a given behavior. For example, when people are not equipped with sufficient resources or information to initiate the behavior, their intention to perform the behavior may be lowered even if they have favorable attitudes or subjective norms to perform it (Madden, Ellen & Ajzen, 1992). In other words, individuals are likely to engage in certain behavior if they believe they have the required resources and confidence to perform the behavior. Behavioral control is also believed to directly influence intention and reflect the actual behavior (Madden, Ellen & Ajzen, 1992). A significant relationship between perceived behavioral control and intention has been found in many studies, such as Bhattacharjee (2000), Armitage & Conner (2001), Fukukawa (2002), Armitage (2005), and Syed & Nazura (2011). TPB also signifies that attitude toward the behavior, subjective norm, and perceived behavioral control lead to the formation of a behavioral intention and, in turn, reflect the actual behavior.

However, it should be noted that to predict individual intention to patronize motor vehicle *Takaful*, TPB was adopted with some modifications, in which attitude was substituted with awareness, the subjective norm was replaced with perception, and perceived behavioral control was replaced with religiosity. Therefore, TPB in predicting consumer intention to participate in motor vehicle *Takaful* is deemed appropriate. In addition, TPB was adapted in this study following a similar study (Yaqub, 2016).

### 2.2. Previous Studies

Ardo and Saiti (2017) analyzed *Takaful* practice in Nigeria: history, present, and future. They provided the basic explanation of the nature and concept of *Takaful* with an overview of the current status of *Takaful* in Nigeria and hindrances and legal flaws in the *Takaful* regulation in Nigeria. They adopted

a qualitative library research method to achieve the non-needed revitalization of the Nigerian financial systems. They identified six cardinal problems hindering rapid development of *Takaful* in Nigeria, including legal/regulatory flaws, inadequate manpower, acceptability by non-Muslims, low customer awareness, limited *shariah* compliance investment avenues, and inadequate re-*Takaful* capacity, despite the slow growth experience in the *Takaful* sector that holds the great prospect for *Takaful* sector in Nigeria in the future.

Aziz, Husin, and Husin (2017) studied the conceptual framework of factors determining intentions towards adopting family *Takaful*. The study developed a theoretical framework based on Decomposed Theory of Planned Behavior (DTPB). DTPB was used in many disciplines to explain the intention-behavior relationship. The original construct of the theory is based on attitude, subjective norms, and perceived behavioral control. The research then provided the antecedents of these constructs, which were adopted according to the attributes of family *Takaful*. Their study adopted the existing model of DTPB from the family *Takaful* perspective.

Saleh, Balan, and Ruslan (2016) examined the attributes of learning from the Malaysian experience: Overcoming the regulatory challenges in the nascent *Takaful* practice in Nigeria. The authors revealed that Islamic insurance (*Takaful*), introduced in March 2013, was specifically meant to bridge the endemic insurance gap in Nigeria by engendering deepening insurance penetration and financial inclusion of the hitherto underserved and uninsured huge Muslim client. However, the legal effect is a huge regulatory vacuum bound to negatively impact the capital investment climate, breed mistrust and uncertainty, and discourage participation in the nascent *Takaful* industry. The study used both doctrinal and qualitative while employing a non-random sampling technique. The study also employed primary and secondary sources of information and interviews where appropriate. The study uncovered the need for a review and harmonization of all the enabling insurance instruments in Nigeria, transforming the current business models and improving practices in the insurance sector to enhance the application of *Takaful*. The authors recommend that Nigeria draw from Malaysia's vast experiences to overcome these challenges. In this case, Nigeria and Malaysia are former British colonies with diverse ethnic and socio-cultural backgrounds. They both practice divergent legal systems in a secular setting. Both also have sizeable numbers of the Muslim population. While Malaysia is considered the hub of *Takaful* practice globally, Nigeria is only an emerging market in the trending Islamic financial revolution.

Saleh (2016) investigated the challenges in *Takaful* application within the conventional insurance framework in Nigeria and the imperative for legislative harmonization of regulatory instruments. The study examined the provisions

of the Insurance Act, especially the section delineating and conferring supremacy of the Act, among others, as those inimical to the efficient and effective application of *Takaful* within the conventional insurance practice in Nigeria using doctrinal, qualitative, and based purely on library study covering books, statutes, law reports, and internet sources from renowned databases and websites. In addition, interviews were intercepted, structured, semi-structured, and purposive to collect empirical data from targeted participants. Analyses of responses from interviews conducted suggested that ignorance, mistrust, and apathy were largely responsible for the lack of participation and stunted growth of conventional insurance. Some respondents also believed *Takaful* would boost insurance penetration if an adequate regulatory framework and enforcement processes were implemented. While acknowledging the need for further empirical analysis in a future study, the study found, among numerous other findings, the need for wholesome *Takaful* legislation that will harmonize all the regulatory discrepancies, establish regulatory certainty, and build trust in the struggling insurance industry. Then, the study concludes that enacting a wholesome *Takaful* Act like Malaysia's current Islamic Financial Services Act (IFSA) 2013 will engender regulatory certainty that will positively influence the revival of trust in the insurance industry. It will further encourage patronage, product design, and innovation, which will deepen insurance penetration and financial inclusion of the greater majority of the Nigerian underserved insurance populace.

Yaqub and Dandago (2015) studied the determinants of motor *Takaful* patronage among commercial vehicle operators in Nigeria. The empirical research found that product, features, promotion, benefit, and service quality were the major factors/determinants influencing the patronage of motor *Takaful* by commercial vehicle operators across the globe. However, their study was limited in its application as it focused more on the empirical than the experimental aspect. It may have been more illustrative to broaden the scope by subjecting the variables to data testing and analysis.

Maiyaki and Ayuba (2015) investigated consumers' attitudes toward the patronage of Islamic insurance services (*Takaful*) in Kano State, Nigeria. The study examined the extent to which consumers' awareness, perception of *Takaful* services, and the trust and confidence they reposed in *Takaful* operators had a significant relationship with their attitude toward *Takaful* services patronage. The data were analyzed using multiple- regression with SSPS version 17. They employed an explanatory survey design as a structured questionnaire was administered to 384 regarded as the sample selected on judgmental sampling technique. The researchers uncovered that awareness, perception, trust, and confidence were significantly related to the consumers' attitude toward *Takaful* services patronage. The study recommends that an attitudinal change campaign is required, and a rigorous marketing campaign

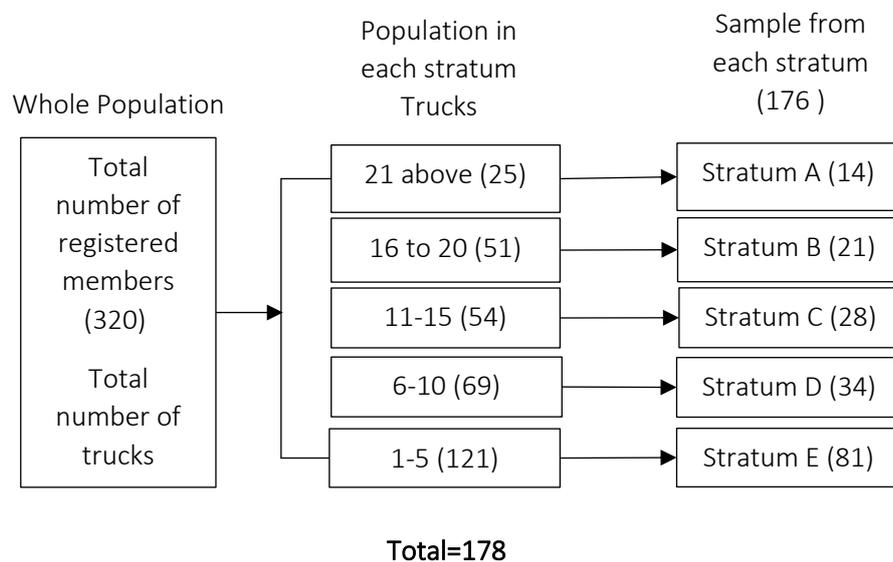
should be embarked upon to create awareness of *Takaful* service and its operators. With the empirical findings of this study, people's trust and confidence should be won and built-in favor of *Takaful* services if the study model has been well specified. Further, they attest to the need to replicate the study in other areas that share similarities with Kano to establish and generalize the findings.

### III. Methodology

The main objective of this study is to examine the determinants of motor vehicle *Takaful* patronage by members of the National Association of Road Transport Owners (PTD) in Kano State.

#### 3.1. Data

This research intended to use the primary data collection method using a questionnaire to collect data from the respondents. This data collection method was deemed appropriate because the study dealt with the behavioral attitude of the respondents. Then, the study population was the registered members of the National Association of Road Transport Owners (PTD) in Kano State. According to the statistics available at the head office of (NARTO-PTD, 2021) there were 320 members of the association in Kano State. Thus, the research adopted the Taro (1967) method of determining sample size and arrived at 178 sample sizes, which is sufficient for PLS-SEM with 24 indicators, according to Hair et al. (2014).



**Figure 1.** Stratification of the population and selection of sample size  
 Source: Awang (2012) with modification

This research also adopted a stratified random sampling technique. Since the population was heterogeneous regarding truck ownership, such owners would

be segmented into categories to obtain a sample from each category, it can be seen on Figure 1. The number of samples from each stratum would be proportionate to the number of truck's percentage in the population, i.e., association members who owned 20 trucks and above were 8% of the total population, which invariably represented 14 members in the sample having 100 trucks.

### **3.2. Model Development**

This study empirically examined the proposed research model containing three latent variables (i.e., patronage determinants), whereas awareness, perception, and religiosity were the independent variables, and patronage was the only dependent variable. All scales and measures used in this research were adapted from the studies (Aziz, Husin and Husin, 2017; Saleh, Balan and Ruslan, 2016; Maiyaki & Ayuba, 2015; Yaqub and Dandago, 2015).

#### **3.2.1. Patronage**

Consumers have diverse motivational tastes and preferences. They constantly seek a solution to the various need or their state of deprivation (need) through product offerings, promotional activities, and other means of communication readily available to them.

#### **3.2.2. Determinants of Patronage**

Researchers identified several factors influencing the patronage of a commodity or service, such as awareness, perception, religiosity, self-efficacy, and customer behavior, just to mention a few. However, this research would only deal on the selected independent variables on patronage.

#### **3.2.3. Awareness**

Surprisingly, despite its notable vision, it was found that many people were not aware of the *Takaful* concept. In this respect, consumer awareness refers to the combination of the knowledge of the product purchased by the consumers in terms of its quality (Ishak and Zabil, 2012). For example, the consumer should know whether the product is good for health, whether the product is free of creating any environmental hazards, and others. It is also the education about the various types of hazards and problems associated with the marketing of a product. For instance, one way to market a product is through advertisements in newspapers, television, and others. Thus, consumers should have proper education about the bad effects of advertisements. They must also verify the advertisement contents.

Lateh, Ismail, and Arrifin (2009) and Khan, Hassan, and Syahid (2008) had similar study results. Lateh, Ismail & Arrifin (2009) asserted that awareness is referred to the knowledge about 'consumer rights.' It means the consumer

must know they have the right to get the right product or service. Also, if the product or service is found to be faulty in some manner, the consumer should know to claim compensation as per the law of the land. The last is the knowledge about consumers' responsibilities. It implies that consumers should not indulge in wasteful and unnecessary consumption.

It could be said that *Takaful* products and services are unpopular among consumers in Nigeria; therefore, industries offering *Takaful* should develop strategies that will enlighten consumers on *Takaful* products and services to enhance their patronage of *Takaful* (Yaqub, 2016).

**H<sub>01</sub>:** The awareness level of members of the National Association of Road Transport Owners (PTD) does not significantly determine their patronage of motor vehicle *Takaful* in Kano State.

### 3.2.4. Perception

The perceptions of non-Muslims towards Islamic insurance varied among themselves. According to Haque, Osman & Ismail (2009), religious perspectives in Malaysia also significantly influenced the perception of Islamic insurance. It means religious factors would influence Malaysians' awareness, understanding, and perceptions of Islamic insurance products and services. According to Amin (2007), in Borneo, income will also affect the awareness and usage of Islamic financing. Perception or reasons behind dealing with Islamic insurance also vary among the different income groups as there is a significant difference in almost all reasons for accepted services charges and confidentiality. In addition, most of the Islamic insurance customers are of the middle-income level.

**H<sub>02</sub>:** Perception of the members of the National Association of Road Transport Owners (PTD) does not have a significant impact on their patronage of motor vehicle *Takaful* in Kano State.

### 3.2.5. Religiosity

Religiosity is defined as the degree to which a person adheres to the religious values, beliefs, and practices used in their daily life (Worthington Jr. *et al.*, 2003). Islam is a religion that urges its followers to do good and noble deeds; it guides the acts of every follower or believer in all cases, including good relations not only with God but also with other human beings. McDaniel and Burnett (1990) defined religion as a belief in God accompanied by a commitment to follow principles believed to be set forth by God. Osman *et al.* (2014) found that religiosity significantly influenced young intellectuals' behavioral intention in contributing to *waqf*. Meanwhile, this study looks into individual religiosity regardless of age classification in determining attitudes towards patronage of motor vehicle Takaful.

H<sub>03</sub>: The religiosity of the members of the National Association of Road Transport Owners (PTD) does not have a significant effect on their patronage of motor vehicle *Takaful* in Kano State.

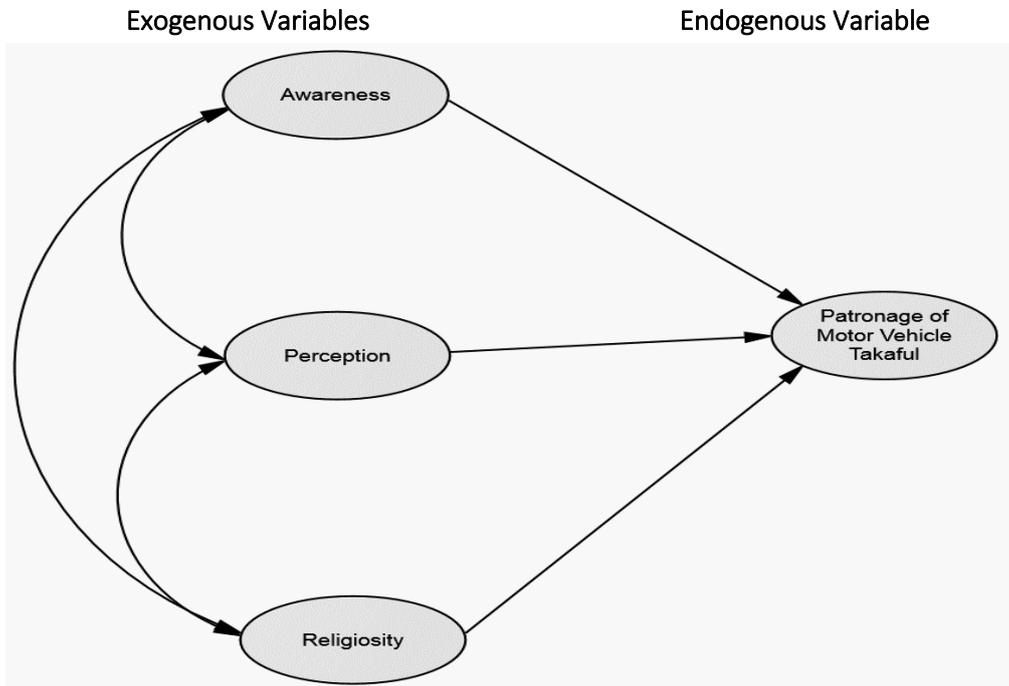


Figure 2. Research model  
Source: Adapted from Ajzen (1985)

From figure 2 patronage of motor vehicle Takaful is the endogenous variable while awareness, perception as well religiosity are the exogenous variables.

The functional relationship of the model is given:

$$Y_i = (X_{i1}, X_{i2}, X_{i3},) \quad (1)$$

$$Y_i = \varpi_0 + \varpi_1 X_{i1} + \varpi_2 X_{i2} + \varpi_3 X_{i3} + \varepsilon_i \quad (2)$$

$$PTR_i = \varpi_0 + \varpi_1 AWR_i + \varpi_2 PER_i + \varpi_3 RLG_i + \varepsilon_i \quad (3)$$

- $PTR_i$  = patronage
- $AWR_i$  = awareness
- $PER_i$  = perception
- $RLG_i$  = religiosity
- $\varpi_0$  = intercept
- $\varpi_1, \varpi_2$  and  $\varpi_3$  = parameter estimates
- $\varepsilon_i$  = the error term

### 3.3. Method

The present study used structural equation modeling (SEM), divided into two main categories: covariance-based (CB-SEM) using AMOS software and variance based, i.e., Partial Least Square using Smart-PLS (Chin, 1998; Chin & Newsted, 1999; Hair et al., 2010 & Hair et al., 2014,). Thus, PLS path modeling

using Smart-PLS version 3.0 was used to test the study's proposed theoretical model.

In addition, researchers refer to variance as a second-generation statistical tool because it allows for concurrent analysis of multiple variables. Smart-PLS has become a major analytical tool in major research disciplines, such as management finance (Hair, Sarstedt, Ringle & Mena, 2012) and marketing operations (Hair et al., 2012). As such, it was considered in this study because of the following reasons: PLS is part of regression techniques that enables the estimation of the relationship between measurement model (indicators) and structural model (construct) possible at the same time (Duarte & Roposo, 2010).

## IV. Results and Analysis

### 4.1. Descriptive Analysis

The demographic characteristics examined in this study included gender, age, years of experience in business, qualification, number of trucks, and income level.

In terms of gender, Table 1 reveals that 171 subjects (99.9%) were males, while only two (0.1%) were females. The larger men sample was because transport business is a large-scale business, while the major problem hindering women from engaging in large-scale business is access to capital (Odoemene, 2013).

From Table 1, six (3.5%) respondents fell in the 19-29 age group, while the 30-59 age group comprised 34 (19.7%) respondents. Then, 22 (12.7%) were within the age group of 40-49, and 62 (35.8%) respondents were within the 50-59 age group. Lastly, 49 (28.3%) respondents fell within the 60-above age group. It signifies that most respondents were older within the age group of 50-59 with 35.8%, followed by the 60-above age group with 28.3%.

The analysis of the years of experience in business in Table 1 uncovers that two (1.2%) respondents had 1-5 years in the business, while 17 (9.8%) respondents had 6-10 years in business. Then, 19 (11%) subjects acquired 11-15 years in business, and 77 (44.5%) respondents spent 16-20 years in the business. Lastly, 58 (33.5%) respondents spent 21-above in the business. In other words, most respondents spent many years in the business, i.e., 50-59 followed by 60-above. It denotes that the respondents had enough knowledge of the business and fit enough to provide the information needed to achieve the research objectives.

In addition, Table 1 presents that 101 (58.4%) respondents obtained the O-level certificate, while 62 (35.8%) respondents held a diploma certificate.

Meanwhile, six (3.5%) respondents were graduates, and four (2.3%) respondents obtained their postgraduate certificates. It clearly shows that most subjects obtained the minimum primary certificate, followed by a diploma.

**Table 1.** Demographic Characteristics of the Respondents

	Frequency	Percentage (%)
<b>Gender</b>		
Male	171	99.9
Female	2	0.1
Total	173	100.0
<b>Age</b>		
19-29	6	3.5
30-39	34	19.7
40-49	22	12.7
50-59	62	35.8
60-Above	49	28.3
Total	173	100.0
<b>Years of experience in business</b>		
1-5	2	1.2
6-10	17	9.8
11-15	19	11.0
16-20	77	44.5
21-Above	58	33.5
Total	173	100.0
<b>Qualification</b>		
O-Level	101	58.4
Diploma	62	35.8
Graduate	6	3.5
Postgraduate	4	2.3
Total	173	100.0
<b>Number of trucks</b>		
1-5	13	7.5
6-10	4	2.3
11-15	30	17.3
16-20	51	29.5
21-Above	75	43.4
Total	173	100.0
<b>Income level (per month)</b>		
Below One Million	4	2.3
1-10 Million	8	4.6
11-20 Million	27	15.6
21-30 Million	97	56.1
31 Million Above	37	21.4
Total	173	100.0

Table 1 also indicates that 13 (7.5%) respondents had 1-5 trucks, four (2.3%) respondents had 6-10 trucks, 30 (17.3%) respondents owned 11-15 trucks, 51 (29.5%) had 16-20 trucks, and 75 (43.4%) respondents owned 21-above number of trucks. It demonstrates that the majority of the respondents owned 21-above trucks, followed by those having 16-20 trucks.

Moreover, Table 1 shows that four (2.3%) respondents had income level below one million (per month), eight (4.6) respondents earned 1-10 million (per month), 27 (15.6%) respondents earned 11-20 million (per million), 97 (56.1%) respondents had 21-30 million (per month), 37 (21.4%) respondents had 31 million above (per month). It suggests that most respondents had 21-30 million (per month), followed by those having 31 million and above for the monthly income level.

**4.2. Descriptive Analysis of the Latent Constructs**

After the overall data cleaning and screening, descriptive statistics of the study latent variables were also evaluated, presented, and discussed. Specifically, four latent variables were analyzed to determine their mean, standard deviation, minimum, and maximum values. Table 2 provides a summary of the descriptive statistics of the study.

**Table 2.** Descriptive Statistics for Latent Variables  
Descriptive Statistics

Lantern construct	No items	Statistic			
		Minimum	Maximum	Mean	Std. Deviation
Awareness	6	1.00	5.00	3.4412	.88260
Perception	5	1.00	5.00	4.3561	.49969
Religiosity	6	1.00	5.00	3.3382	1.05109
Patronage	8	1.00	5.00	4.2038	.53258

Table 2 shows that the mean and standard deviation for the awareness were 3.4412 and 0.88260, respectively. It suggests that respondents tended to have a moderate level of awareness. Table 2 also indicates that the mean for the perception was 4.3561, with a standard deviation of 0.49969, suggesting that the respondents’ perception level of outcomes was high. Further, the results showed a moderate score for religiosity (mean = 3.3382, standard deviation = 1.051) but a high score for patronage with a mean and standard deviation of 4.2038 and 0.53258, respectively.

**4.3. Assessment of PLS-SEM Path Model Results**

This study presents a two-step process to evaluate and report the PLS-SEM path results, as suggested by Henseler, Ringle, and Sinkovics (2009). This two-step process adopted in the present study comprised (1) the assessment of a

measurement model and (2) the assessment of a structural model, as depicted in Figures 3 and 4 (Hair et al., 2014; Hair et al., 2012; Henseler et al., 2009).

### 4.3.1. Assessment of Measurement Model

An assessment of a measurement model involves determining individual item reliability, internal consistency reliability, content validity, convergent validity, and discriminant validity (Hair et al., 2014; Hair et al., 2011; Henseler et al., 2009).

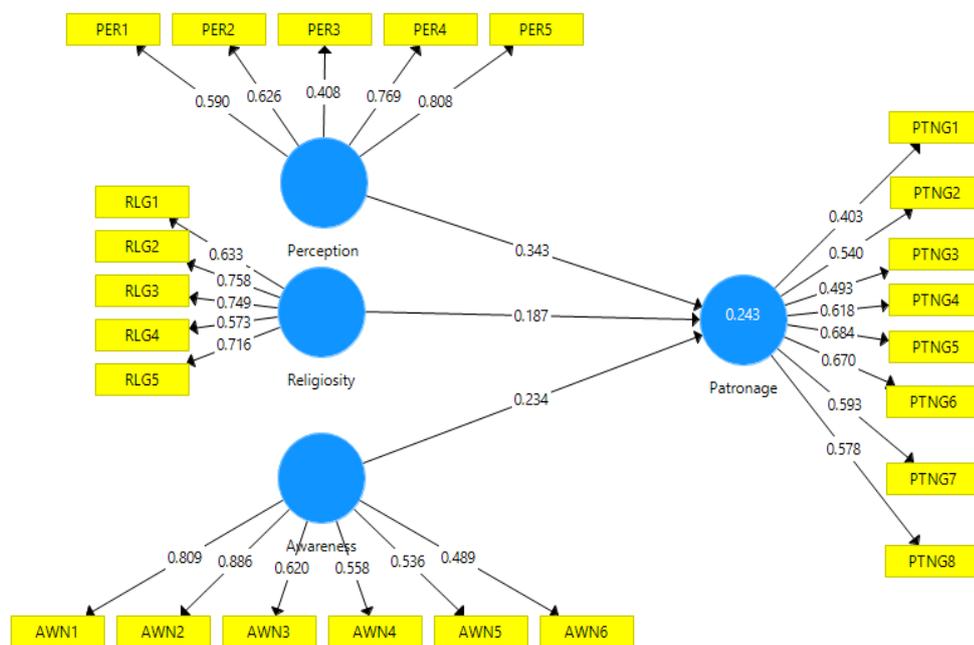


Figure 3. Measurement model

#### 4.3.1.1. Individual Item Reliability

From Figure 3, individual item reliability was assessed by examining the outer loadings of each construct’s measure (Duarte & Raposo, 2010; Hair *et al.*, 2014). Following the rule of thumb for retaining items with loadings of 0.50 and above (Hair, Ringle, & Sarstedt, 2011; Hair *et al.*, 2014), it was discovered that out of 24 indicators, none were deleted because they presented loadings above the threshold of 0.50, except PTNG1 and PTNG3. Since the AVE of patronage was 0.5311, greater than 0.50, PTNG1 and PTNG3 were still included in the model.

#### 4.3.1.2. Internal Consistency Reliability

Internal consistency reliability refers to the extent to which all items on a particular (sub) scale measure the same concept. Cronbach’s alpha coefficient and composite reliability coefficient are the most commonly used estimators of the internal consistency reliability of an instrument. Hence, this study used

composite reliability and Cronbach’s alpha coefficient to ascertain the internal consistency reliability. It is clearly depicted in Table 3 as both values exceeded the yardstick of 0.6 and 0.5, respectively.

4.3.1.3. Convergent Validity

According to Hulland (1999), individual reliability assesses the loading of the multiple items concerning their respective study construct. The items of a particular construct are expected to be consistent in measuring the proposed construct (Hair *et al.*, 2013). In this study, achieving reliability and validity explained that the items were free from random and systematic errors. The individual item reliability was assessed using their individual loadings obtained from the PLS algorithm result.

**Table 3.** Loadings, Composite Reliability, and Average Variance Extracted

	Factor loadings	Composite reliability (pc)	Average variance extracted	Cronbach Alpha
<b>Awareness</b>		0.8198	0.6121	0.7892
AWN1	0.8088			
AWN2	0.8862			
AWN3	0.6201			
AWN4	0.5577			
AWN5	0.5358			
AWN6	0.5087			
<b>Perception</b>		0.7825	0.5431	0.6961
PER1	0.5898			
PER2	0.6263			
PER3	0.4079			
PER4	0.7695			
PER5	0.8078			
<b>Patronage</b>		0.7977	0.5311	0.7136
PTNG1	0.4032			
PTNG2	0.5395			
PTNG3	0.4925			
PTNG4	0.6181			
PTNG5	0.6843			
PTNG6	0.6704			
PTNG7	0.5926			
PTNG8	0.5782			
<b>Religiosity</b>		0.8177	0.6431	0.7408
RLG1	0.6335			
RLG2	0.7584			
RLG3	0.7488			
RLG4	0.5726			
RLG5	0.7160			

The researchers argued that latent variables should explain at least 50% of the variance in the observed variable shared with the construct (Henseler *et al.*, 2009). Related to that, several kinds of literature exist (Churchill & Iacobucci, 2004; Hulland, 1999) on the threshold or rule of thumb regarding individual item reliability. However, most scholars agreed on loadings between 0.4 and 0.7 (Hair *et al.*, 2013). Following this suggestion, all items in this study were above 0.4, as shown in Table 4.

Table 4 Cross Loadings

	Awareness	Patronage	Perception	Religiosity
AWN1	<b>0.8088</b>	0.2125	-0.0076	0.2915
AWN2	<b>0.8862</b>	0.3394	0.0440	0.3107
AWN3	<b>0.6201</b>	0.0922	0.0464	0.2043
AWN4	<b>0.5577</b>	0.1673	-0.0060	0.1577
AWN5	<b>0.5358</b>	0.0603	-0.0930	0.1785
AWN6	<b>0.4887</b>	0.0116	-0.0194	0.2648
PER1	0.0188	0.0611	<b>0.5898</b>	0.0717
PER2	-0.0424	0.1680	<b>0.6263</b>	-0.0079
PER3	0.0089	0.0678	<b>0.4079</b>	0.0859
PER4	0.0746	0.3125	<b>0.7695</b>	0.0543
PER5	-0.0227	0.3144	<b>0.8078</b>	-0.0307
PTNG1	-0.1868	<b>0.4032</b>	0.3565	0.1080
PTNG2	0.1095	<b>0.5395</b>	0.1782	0.0967
PTNG3	0.1056	<b>0.4925</b>	0.1009	0.2233
PTNG4	0.0935	<b>0.6181</b>	0.3048	0.1674
PTNG5	0.2382	<b>0.6843</b>	0.2399	0.1537
PTNG6	0.0742	<b>0.6704</b>	0.2395	0.1218
PTNG7	0.3767	<b>0.5926</b>	0.1036	0.1950
PTNG8	0.3756	<b>0.5782</b>	0.1441	0.1933
RLG1	0.2693	0.0578	-0.0360	<b>0.6335</b>
RLG2	0.2934	0.1971	0.0145	<b>0.7584</b>
RLG3	0.2184	0.2643	0.0219	<b>0.7488</b>
RLG4	0.2282	0.1354	0.0592	<b>0.5726</b>
RLG5	0.2234	0.1798	-0.0009	<b>0.7160</b>

#### 4.3.1.4. Discriminant Validity

From Table 4, discriminant validity refers to the extent to which a particular latent construct differs from another latent variable (Duarte & Raposo, 2010). The present study determined discriminant validity following Chin's (1998) criterion by comparing the indicator loadings with other reflective indicators in the cross-loadings. In Table 4, the correlations among the latent variable were compared with the square root of the average variances extracted (values in boldface). Table 4 also shows that the square root of the average variances extracted were all greater than the correlations among latent constructs, suggesting adequate discriminant validity (Fornell & Larcker, 1981).

#### 4.4. Structural Model Assessment

The validity of the outer model (measurement model) gives room for evaluating the inner (structural) model (Henseler *et al.*, 2009). The structural model concerns  $R^2$ , coefficient, P-value, and bootstrapping (Hair *et al.*, 2013). Additionally, the structural model explained the predictive relevance ( $Q^2$ ) and the effect size ( $F^2$ ) of each variable. Meanwhile, the inner model evaluates the significance of loadings and path coefficient between variables (Barclay *et al.*, 1995). Specifically, the structural model is aimed at model evaluation and the regression and correlation assumption examination between the study variables.

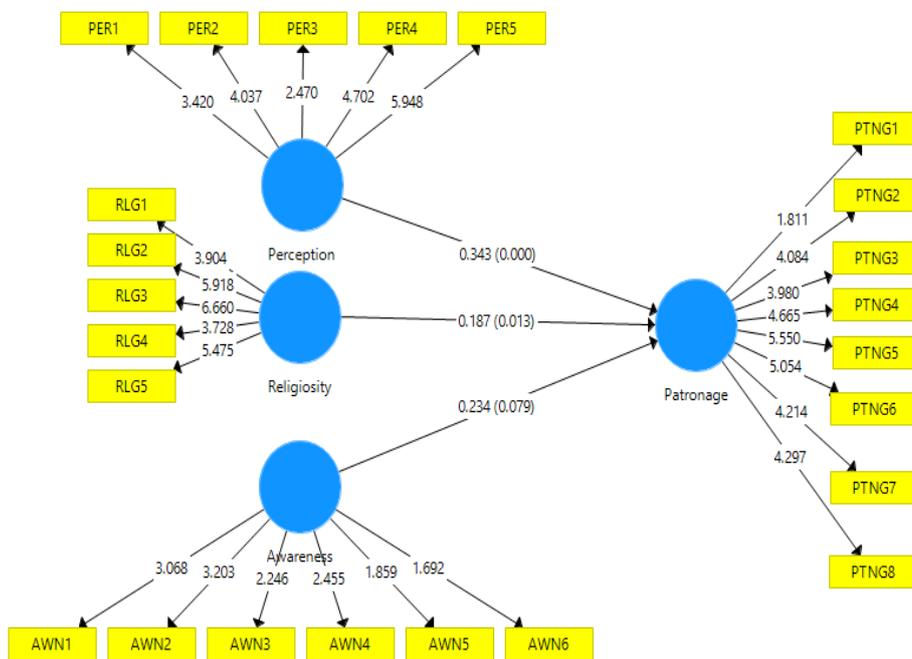


Figure 4. Structural model

##### 4.4.1. Direct Relationship

Figure 4 provides the graphical display of the standardized path coefficient ( $\beta$ ) and P-values of the hypothesis in this study. Table 5 provides standardized path coefficient ( $\beta$ ), P-values, and confidence intervals as suggested by Cho and Abe (2013). It can be deduced that all direct relationship between variables (perception and patronage) was accepted. Also, the relationship between the two variables (religiosity and patronage) was accepted. However, the relationship between awareness and patronage was rejected. In essence, two alternative hypotheses were accepted, and one alternative was rejected.

#### 4.4.2. Test of Hypothesis

Hypothesis 1 postulates that the awareness level of the National Association of Road Transport Owners (PTD) members does not significantly affect the patronage of motor vehicle *Takaful* in Kano State. The results revealed an insignificant relationship between awareness and patronage ( $\beta = 0.234, P > 0.079$ ). Hence, the null hypothesis was accepted, and this finding is inconsistent with the findings of Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

Hypothesis 2 proposes that the perception of the National Association of Road Transport Owners (PTD) members does not significantly impact the patronage of motor vehicle *Takaful* in Kano State. However, since  $\beta = 0.343, P < 0.00$ , the alternative hypothesis was accepted, and this result is synonymous with the findings of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

Hypothesis 3 suggests that National Association of Road Transport Owners (PTD) religiosity members do not significantly affect the patronage of motor vehicle *Takaful* in Kano State. Because  $\beta = 0.187, p < 0.013$ , the alternative hypothesis was accepted. This finding is similar to the work of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

**Table 5** Results of Direct Hypotheses

Relationship	Beta	T-Statistics	P-Value	Findings
AWN->PTNG	0.234	1.759	0.079	Not Supported
PER->PTNG	0.343	4.202	0.000	Supported
RLG->PTNG	0.187	2.488	0.013	Supported

Note: \*\*\*Significant at 0.01 (two-tailed)

Table 5 reveals that the null hypothesis between awareness and patronage was accepted. Also, the null hypothesis showed a result of  $\beta = .234, P = .079$ . Meanwhile, perception predicted to have a positive effect on patronage was confirmed and supported with an estimated  $\beta = .343, P\text{-value} = .000$ . This result had the strongest result of any other alternative hypothesis in the study, thus providing a substantial beta value. Lastly, the prediction of a positive relationship between religiosity and patronage was also significant and supported ( $\beta = .187, P\text{-value} = .013$ ).

#### 4.4.3. Assessment of Variance Explained in the Dependent Latent Variables

Another important criterion for assessing the structural model in PLS-SEM is the R-squared value, also known as the coefficient of determination (Hair *et al.*, 2012). The R-squared value represents the proportion of variation in the dependent variable(s) that can be explained by one or more independent

variables (Hair *et al.*, 2010). Although the acceptable level of  $R^2$  value depends on the research context (Hair *et al.*, 2010), an R-squared value of 0.10 is a minimum acceptable level. Meanwhile, Chin (1998) suggests that the R-squared values of 0.67, 0.33, and 0.19 in PLS-SEM can be considered substantial, moderate, and weak, respectively. Table 6 presents the R-squared values.

**Table 6.** Variance Explained in the dependent Variables

Variable	Variance Explained ( $R^2$ )
Patronage	24%

The results in Table 6 of the R squared indicate that it is estimated that the predictors of the patronage of motor vehicle *takaful* explained 0.24 = 24% of its variance. In other words, the error variance of patronage of motor vehicle *takaful* was approximately 0.76= 76%. It signifies that awareness, perception, and religiosity influenced the patronage of motor vehicle *takaful* by 24%, while the other 76% changes in the patronage of motor vehicle *takaful* were by other variables not stated in the model, represented by error term.

**4.4.4. Assessment of Effect Size ( $F^2$ )**

Effect size indicates the relative effect of a particular independent variable on a dependent variable using changes in the R-squared (Chin, 1998). It is calculated as the changes in the R-squared of the variable to which the path is connected (Chin, 1998). Cohen (1988) describes  $F^2$  values of 0.02, 0.15, and 0.35 as having weak, moderate, and strong effects. Table 7 shows the respective effect sizes of the independent latent variables of the structural model.

**Table 7.** Effect Sizes of the Independent Latent Variables on Cohen’s (1988) Recommendation

Independent variable	Dependent variable	$F^2$	Effect size
Awareness	Patronage	0.0637	Weak
Perception	Patronage	0.1553	Moderate
Religiosity	Patronage	0.0409	Weak

From the result in Table 7, it could be deduced that all the variables had some exploratory power towards the dependents variable. Specifically, awareness and religiosity had a weak effect on patronage, while perception had a moderate effect on patronage.

**4.4.5. Assessment of Predictive Relevance**

The present study also applied the Stone-Geisser test of predictive relevance of the research model using blindfolding procedures (Geisser, 1974; Stone, 1974). Hence, because the present study's dependent variable was reflective, a blindfolding procedure was applied mainly to these dependent variables. In

particular, a cross-validated redundancy measure ( $Q^2$ ) was applied to assess the predictive relevance of the research model (Chin, 2010; Geisser, 1974; Hair *et al.*, 2013). According to Henseler *et al.* (2009), a research model with  $Q^2$  statistic (s) greater than zero is considered to have predictive relevance. Additionally, a research model with higher positive  $Q^2$  values suggests more predictive relevance. Table 8 presents the results of the cross-validated redundancy  $Q^2$  test.

As shown in Table 8, the cross-validation redundancy measure  $Q^2$  for the dependent variable was above zero, suggesting the predictive relevance of the model.

**Table 8.** Construct Cross-Validated Redundancy

Total	SSO	SSE	$Q^2(=1-SSE/SSO)$
Patronage	1384	1303.1490	0.0584

#### 4.5. Analysis

The major findings of this study are as follows. Firstly, awareness did not influence patronage because the p-value was greater than 0.05, i.e., insignificant effect ( $\beta = .234$ ,  $P = .079$ ), signifying that awareness was not strong enough to predict patronage. This finding is inconsistent with the findings of Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016). Secondly, perception predicted to have a positive effect on patronage was confirmed and supported with an estimated  $\beta = .343$ ,  $P\text{-value} = .000$ . This result showed the strongest result in the model, thus providing a substantial beta value, and the p-value was 0.000. This result is synonymous with the findings of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016). Lastly, the prediction of a positive relationship between religiosity and patronage was also significant, with a p-value of less than 0.005 ( $\beta = .187$ ,  $P\text{-value} = .013$ ). This result was the second strongest relationship in the model; this outcome of the findings is similar to the work of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

The effect of each independent variable on the dependent variable revealed that awareness and religiosity had a weak effect on patronage, while perception had a moderate effect on patronage. Furthermore, the overall model of the study had a predictive relevance.

## V. Conclusion and Recommendation

### 5.1. Conclusion

This study's primary aim is to assess motor vehicle Takaful's patronage by members of the National Association of Road Transport Owners-Petroleum Tankers Division (NARTO-PTD) in Kano State. Meanwhile, the study's specific

objectives are to assess whether awareness, perception, and religion influence the patronage of motor vehicle Takaful among members of the National Association of Road Transports Owners-Petroleum Tankers Division (NARTO-PTD) in Kano State. To address this, relevant data were collected and analyzed, and the following conclusions were drawn:

The result of this study revealed that awareness did not influence patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. Therefore, this study concludes that awareness did not improve the level of patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. This finding is inconsistent with the findings of Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

On the other hand, the result of this study showed a significant positive effect between the perception and patronage of motor vehicle Takaful among members of the National Association of Road Transports Owners-Petroleum Tankers Division (NARTO-PTD) in Kano State. The result of this study indicates that perception positively influenced patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. Therefore, this study concludes that perception improved the patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. This result is synonymous with the findings of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

The result of this study also revealed that religiosity positively influenced patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. Hence, this study concludes that religiosity improved the patronage of motor vehicle Takaful among members (NARTO-PTD) in Kano State. This outcome is similar to the work of Ardo & Saiti (2017), Aziz, Husin & Husin (2017), Yaqub & Dandago (2015), and Saleh (2016).

## **5.2. Recommendation**

Based on the findings from both conceptual literature and empirical, i.e., the results from the data analysis, the following recommendations are made to provide an adequate measure to complement the assessment of the patronage of motor vehicle Takaful by members of the National Association of Road Transports Owners-Petroleum Tankers Division (NARTO-PTD) in Kano State. The study recommends that Takaful companies develop policies that will further enhance marketing channels with different strategic forms of advertisement, i.e., face-to-face or using print and electronic media to improve the patronage among (NARTO-PTD) members in Kano State. The study also recommends that Takaful companies develop policies that will further encourage highly religious and attract those not highly religious through organizing educative programs in mosques and other religious

avenues. It will consequently improve patronage of Takaful among (NARTO-PTD) members in Kano State and hence mitigate the risk associated with the business. Lastly, the study recommends developing policies to strengthen the perception of members of the National Association of Road Transport Owners-Petroleum Tankers Division (NARTO-PTD) in Kano State.

This study could assess the patronage of Takaful among (NARTO-PTD) members in Kano State; however, the study needs to be widened to different sectors within Kano State. In addition, it needs to conduct similar research across the states in the federation to compare and contrast the findings. Further research also needs to include new independent, mediating or moderating variables in the used model to find the direct and indirect relationship in the model.

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