INTEGRATING THE MODERATING EFFECT OF INDIVIDUALS’ RISK VULNERABILITY INTO TAKAFUL ACCEPTANCE MODEL: EVIDENCE FROM A FRONTIER MARKET

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Dr Abdulsalam Mas’ud
Department of Accounting, Hussaini Adamu Federal Polytechnic, Nigeria
masudabdussalam@yahoo.com

Abstract

Recently, acceptance of Takaful as an Islamic financial product has been declining in African Muslim-dominated countries such as Kenya, Tunisia, and Nigeria. In understanding the causes of this trend and proffer a possible solution, this study examines the effects of individuals’ attitude towards Takaful, perceived behavioral control, individual’s risks vulnerability on Takaful acceptance intention in Nigerian Frontier Market. It also examined the moderating effect of individual’s risks vulnerability on the relationship between attitudes towards Takaful, perceived behavioral control, and Takaful acceptance intention. Through a quantitative methodology employed for the purpose, the results revealed that attitude towards Takaful, perceived behavioral control and individual’s risks vulnerability are significantly related to Takaful acceptance intention. Moreover, individual’s risks vulnerability moderates the relationship between attitude towards Takaful, perceived behavioral control, and Takaful acceptance intention. In line with these findings, theoretical and practical implications, as well as the direction of future research, were highlighted.

Keywords: Attitude, acceptance intention, perceived behavioral control, risks vulnerability, Takaful

Track: Business Ethics, Marketing, and Corporate Social Responsibility from an Islamic PerspectiveIslamic Capital Markets
Sub-track: Issues in Islamic marketing

1.0 INTRODUCTION

The emergence of the traditional Islamic banking was said to have emanated from a rural area in Pakistan in the 1950s while the modern Islamic banking commenced through a pioneering experiment via the Mit-Ghamr Islamic Savings Bank (MGISB) in Egypt in 1963 (Chachi, 2005). One of the Islamic financial products is Takaful (Islamic insurance), which was originated from Sudan in 1979 (Husin and Rahman, 2013). Despite its emergence from Africa, the penetration of Takaful is deteriorating
in some Muslims dominated African countries such as Kenya, Nigeria, and Tunisia. Available statistics put it that there is declining growth in Takaful penetration rate in Muslims dominated African countries such as Kenya, Nigeria, and Tunisia. Its penetration growth rates declined from 3.4% in 2009 to 3.1% in 2010 and later 2.7% in 2011 (Delloitte, 2014). Specifically, in Nigerian Frontier Market which is the main focus here, the insurance market penetration including Takaful is just 0.6% (Delloitte, 2014), notwithstanding the fact that over half of its population are Muslims (Yusuf, 2012). Though available empirical evidence from Nigerian Frontier Market revealed a right attitude towards Takaful acceptance intention among Muslims (Maiyaki and Ayuba, 2015, Yusuf, 2012), however, the actual participation in Takaful schemes is still low as shown by the penetration and growth rates statistics (Delloitte, 2014). Even though the concept of Takaful was first introduced in Nigeria in 2008 with registration of three (3) insurers, followed by the issuance of Takaful Regulation Policy in 2013 (Nwachukwu, 2015), the evidence does not show any increase in insurance penetration growth in the country after 7 years of Takaful emergence.

Then, the question is: why in reality there is a decline in Takaful penetration growth in Muslims dominated African countries including Nigeria despite acceptance intention? Answering this question requires an understanding of the construct with which attitudes and behavioral control interact to predict intention to Takaful acceptance. It is unarguable that the main idea behind insurance is to cover the risk. Insurance is considered as a good risk management mechanism (Harrington et al., 1999). Similarly, Takaful has been described as a good risk management product devised to indemnify individuals against particular unforeseen occurrences (Husin and Rahman, 2013). Sequel to understanding the dynamics of role of “risk” in the idea of insurance (Takaful inclusive), this study consider the integration of “individual’s risk vulnerability” into Takaful acceptance model of Md Husin and Ab Rahman (2013), in conjunction with other predictors such as attitude towards Takaful and perceived behavioral control.

The objectives of the paper are twofold. First, to examine the direct effect of attitude towards Takaful, perceived behavioral control and individual’s risk vulnerability on Takaful Acceptance in Nigerian Frontier Market. Second, to explore the moderation effect of individual’s risk vulnerability in the relationship between attitudes towards Takaful; perceived behavioral control; and Takaful acceptance intention in Nigerian Frontier Market. Attainment of the aforementioned objectives would have theoretical and practical marketing implications. Integration of individual’s risk venerability as a direct and moderating variable would contribute to behavioral Theories of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) and Planned Behavior (TPB) (Ajzen, 1991). To the best of the researcher’s knowledge despite the relevance of “risk” in insurance, its effect directly or indirectly has not been empirically explored in alignment with Takaful acceptance intention.

The paper is classified into five parts, with this as an introduction. The next part is a literature review, followed by the methodology in the third section. The fourth part is results and discussions. Lastly, the paper is closed with a conclusion, implication, and direction for future research.
2.0 LITERATURE REVIEW

2.1 Takaful and Its Acceptance Intention
In Islam; a hadith reported that “actions are by intentions” (Al-Khattab). By interpretation, the intention towards acceptance of Takaful predicts the actual participation in the scheme. This intention can be built from individual’s attitude; the surrounding social influence and the extent to which he/she have control over his/her real action. Behavioral theories such as TRA (Fishbein and Ajzen, 1975) and TPB (Ajzen, 1991) proposed how intention predicts behavior, and how intention itself is predicted by attitude, subjective norms and perceived behavior control. Specifically, TRA postulated that intentions are predicted by an individual’s attitude toward the behavior and subjective norms surrounding a person that exercises the behavior (Fishbein and Ajzen, 1975). The extension of TRA brought about TPB through the integration of perceived behavior control (Ajzen, 1991). While attitude, subjective norms, and perceived behavioral control all predict intention, the subjective norm has a weaker effect on intention (Armitage and Conner, 2001, Godin and Kok, 1996). In line with this insight from literature, the subjective norm is purposely removed from the model proposed in this study. In addition to the known predictors, and in alignment to the relevance of “risk” to the concept of insurance (Takaful inclusive), this study proposed individual’s risk vulnerability as a predictor of intention towards Takaful acceptance directly, and indirectly as a moderator. The next subsections reviewed the literature and developed hypotheses for examination of direct and indirect effects of attitude, perceive behavioral control and individual’s risk vulnerability on Takaful acceptance intention.

2.2 Attitude towards Takaful Acceptance
The individuals’ positive or negative feelings regarding the execution of the certain action are what defined his/her attitude towards performing a behavior (Fishbein and Ajzen, 1975). Individuals’ attitude towards a behavior is evaluated based on his/her beliefs regarding the implication that can follow consequently to behavior performance. Not only this, it encompasses the one’s evaluation of desirability or otherwise of consequences following the executing a particular action. The extent to which attitude predicts behavioral intention has been clearly addressed in TRA and TPB (French et al., 2005). Several meta-analytical reviews revealed strong influence on attitude on actual behavior (Godin and Kok, 1996, Armitage and Conner, 2001).

Specifically, in relation to Takaful, the attitude was found to have an influence on its acceptance intention. In Malaysia, studies show that attitude predicts Takaful acceptance intention (Amin, 2012, Rahim and Amin, 2011). Other scholars in Malaysia also examine two components of attitude i.e. perception on Takaful and perception Takaful service quality among others (Razak et al., 2013). The findings revealed that both are significant predictors of Takaful acceptance intention. A comprehensive model constructed in Malaysia in line with previous studies indicated that attitude is a strong predictor of Takaful acceptance intention (Husin and Rahman, 2013). Likewise, the influence of attitude on Takaful acceptance was also found in Tunisian context (Souiden et al., 2015).
In Nigerian Frontier Market, there is little empirical evidence on the influence of attitude on behavioral intention in relation to Takaful acceptance. For instance, one of the earlier studies in Nigeria was that of Yusuf (2012) which was purely conceptual. Only in recent time that Maiyaki and Ayuba attempted the examination of three (3) antecedents of attitude: awareness, trust and perception which were found to have a strong effect on attitude towards Takaful acceptance. However, the limitation of their study is a concentration of one city, restricted to the only attitude and failed to incorporate Takaful acceptance intention and its predictors. In line with available empirical evidence on the influence of attitude on Takaful acceptance intention coupled with the paucity of proof in Nigeria, the following hypothesis is developed.

\[ H1: \text{Attitude towards Takaful positively relates to Takaful acceptance intention in Nigeria.} \]

2.3 Perceived Behavioral Control on Takaful Acceptance

Perceived behavioral control refers to the ability of an individual to execute a particular behavior (Ajzen, 1991). It has two components: that is the extent to which person has control over his/her behavior in one hand, and the level of confidence someone possesses in performing such behavior on the other side. It builds on both the power of internal confidence and situation confidence an individual possesses while performing an action. Studies documented that perceived behavioral control is a significant predictor of intention (Kidwell and Jewell, 2003, Godin and Kok, 1996, Armitage and Conner, 2001).

Exclusively, empirical evidences were revealed in relation to the influence of perceived behavioral control on Takaful acceptance intention. A study which operationalized perceived behavioral control as access to information in relation to Takaful found that it has significant positive influence on Takaful acceptance intention (Rahim and Amin, 2011). This operationalization of perceived behavioral control as access to information is to address one dimension of perceived behavioral control that is resources availability that gives the individual a situational confidence to exact a behavior. Another study which operationalized perceived behavioral control into two dimensions in alignment to Takaful; i.e. as self-regulatory efficacy and facilitating conditions, proposed that the two dimensions are likely predictors of Takaful acceptance intention (Husin and Rahman, 2013). Moreover, another study which also operationalized perceived behavioral control as the amount of information available to individual to enable him/her exact a behavior found its significant influence on Takaful participation intention (Amin, 2012). A review of the possible predictors of Takaful participation intention showed that perceived behavioral control is an important predictor of such intention (Md Husin and Ab Rahman, 2013).

Despite empirical evidence of the influence of perceived behavioral control on Takaful acceptance intention, in Nigeria literature both conceptual and empirical is lacking on the aforementioned relationship. Thus, the following hypothesis is developed.
**H2: Perceived behavioral control positively relates to Takaful acceptance intention in Nigeria.**

### 2.4 Individual’s Risks Vulnerability

In insurance, risk has been defined as the probability that an insured event, such as loss, injury or death, will happen (Financial Consumer Agency of Canada, 2011), thus, people who have a high probability of such occurrences will be more likely to participate in Takaful schemes in anticipation of salvation. In this study, individual’s risk vulnerability is defined as one’s exposure to health, financial, career, safety and social risks which may put one’s life in danger thereby increasing the need of being protected from the consequences of those vulnerabilities. This definition is based on the view given by Vaughan and Vaughan (2007) who described risks as the circumstances in which exposure to loss exists. Studies link potential loss with risk-taking behavior (Arkes et al., 1988, Jessor, 1991); this potential loss is what the current study considered as vulnerability towards health, financial, career, safety and social risks. In some studies, individual’s risk vulnerability construct was operationalized as individual’s risks preference (Alabede et al., 2012b, Alabede et al., 2012a), which was examined to have an indirect effect on behavioral intention but in a relationship with tax compliance. To the best of researcher’s knowledge evidence are not available both globally and in Nigeria regarding the influence of individual’s risk vulnerability on Takaful acceptance intention. To the researcher’s surprise despite the relevance of risk in the concept of insurance, it influence on Takaful acceptance intention has not been explored, thus, the following hypothesis is formulated.

**H3: Individual’s risk vulnerability positively relates to Takaful acceptance intention in Nigeria.**

Considering the relevance of “risk” in the context insurance, and more specifically Takaful this study will explore the moderating effect of individual’s risk vulnerability in the relationship between attitude, perceived behavioral control and Takaful acceptance intention in Nigeria. The reality is that individual’s risk preference (individual’s risk vulnerability in this study) was used as a moderator variable in other studies; attitudes and tax compliance behavior (Alabede et al., 2011a) tax service quality and tax compliance behavior (Alabede et al., 2011b), public governance quality and tax compliance behavior (Alabede et al., 2012b), as well as noncompliance opportunity and tax compliance behavior (Alabede et al., 2012a). Logically, the construct can serve as moderator since individuals have different risks vulnerabilities; with some having high while others low. Thus, while the construct has been utilized as a moderator in relation to behavior and other variables different from the ones used in this study, its moderating effect on the relationship between attitudes towards Takaful; perceived behavioral control; and Takaful acceptance intention has not been availed by the extant literature. In addressing this research gap, the following hypotheses are formulated.

**H4 Individual’s risk vulnerability moderates the relationship between attitude towards Takaful and Takaful acceptance intention in Nigeria. Specifically, individuals**
with high risks vulnerability would have more favorable attitudes toward Takaful acceptance than those with low-risk vulnerability.

**H5** Individual’s risk vulnerability moderates the relationship between perceived behavioral control and Takaful acceptance intention in Nigeria. Specifically, individuals with high-risk vulnerability would have less behavioral control toward Takaful acceptance than those with low-risk vulnerability.

### 2.5 Theoretical Model

A theoretical model or framework is formulated in line with practical problems, prior empirical evidence and theories in the area in which the researcher wants to investigate (Eisenhart, 1991). In a research, theoretical model aids in clarifying the relationship that subsists among variables under consideration (McGaghie et al., 2001). Therefore, this theoretical model has been developed based on the practical problem relating to declining growth rate of Takaful penetration in Nigerian Frontier Market, the existing empirical evidence as well as the underpinning theories i.e. TRA (Fishbein and Ajzen, 1975) and TPB (Ajzen, 1991). Validation of this theoretical model would lead to a suggestion to Takaful operators particularly in Africa on how to improve the Takaful acceptance in Muslims dominated countries. The theoretical model is presented in Fig. 1 below.

![Fig. 1: Takaful Acceptance Model: Integrating the Moderating Effect of Individual’s Risk Vulnerability](image-url)
3.0 METHODOLOGY

3.1 Sample Descriptive Statistics

The population of this study is unknown since the intention is in the heart which is hard to determine. When the population is unknown, the valuable statistical tool used in determining a sample size prior the undertaking the research (priori analysis) is G*power (Mayr et al., 2007). Using priori power of analysis a sample size \( N \) is determined as a function of requisite power level (1-\( \alpha \)), thus, it is an efficient method of finding a power of sample before a study is actually carried out (Faul et al., 2007). The results from G*power for this study’s priori sample size as contained in Table 1 reveals that at 5% probability level and 95% confidence interval with three predictors (attitude towards Takaful, perceived behavioral control, and individual’s risks vulnerability) the minimum sample required is 119 respondents.

In terms of sampling techniques, following the earlier Takaful acceptance models e.g. Malaysia (Rahim and Amin, 2011) and Tunisia (Souiden et al., 2015), convenience sampling technique was employed here through an online survey. Use of online survey can be justified by the fact that Nigeria has high internet users of about 51.1% of its population as at June 2015 (Internet World Stats, 2015). To this end, the data collection was concluded with two (2) weeks, resulting in 129 responses which are above the required minimum sample size of 119. The breakdown of the samples is 1.6% are 18-20 years, 33.3% are 21-30 years, 48.1% are 31-40 years, 16.3% are 41-50 years, and lastly 0.8% is 51-60 years. The sample comprised of 90.3% males and 9.7% females. The marital statuses of the samples are 23.3% single while 76.7% married.

<table>
<thead>
<tr>
<th>F tests - Analysis: Linear multiple regression: Fixed model, ( R^2 ) increase</th>
<th>A priori: Compute required sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input: Effect size ( f^2 ) = 0.15</td>
<td>( \alpha ) err probability = 0.05</td>
</tr>
<tr>
<td>Power (1-( \beta ) err probability) = 0.95</td>
<td>Number of tested predictors = 3</td>
</tr>
<tr>
<td>Total number of predictors = 3</td>
<td>Total sample size = 119</td>
</tr>
<tr>
<td>Output: Non-centrality parameter ( \lambda ) = 17.8500000</td>
<td>Actual power = 0.9509602</td>
</tr>
</tbody>
</table>

3.2 Instrumentation

The research instrument was designed using items adapted from previous scholars. Takaful acceptance intention was measured using five items adapted from Amin,
Rahim, Sondoh Jr, and Chooi Hwa (2011), attitude towards Takaful was measured using six item (Amin et al., 2011), perceived behavioral control using four items (Ziadat, 2014), and individual’s risk vulnerability using five items (Ziadat, 2014, Alabede et al., 2012b, Alabede et al., 2012a). In all these cases, 5-point Likert scale was used. For Takaful acceptance intention, attitude towards Takaful and perceived behavioral control it ranges from 1 (strongly disagree) to 5 (strongly agree). Differently, for individual’s risk vulnerability, it ranges from 1 (never) to 5 (almost always). What informed this selection was the nature of the questions. For example in relation to health risks, individuals were asked, “how often did you engage in these behaviors? Example, smoking, high alcohol consumption, etc.”. In addition to latent constructs, the instrument also contained questions relating to age, gender, and marital status.

3.3 Analytical Procedures
Data analyzes were performed through Partial Least Squares (PLS) path modeling using Smart-PLS Version 3.0. The rationale for using this approach is the complexity of the model (Hair et al., 2012, Hair et al., 2011, Hair et al., 2013), as it contains direct effects and moderating effects. PLS path modeling has two basic models: measurement model and structural model (Hair et al., 2011). The measurement model was used to ensure that the data is valid and reliable for statistical estimations while the structural model was used to estimating the significance of path coefficients for hypotheses testing as well as evaluating the robustness of the estimations.

4.0 RESULTS AND DISCUSSIONS
PLS path model was assessed using a two-step process: the measurement model and structural model, which is in line with Henseler, Ringle, and Sinkovics (2009). It is important to note that fulfilling the requirements for measurement model are preconditions for the structural model evaluation. Because failure to satisfy such requirements can affect the statistical accuracy of structural model results (Hair et al., 2013). The results are presented in 4.1 and 4.2.

4.1 Measurement Model Results
Measurement model was evaluated using four criteria; indicator reliability, internal consistency reliability using composite reliability, convergent validity using Average Variance Extracted (AVE) of ≥.50, and discriminant validity (Hair et al., 2012, Hair et al., 2011, Hair et al., 2013, Fornell and Larcker, 1981). The results of the measurement model are good; the indicators’ loadings of all latent constructs are higher than the required minimum value of ≥.40 except PBC1 of perceived behavioral control which was subsequently deleted. All the four constructs achieved internal consistency reliability as the composite reliability of each is higher than the required threshold of ≥.70; it ranges from .802 to .922. Likewise, the convergent validity of all the latent constructs which was evaluated using AVE is higher than the minimum cutoff value of ≥.50; it ranges from .545 to .670. Finally, the square root of AVE of each of the latent constructs is greater than its squared inter-correlation with any other constructs in the model, depicting good discriminant validity. Having satisfied the four measurement model criteria as contained in Table 2 and 3, it can be told that all the latent constructs are valid and reliable for structural model evaluation.
Table 2: Indicator Loadings, Internal Consistency Reliability, and Convergent Validity

<table>
<thead>
<tr>
<th>Indicators and Constructs</th>
<th>Indicators’ Loadings</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards Takaful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>.875</td>
<td>.922</td>
<td>.664</td>
</tr>
<tr>
<td>A2</td>
<td>.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>.855</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>.706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A6</td>
<td>.831</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takaful Acceptance</td>
<td></td>
<td>.910</td>
<td>.670</td>
</tr>
<tr>
<td>I1</td>
<td>.829</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I2</td>
<td>.784</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I3</td>
<td>.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I4</td>
<td>.872</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I5</td>
<td>.823</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td></td>
<td>.806</td>
<td>.585</td>
</tr>
<tr>
<td>PBC1</td>
<td>.605</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC2</td>
<td>.868</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC3</td>
<td>.798</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual’s Risks</td>
<td></td>
<td>.857</td>
<td>.545</td>
</tr>
<tr>
<td>R1</td>
<td>.746</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>.754</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R3</td>
<td>.782</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R4</td>
<td>.741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R5</td>
<td>.663</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Discriminant Validity

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Attitude towards Takaful</th>
<th>Takaful Acceptance Intention</th>
<th>Perceived Behavioral Control (PBC)</th>
<th>Individual’s Risk Vulnerability (IRV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude Intention</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>0.738</td>
<td>0.819</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRV</td>
<td>0.692</td>
<td>0.610</td>
<td>0.765</td>
<td>0.738</td>
</tr>
<tr>
<td></td>
<td>0.150</td>
<td>0.219</td>
<td>-0.005</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Structural Model Evaluation
Hair et al. (2013) posited that there are five key criteria for assessing the structural model in PLS-SEM. These include assessments of: (1) multicollinearity using
Variance Inflation Factor (VIF), (2) significance of the path coefficients (direct, and moderation), (3) coefficient determination ($R^2$), (4) the effect size ($f^2$), and lastly (5) predictive relevance ($Q^2$). The results are presented in below.

### Table 4: Multicollinearity Diagnostics

<table>
<thead>
<tr>
<th>Constructs</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards Takaful</td>
<td>2.010</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>1.965</td>
</tr>
<tr>
<td>Individual’s Risk Vulnerability</td>
<td>1.047</td>
</tr>
</tbody>
</table>

### Table 5: Path Coefficients for Hypotheses Testing

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Beta</th>
<th>SE</th>
<th>T-Stats</th>
<th>Sig.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude -&gt; Takaful Acceptance Intention</td>
<td>.568</td>
<td>9</td>
<td>7.150</td>
<td>**</td>
<td>Supported</td>
</tr>
<tr>
<td>Perceived Behavioral Control -&gt; Takaful</td>
<td>.09</td>
<td>.011*</td>
<td>2.288</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>Accept. Intent.</td>
<td>.217</td>
<td>7</td>
<td>2.905</td>
<td>**</td>
<td>Supported</td>
</tr>
<tr>
<td>Risks Vulnerability -&gt; Takaful Accept. Intention</td>
<td>.04</td>
<td>.002*</td>
<td>2.905</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>Moderation Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude*Risks Vulnerability -&gt; Takaful Accept. Intent.</td>
<td>.07</td>
<td>.000*</td>
<td>1.425</td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>Accept. Intent.</td>
<td>.106</td>
<td>4</td>
<td>1.425</td>
<td>.077*</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note. ***1%, **5% and ***10% significance levels respectively.

The finding from Table 5 indicated that attitude towards Takaful has significant positive impact on Takaful acceptance intention in Nigerian Frontier Market ($\beta = .568; t = 7.150; p = 0.000$), which supported H1, and consistent with previous studies relating to Takaful acceptance intention (Souiden et al., 2015, Rahim and Amin, 2011, Maiyaki and Ayuba, 2015, Amin, 2012). Consistent with Husin and Rahman (2013) and Rahim and Amin (2011), the result revealed that perceived behavioral control has a significant influence on Takaful acceptance intention in Nigerian Frontier Market ($\beta = .217; t = 2.288; p = .011$), thereby supporting H2. More interesting, the findings revealed that individual’s risks vulnerability strongly predicts Takaful acceptance intention ($\beta = .135; t = 2.905; p = .002$), hence H3 is supported. This result is pioneering from the current study; the extant literature did not reveal empirical evidence on the influence of individual’s risk vulnerability on Takaful acceptance intention, in that this study has made a breakthrough by providing empirical evidence in the aforementioned relationship.

Apart from direct effect, additional pioneering evidence provided is the result of the moderating effect of individual’s risk vulnerability in the relationship between attitude towards Takaful, perceived behavioral control, and Takaful acceptance intention is pioneering this research, extant literature did not reveal empirical evidence on such
moderation effect. The results indicated that individual’s risks vulnerability significantly moderates the relationship between attitude towards Takaful and Takaful acceptance intention ($\beta = .106$; $t = 1.425$; $p = .077$). Hence, H4 is supported. Consistent the postulation of this study, the results showed that individuals with high-risk vulnerability would have more favorable attitudes towards Takaful acceptance than those with low-risk vulnerability. Moreover, it also indicated that individual’s risks vulnerability significantly moderates the relationship between perceived behavioral control and Takaful acceptance intention ($\beta = -.203$; $t = 1.681$; $p = .047$), thereby supporting H5. The finding is congruent to this study’s postulation that individuals with high-risk vulnerability would have less behavioral control toward Takaful acceptance than those with low-risk vulnerability. Individuals with high-risk vulnerability would likely lose behavioral control and just be more willingness to accept Takaful so as to be salvaged by its benefit. Fig. 2 and 3 present the interaction effects.

In addition to multicollinearity and path coefficients (direct and moderation) evaluation, other statistics indicate strong support for the structural model. The coefficient determination ($R^2$) of the model is .581, and the adjusted is .571, implying that attitude towards Takaful, perceived behavioral control, and individual risk vulnerability collectively explained 57.1% of the variations in Takaful acceptance intention in Nigeria. Chin (1998) classified $R^2$ of .19, .33 and .67 as weak, moderate and substantial respectively, while Hair et al. (2011) classified $R^2$ of .25, .50, and .75 as weak, moderate and substantial respectively. In each case, the $R^2$ of the current study can be categorized as a medium.
Effect-size ($f^2$) is another, the criterion for evaluating the structural model, which examine the unique effect of each independent variable to the dependent variable. It is assessed using the following formulae:

\[
\text{Effect size } (f^2) = \frac{R^2 \text{ Included} - R^2 \text{ Excluded}}{1 - R^2 \text{ Included}} \tag{1}
\]

According to Cohen (1988), ($f^2$) of 0.02, 0.15 and 0.35 are classified as small, medium, large respectively. Therefore, the effect sizes ($f^2$) of attitude towards Takaful, perceived behavioral control, and individual’s risk vulnerability are .383, .057, and .042, those classified as large, small, and small respectively.

Predictive relevance ($Q^2$) is the last criterion for evaluation of the structural model. It evaluates the power of the model in the absents of other unobserved data, and it is assessed using construct-cross validated redundancy (Hair et al., 2011). Thus, any structural model with ($Q^2$) above zero can be said to have predictive relevance (Stone, 1974, Geisser, 1974). Therefore, with ($Q^2$) of .359, which is greater than zero, the current research model said to have predictive relevance.

4.3 Model Fit

Hair et al. (2013) argued that PLS path modeling does not require global goodness-of-fit (GoF) criterion assessment. However, in a more recent publication jointly with Hair, it was posited that the standardized root means square (SRMR) residual can be used for assessing GoF of PLS model (Henseler et al., 2014). This measure is available in Smart-PLS 3.0 utilized in this study. SRMR is defined as the residual differences between the sample’s correlated data and the predicted correlated model (Hooper et al., 2008). SRMR values range from zero to 1.0, with values closer to zero indicating perfect model fit. A well-fitting model should have an SRMR value less than or equal to .05; however, a value close to .08 deemed acceptable (Hooper et al., 2008; Hu & Bentler, 1999). For the current research model, the value of SRMR residual obtained from Smart-PLS 3.0 was .08 which can be considered acceptable (Hu & Bentler, 1999). Moreover, Hooper et al. (2008) asserted that the larger the sample size, the lower the SRMR residual, the SRMR value of .08 obtained in this work can be said to be sufficient owing to the low sample size of only 129 respondents. Therefore, based on the SRMR residual used to assess the fitness of PLS model (Henseler et al., 2014), the conclusion can be made that the hypothesized model fits the data utilized in the current study.

5.0 CONCLUSION, IMPLICATIONS, AND FUTURE RESEARCH

In recapping its objectives, the study examined the direct effect of attitude towards Takaful, perceived behavioral control, individual’s risks vulnerability on Takaful acceptance intention in Takaful Nigeria. It also examined the moderating effect of individual’s risks vulnerability on the relationship between attitudes towards Takaful, perceived behavioral control, and Takaful acceptance intention. Consequently, attitude towards Takaful perceived behavioral control and individual’s risks vulnerability were found to have a significant direct relationship with Takaful acceptance intention. Additionally, individual’s risks vulnerability moderates the relationship between attitude towards Takaful, perceived behavioral control, and Takaful acceptance intention.
5.1 Literature and Theoretical Implications
The contribution has been made to the existing literature on additional evidence from Nigerian Frontier Market on the influence of attitude towards Takaful, perceived behavioral control, and individual’s risks vulnerability on Takaful acceptance. Theoretically, the integration of individual’s risks vulnerability as direct predictor and moderator into Takaful acceptance model has not in small value contributed to Theories of Reasoned Action and Planned Behavior. This contribution is an answer to a call made by Fishbein and Ajzen (1975) and Ajzen (1991) for the inclusion of additional variables into TRA and TPB that can add more explanation to human behavior directly or indirectly.

5.2 Takaful Marketing Implication
For the direct effect, in congruent with previous studies, the result is saying that individuals have the intention to accept Takaful as an Islamic financial product in Muslim dominated country as Nigeria as shown by the predictors of intention. However, the question is: Why in reality there is a decline in Takaful penetration growth in Muslims dominated African countries including Nigeria despite acceptance intention?

The results of indirect effects (moderation) provide an answer to the aforementioned practical question. The answer is that individual’s risks vulnerability are the significant market penetration mechanism to be used by Takaful operators in Frontier Markets especially Muslim dominated African countries to transform rapidly intention into action. It enhances one’s attitude towards Takaful acceptance which in essence will enhance intention that can easily be transformed into actual participation (Moderation). It also weakens individual’s behavioral control on whether or not to participate in Takaful (moderation), in that individuals with higher risks vulnerability would likely lose behavioral control thereby being more eager to take part in Takaful in anticipation of been rescued by Takaful funds in the event occurrences of risks associated with their vulnerabilities. Though the Islamic idea behind Takaful is “mutual assistance” i.e. “Ta’awun”, however, individuals are highly rational; they think of their benefit first before others. Hence, application of this marketing strategy in conjunction with Islamic idea of Takaful would likely boost Takaful penetration growth in African Frontier Markets.

5.3 Limitations and Future Research Direction
The study is associated with a number of limitations. First, the samples used are mainly concentrated to Muslims dominated the northern part of Nigeria with which the researcher has a high level of social network affiliation that eases data collection. It will be of interest for future studies to use samples from non-Muslims part of Nigeria. It should also be of interest to develop two Takaful acceptance models simultaneously to compare the predictors of Takaful acceptance between Muslims dominated and Non-Muslims dominated regions. Second, though the samples are sufficient for the purpose of this research considering the number of predictors analyzed, future studies should also consider the enlargement of samples relative to the number of predictors to be used in their studies. Lastly, the coefficient
determination ($R^2$) which is considered moderate in line with Chin (1998) and Hair et al. (2011) implied that attitude towards Takaful, perceived behavioral control, and individual risk vulnerability collectively explained 57.1% of the variations in Takaful acceptance intention in Nigeria. However, it can be enhanced through the integration of additional variables not included in the current theoretical model.
REFERENCES


**APPENDICES**

Appendix 1: Measurement Model
Appendix 2: Structural Model: Direct Effect

Appendix 3: Structural Model: Moderation