

Adoption of Islamic Banking Products and Services in Nigeria : An Application of Diffusion of Innovation Theory

Sani Yahaya^{1*}, Ibrahim Abdul Hamid², Ahmad Fauzi Bin Idris³, Yusuf Haji-Othman⁴

¹Department of Banking and Finance, Abdu Gusau Polytechnic, Talata Mafara, Zamfara-Nigeria

^{2, 3,4} Kulliyyah of Muamalat Kolej Universiti Insaniah (KUIN) Kuala Ketil, Kedah, Malaysia

ABSTRACT

This study presents a pilot result of the research study that employed the used of diffusion of innovation theory to unveil the influence of the perceived attribute of innovation that comprised relative advantage, compatibility, complexity and perceived risk alongside with awareness and customers involvement on the adoption of Islamic banking in Nigeria. The sample of 100 questionnaires was administered to the customers of Jaiz Bank Plc., and 94 out of them were retrieved and used for the analysis. The result indicates a good internal consistency reliability of the measurement. Convergent and discriminant validity were also established. Overall, the result provided an indication of reliability and validity of the measure which provided a clear guide for the full-fledge study

Keywords: Adoption, Islamic banking, Customers, Diffusion of Innovation theory, Pilot study

I. INTRODUCTION

Islamic banking has emerged as a new reality in the global financial outlook since the 1970s (Tahir, Bakar, Ismail, & Wan, 2006). Over the four decades, Islamic banking sector has grown on a large scale with a double digit annual growth rate of 14-18 (Reuters, 2015). Islamic banking has witnessed an unprecedented expansion and its impact is observable within the Muslims countries and has extended to other jurisdictions round the globe. It has gained momentum and world recognition for its resistance to the global financial crisis that marred the major financial players in the world (Gashkari, 2015; Loo, 2010). The Islamic financial institutions have penetrated the western countries where their presence is also remarkable (Perry & Rehman, 2011). The number of Islamic financial institution is on the rise and established in more than 75 countries.

Despite all these recorded achievements, a lower rate of adoption of Islamic banking was reported in many jurisdictions across the globe. (Gerrard & Cunningham, 1997; Saini, Bick, & Abdulla, 2011; Thambiah, Eze, Santhapparaj, & Arumugam, 2011a). The same was

experienced in Nigeria (Abdullahi, 2012; Gelbard, Hussain, Maino, Mu, & Yehoue, 2014; Suka, 2015). This is a challenge for the bank whose struggle to be the dominant interest free banking in sub-Saharan Africa upon being accepted in the country Nigeria (Yahaya, Yusoff, Idris, & Haji-Othman, 2014). Examining the factors that encourage customers to the adoption of the products and services provided by the Islamic bank in Nigeria would be of immense importance for the realization of this goal.

Hence the application of diffusion of innovation theory was adopted to investigate whether the perceived attributes of innovation that includes relative advantage, compatibility and complexity have an effect on the customers' adoption of the products of the bank. The study also covers the examination of customer awareness, perceived risk and customer involvement in order to determine the level of their contribution to the adoption of Islamic banking in Nigeria. The needs of the customer, as the ultimate arbiter whose patronage of the products decides the market achievement of any business (Gumel & Othman, 2013; Kotler & Armstrong, 2001), remain crucial to explore. This could help enhance the progress of Islamic bank in Nigerian

(Yahaya et al., 2014), because the growth and survival of any company are dependent on its ability to cater for the needs of the customers (Al-jerisy, 2008). This could be achieved by identifying and studying the factors that motivate the customers to use the products. When these factors are discovered as having a significant effect on customers, the bank can appropriately provide a more conducive avenue for retention of the existing customers and attract new ones (Yahaya et al., 2014).

This study intended to identify and present the preliminary result of the study on the adoption of Islamic banking in Nigeria using the customer of Jaiz bank as a unit of analysis. Specifically reporting the reliability and validity of the items used in the questionnaire was the principal intent of this study. This effort was to verify whether the measures actually met the expectation. The result would therefore serve as the guide for the full-fledge study which would cover larger sample of the population intended for the study. That is the customers of the standalone Islamic bank in Nigeria (Jaiz bank Plc). To achieve this objective the instrument (questionnaire) was firstly pretested in order to detect possible error or areas requiring adjustment. Specifically face validity of the items was required. To achieve this, the sample questions were given to some expert including a professor at the university college Insaniah and another one in Bayero University Kano Nigeria for assessment and rating (Hair, Black, Babin, & Anderson, 2010; Jenkinson, Peto, & Coulter, 1996). Their comments and recommendations were taken into consideration in drafting the final questionnaire.

1. Research Framework

This study has adopted the research framework based on diffusion of innovation theory (Rogers 2003). Many researchers have used the diffusion of innovation theory in a modified form to suite their framework. The most closely similar modified model to this research had been that of Thambiah, Ismail, Ahmed, and Khin (2013). The Model was modified by including additional variable- customer awareness and customer involvement with the latter being a moderating variable as well. This study would contribute to revealing whether customer involvement can influence the adoption of Islamic banking. Its moderating effect on the relationship between the perceive attributes of innovation and

adoption of Islamic banking in Nigeria would be examined.

The variables used in the study comprise the independent variables- customer awareness henceforth refers to as awareness, compatibility, relative advantage, complexity and perceived risk. The moderating variable (also an independent variable) is customer involvement and the dependent variable is Adoption of Islamic banking products and services. Although some studies in the literature reviews suggested the same relationship between the variables, combining these variables in Islamic banking context was found to be insufficient (Echchabi & Aziz, 2012).

The Diffusion of innovation theory was used for this study due to its appropriateness in explaining the adoption behavior of customers in relation to the variables under study. The proposed framework was adopted from Rogers (2003) with some modifications as depicted in figure 1.

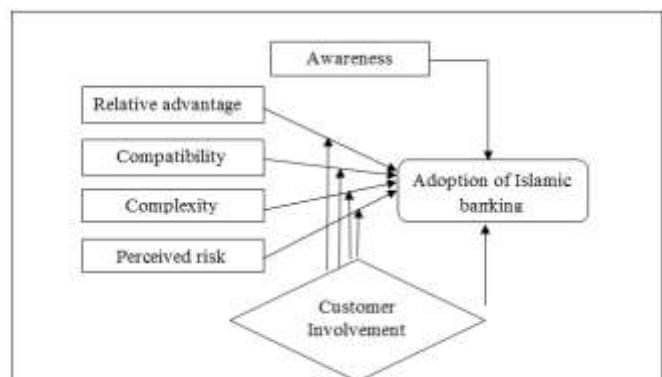


Figure 1: Research Framework

2. Literature Review and Hypothesis Development

Sequel to the research framework proposed above and based in the literature in relation to the topic of discussion, the hypothesis for the study were developed:

A. Awareness and Adoption

In this study, Awareness was viewed as an attempt to explore how the customers established the knowledge of the products or services of the Islamic bank and to what extent they lacked the information about it. The first stage of adoption of any product or service is the awareness (Rogers, 1963, 2003). It is therefore

inconceivable for the adoption of any product to occur without the individual becoming first aware of that product. Hence awareness is indispensable in the adoption process. In fact, awareness is the foundation of usage of the Islamic banking products and services as it paves the way for arousing the customers' curiosity about Islamic banking and consequently leads to the adoption of the products and services. Without the awareness there would be no initiative from the customer to use the products and the services of an Islamic bank. Lai (1991) identified awareness as a strong factor that guided customers assessment toward the acceptance or rejection of a particular product. Accordingly, Kotler and Armstrong (2001) opined that creating awareness among the consumers about the product or service remained a key factor in its adoption. Literature reports the linked between variables awareness and customers' acceptance and or adoption of a particular product, services or idea. Some of the studies that established a relationship between awareness and adoption include (Lai, 1991; Naser, Jamal, & Al-Khatib, 1999; Rammal & Zurbruegg, 2007). Hence this study hypothesized that:

H1: Customers' awareness would have a positive influence on the adoption of Islamic banking in Nigeria

B. Relative Advantage and Adoption

Relative advantage is referred to the Islamic banking users subjective evaluation of the benefit brought to them by the Islamic bank (products and services) they used as against the conventional banking. The literature review suggested a relationship and the influence of relative advantage on the adoption of an innovation or a particular product. Consumers are likely to adopt those products they perceived as more advantageous to them as against the other similar products. Previous researches on relative advantage reported a positive and significant relationship with adoption (Amin, Abdul-Rahman, & Abdul-Razak, 2013; Echchabi & Aziz, 2012; Ho & Wu, 2011; Shih & Fang, 2004; Thambiah, Eze, Santhapparaj, & Arumugam, 2010). Hence this study hypothesized thus:

H1: Relative advantage would have a positive influence on customers' Adoption of Islamic banking in Nigeria

C. Compatibility and Adoption

In this study, compatibility refers to the degree in which the Islamic bank products and services were perceived to be consistence with the customers' belief and values. It is further viewed as the conformity of the banking products and services to human justice, habit of banking and belief of the adopters. Perceived compatibility has been predicted to provide an impact on the innovation adoption. The direct effect of this variable was reported on individual adoption behavior. Many studies reported the relationship between compatibility and adoption of a product or services. The relationship was confirmed mostly as positive and significant. The study conducted by (Agarwal & Prasad, 1997; Al-Ghaith, Sanzogni, & Sandhu, 2010; Echchabi & Aziz, 2012; Thambiah et al., 2010) revealed a positive relationship between compatibility and adoption. It is generally expected that the more compatible an innovation with the individual needs, habit, belief and values, the more likely they adopt it (Rogers, 2003). Hence in accordance with the Rogers model and the extant literature, this study hypothesized that:

H2 : Compatibility would have a positive influence on the customers' Adoption of Islamic banking in Nigeria

D. Complexity and Adoption

Complexity is explained in this study, as the degree to which Islamic bank products and services were perceived as difficult to understand and use. Complexity has been identified as one of the crucial factors in determining or influencing a consumer toward the performance of a behavior such as adoption of a particular product and services. Many studies have found that perceived complexity is strongly related to the adoption in a negative direction (Ho & Wu, 2011; Taylor & Todd, 1995; Van Slyke, Lou, & Day, 2002). That it is to say a higher perceived complexity distances a consumer away from the adoption of a product. The negative relationship of complexity was also attested by Folorunso, Vincent, Adekoya, and Ogunde (2010), Shih and Fang (2004). Accordingly, this study hypothesized that:

H3 : Complexity would have a negative influence on the customers' adoption of Islamic banking in Nigeria

E. Perceived Risk and Adoption

This study considered Perceived risk as nature and the amount of the uncertainty faced by the customer in his effort to make use of Islamic bank products or services. Lockett and Littler (1997) reported that perceived risk of innovation was inversely related to the adoption in telephone banking services. Many other types of research indicated a negative relationship between perceived risk and adoption (Hussein, 2010; Tan & Teo, 2000). Hence this study hypothesized that:

H4 : Perceived risk would have a negative influence on the customer' adoption of Islamic banking in Nigeria

F. Customer Involvement and Adoption

In this study, Involvement is viewed as the degree of interest and the general importance that the customers attached to the products and services and his/her feeling of being committed and part of the Islamic banking. A positive relationship between customer involvement and the purchase/usage of the financial product was reported (Howcroft, Hamilton, & Hewer, 2007). Similarly, the significant impact of customer involvement on rational benefit was found in a study by (Kinard & Capella, 2006). Customer involvement was emphasized as an important factor for its profound influence on customer willingness to continue the relationship with the service provider (Varki & Wong, 2003). It was further discovered to have played a significant role in building confidence in the customer as well as buffering the social benefits perception of the customer to engage in behavior (Kinard & Capella, 2006). Sirgy, Lee, Johar, and Tidwell (2008) posits that the involved customers tend to spend more time and energy for an event. Customers with high involvement are more likely to engage in a positive behavior compared to the low involved customers (Kinard & Capella, 2006). This study therefore hypothesized that:

H5: Customer involvement would have a positive influence on customers' adoption of Islamic banking in Nigeria

G. Customer Involvement as a Potential Moderator

The moderating effect of customer involvement was tested by empirical evidence. For example the research by Baker, Cronin Jr, and Hopkins (2009) suggested the moderating effect of customer involvement in the relationship between service quality and customer satisfaction. Its moderating effect was also tested in the relation between customer expectation and satisfaction (Prenshaw, Kovar, & Gladden Burke, 2006). Similarly in food products, the study conducted by Espejel, Fandos, and Flavián (2009) supported the moderating effect of customer involvement in the relationship between quality and customer perceived risk, trust satisfaction and loyalty. In the context of banking, customer involvement was predicted to influence the customers behavior in his engagement with the bank (Fatima & Razzaque, 2013). The current study therefore hypothesized as that:

H6a: Customer involvement would moderate the relationship between relative advantage and customer adoption of Islamic banking in Nigeria

H6b: Customer involvement would moderate the relationship between compatibility and customer adoption of Islamic banking in Nigeria

H6c: Customer involvement would moderate the relationship between complexity and customer adoption of Islamic banking in Nigeria

H6d: Customer involvement would moderate the relationship between perceived risk and customer adoption of Islamic banking in Nigeria

II. METHODOLOGY

This study employed the theory of diffusion of innovation to study Islamic banking adoption among customers in a standalone Islamic banking in Nigeria. The choice diffusion of innovation theory to be the backbone of the research framework arises due its appropriateness in predicting adoption of an innovation (Sahin, 2006). Diffusion of an innovation theory enjoys wider acceptance and is richer as it includes other additional variables that were hitherto not captured in the other theories that studies adoption (Van Slyke et al.,

2002). Couros (2003) opined that this theory is applicable in every field of human endeavor. A questionnaire survey was used for the data collection where a total of 100 questionnaires were administered to the customers of the Jaiz bank Nigeria. 94 were retrieved and used for the analysis. All the questions were based on five points likert scale ranging from 1=strongly disagree to 5= strongly agree. With the exception of adoption in which items were developed for this study, all the other items used for the variable measurement were adapted from the previous studies. The use of Smart-Partial Least Square Structural Equation Modeling (Smart PLS-SEM) technique of analysis as a second- generation method of analysis was employed to analyze the data. PLS-SEM was used to analyze the relationship of varied degrees and it is more sophisticated multivariate data analysis to measure unobservable variable and to minimize measurement error (Chin, 1998). To sum it up, Smart PLS-SEM technique has the advantage of analyzing sample of various degrees, minimizing measurement error, and also serve as the source of confirmatory and exploratory analysis (Hair, Hult, Ringle, & Sarstedt, 2014)

The study was conducted using small sample size among the targeted respondents. This was done to assess the likely response rate and to verify the reliability of the questionnaire (Straub, 1989). Also it helped in getting the feedback from the respondents on their comprehension of the questions. The targeted sample for this pilot study was 100 respondents. This tally with the recommendation by Cooper and Schindler (2008) that, the sample of the pilot group, depending on the method employed is within the range of 25 to 100. The response rate of 94 percent was achieved. The number was satisfactorily within the suggested range for pilot study (Cooper & Schindler, 2008).

III. RESULT AND DISCUSSION

Smart PLS software version 3.0 was employed in analyzing the pilot study. PLS algorithm was calculated, which yielded a good result on the internal consistency reliability and discriminant validity of the constructs in the study. The cronbach's alpha and composite reliabilities coefficient of acceptable range are at least 0.60 (Nunnally, 1978). Specifically, Hair et al. (2014) opined that composite reliability indicates a lack of

internal consistency reliability only when it is less than 0.60. The result from this study has, on the average, attained a reasonably high cronbach's alpha and composite reliability coefficient of 0.73 and 0.82 respectively. This is sufficiently within the acceptable range.

The Average Variance Extracted, Cronbach's alpha and the composite reliability coefficient of the constructs under study were displayed in table 1.

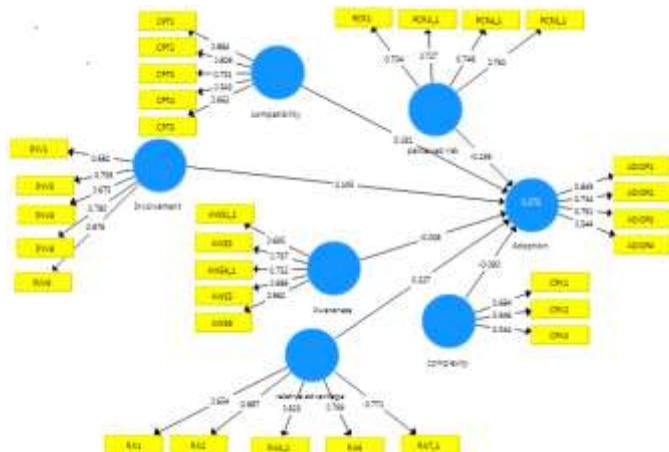


Figure 1 : PLS Path Model

After running the PLS algorithm for the first and second time, some of the items (indicators) loaded very low which affects the attainment of the required level of the Average Variance Extracted and the composite reliability. As such, the items with low loadings were deleted in order to increase the values of the AVEs and composite reliabilities of the constructs (Hair et al., 2014).

Table 1: Summary of the Items Deleted

Construct	Items Deleted	Items retained
Adoption	0	4
Awareness	3	4
Involvement	2	5
Compatibility	0	5
Complexity	1	3
Perceived risk	1	4
Relative advantage	2	5

Table 2: Reliability and Validity of the Constructs (n = 94)

Latent variables	No. of Indicators	Average variance extracted	Composite reliability	Cronbach's Alpha (α)
Adoption	4	0.545	0.824	0.723
Awareness	4	0.519	0.843	0.778
Involvement	5	0.512	0.839	0.763
Compatibility	5	0.540	0.851	0.782
Complexity	3	0.549	0.776	0.641
Perceived risk	4	0.541	0.825	0.718
Relative advantage	5	0.504	0.834	0.759

Table 2 shows the individual composite reliability of the latent construct ranging from 0.77 to 0.85 each of which was above the minimum acceptable level of 0.60 (Hair et al., 2014). This indicates a substantial consistency reliability of the measures found in the study. The measurement is therefore deemed reliable.

To assess the convergent validity, Average Variance Extracted (AVE) score of 0.5 as suggested by Fornell and Larcker (1981) was attained. Table 2 shows the average variance extracted score ranging from 0.50 to 0.54. According to Hair et al, (2014), a common measure to established convergent validity on a particular construct is the average variance extracted and they further clarified that the AVE value of 0.50 or higher indicates a convergent validity of the construct.

With regard to discriminant validity, the square root of the variance of the AVE was found to be greater than the

Table 3: Latent Variable Correlations

	Latent variable	1	2	3	4	5	6	7
1	Adoption	0.738						
2	Awareness	0.383	0.720					
3	Involvement	0.449	0.506	0.716				
4	Compatibility	0.464	0.404	0.571	0.735			
5	Complexity	-0.231	-0.320	-.122	-0.042	0.741		
6	Perceived risk	-0.475	-0.450	-0.416	-0.502	0.224	0.735	
7	Relative advantage	0.501	0.562	0.496	0.450	-0.326	-0.491	0.710

The figures in bold are the square root of the average variance extracted. The other figures are the correlations of the variables

correlations among the latent construct which suggest that adequate discriminant validity was achieved (Fornell & Larcker, 1981). Table 3 depicts the latent variables correlations.

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With regard to discriminant validity, the square root of the variance of the AVE was found to be greater than the correlations among the latent construct which suggest that adequate discriminant validity was achieved (Fornell & Larcker, 1981). Table 3 depicts the latent variables correlations.

Cross loading examinations is another way of ascertaining discriminant validity the rule was that, “an indicator’s outer loading on the associated construct should be greater than all its loadings on the other construct” (Hair et al., 2014 p.105). If there exist any indicator’s loading of the other construct exceeding that of the referenced construct’s indicator, the issue of discriminant validity was not resolved.

Table 4: Cross Loadings

	Adoption	Awareness	Compatibility	complexity	Involvement	perceived risk	relative advantage
ADOP1	0.849	0.378	0.508	-0.238	0.476	-0.430	0.451
ADOP2	0.734	0.305	0.326	-0.132	0.309	-0.333	0.366
ADOP3	0.791	0.192	0.244	-0.164	0.291	-0.409	0.426
ADOP4	0.544	0.243	0.221	-0.122	0.154	-0.139	0.139
AWS1_1	0.197	0.695	0.396	-0.233	0.409	-0.446	0.482
AWS3	0.320	0.797	0.350	-0.094	0.384	-0.337	0.477
AWS4_1	0.276	0.752	0.175	-0.418	0.309	-0.295	0.352
AWS5	0.119	0.686	0.242	-0.290	0.310	-0.275	0.270
AWS6	0.339	0.662	0.292	-0.190	0.392	-0.289	0.391
CPT1	0.439	0.381	0.884	-0.027	0.563	-0.462	0.406
CPT2	0.333	0.253	0.806	-0.057	0.418	-0.484	0.388
CPT3	0.268	0.390	0.731	-0.059	0.548	-0.366	0.340
CPT4	0.208	0.195	0.543	0.108	0.286	-0.146	0.252
CPT5	0.383	0.250	0.663	-0.072	0.269	-0.312	0.254
CPX1	-0.068	-0.288	0.054	0.684	-0.099	0.242	-0.231
CPX2	-0.255	-0.325	-0.134	0.946	-0.157	0.182	-0.387
CPX3	-0.083	-0.047	0.197	0.534	0.075	0.140	0.072
INV1	0.240	0.523	0.472	-0.123	0.682	-0.329	0.238
INV5	0.382	0.251	0.429	0.002	0.759	-0.306	0.380
INV6	0.295	0.375	0.361	-0.142	0.675	-0.142	0.262
INV8	0.358	0.381	0.346	-0.114	0.780	-0.255	0.461
INV9	0.302	0.351	0.466	-0.090	0.676	-0.475	0.395
PCR1	-0.324	-0.411	-0.341	0.249	-0.280	0.704	-0.390
PCR3_1	-0.299	-0.381	-0.280	0.163	-0.267	0.727	-0.527
PCR4_1	-0.369	-0.204	-0.338	0.080	-0.288	0.748	-0.311
PCR5_1	-0.392	-0.348	-0.492	0.179	-0.377	0.761	-0.261
RA1	0.274	0.377	0.361	-0.148	0.291	-0.389	0.654
RA2	0.290	0.511	0.446	-0.142	0.384	-0.360	0.687
RA4_1	0.281	0.202	0.128	-0.092	0.231	-0.161	0.623
RA6	0.512	0.431	0.327	-0.460	0.409	-0.440	0.799
RA7_1	0.331	0.472	0.351	-0.163	0.420	-0.353	0.771

In line with the above measure, this study has attained satisfactory discriminant validity as all the indicators’ loadings of the referenced construct were greater than that of the associated constructs. Table 4 displayed the cross loadings association.

The figures in bold were found to be greater than all their corresponding ones which indicate each construct is distinct from the other (Hair et al., 2010).

IV. CONCLUSION

The result presented above indicates a good reliability of the instrument used for the study. All the constructs attained a composite reliability of above 0.7 which signified a sufficient internal consistency of the instrument. The average variance extracted for all the variables was also above the minimum threshold of 0.50 which further indicate that convergent validity was established. In terms of discriminant validity, Fornell-Larcker criterion of comparing the square root of the Average Variance Extracted and the correlation among the latent construct revealed the attainment of good discriminant validity which indicates that the entire constructs are distinct from one another. Overall, the result provided an indication of reliability and validity of the measure which provided a clear guide for the full-fledge study.

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Questionnaire items

Awareness

- | | |
|------|--|
| AWS1 | I am aware of Islamic Banking products and services |
| AWS2 | I aware of the usefulness of Islamic Banking products and services |
| AWS3 | Islamic Banking products and services are known to me as interest free |
| AWS4 | I receive enough information about Islamic Banking products and services |
| AWS5 | I receive enough information about using Islamic Banking products and services |

AWS6	I receive enough information about the benefit of Islamic Banking products and services
AWS7	I NEVER receive information about Islamic Banking products and services*

Relative Advantage

- RA1 Using Islamic banking products and services improved the quality of my financial dealings
- RA 2 Islamic Banking products and services are reliable than Interest Banking products and services
- RA 3 Islamic Banking products provide cheaper cost of fund than Interest Banking products
- RA 4 I feel using Islamic banking product will increase my revenue
- RA 5 Islamic banking is a convenient way to manage my finance

Customer Involvement

- INV 1 I have strong ties with Islamic banking products and services
- INV 2 My involvement with Islamic banking is enduring
- INV 3 I feel like my involvement with Islamic banking will last for ever
- INV 4 Islamic Banking products and service are valuable to me
- INV 5 Islamic Banking products and service are quite involving to me
- INV 6 My relationship with Islamic bank is beyond that of creditor and debtor
- INV 7 I feel my relationship with Islamic banking is great

Compatibility

- CPT 1 Islamic Banking products and services fit with my banking needs
- CPT 2 Islamic Banking products and services fit with my habit of using bank
- CPT 3 Islamic Banking products and services suite my religious belief
- CPT 4 Islamic Banking products and services are completely compatible with my current situation
- CPT 5 Islamic banking products and services are compatible with human justice

Complexity

- CPX 1 Understanding Islamic Banking products and

services required more knowledge and Experience
 CPX 2 Islamic Banking products and services are too difficult to understand
 CPX 3 Islamic Banking products and services are complex to use
 CPX 4 It is simple to use Islamic banking products and services *

Perceived Risk

- PCR 1 Islamic Banking products and services may not meet my expectation
- PCR 2 It is risky to use Islamic Banking products and services
- PCR 3 I fear of losing much money in case of Islamic Banking business loss
- PCR 4 The Islamic Banking products and services outcome were difficult to predict
- PCR 5 There is a chance that there would be something wrong with the choice of the Islamic banking products and services

Adoption

- Adop1 I stick to Islamic banking products and services
- Adop2 I am contented with using the Islamic banking products
- Adop3 My usage of Islamic banking products and services is definite
- Adop4 I never think of switching off the Islamic banking usage