

## Empirical Investigation of Islamic Banking Adoption in Brunei

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### Abstract

The main objective of this study is to explore the understanding level of various Islamic banking concepts and determine the factors that impact the adoption of Islamic banking services in Brunei. The impact of the level of understanding, relative advantage, compatibility, complexity, observability, uncertainty, and service quality was examined through Rogers (2003) Diffusion of Innovation. The study adopted quantitative approach; data were collected through a self-administrated questionnaire from 245 bank customers located in Brunei's Muara district. The findings predicted that understanding level of various Islamic banking concepts was below average among Islamic bank customers. The multiple regression analysis predicted that understanding, relative advantage, compatibility, complexity, observability, uncertainty and service quality has a positive impact on the adoption of Islamic banking services.

**Keywords:** Islamic banking, adoption, Brunei, Diffusion of innovation.

### 1. Introduction

The modern economic models have developed new dimension due to the emergence of Islamic financial system. Islamic banks have captured significant share in the global financial market (IFSI report, 2017). Shariah (Islamic) laws govern these standardized interest-free financial institutions known as Islamic banks (Hassan and Lewis, 2007). Islamic banking is defined as the management of banking operations complying with Islamic teachings (Haque et al, 2007). The core elements guide Islamic banking business activities include the prohibition of riba (usuary) maisir (gambling/betting), gharar (speculative trading/dubious ambiguity) in all forms of transactions, the implication of fair and legitimate profit and abstinence from monopoly (Haron, 1997). These are the basic differentiation between Islamic and conventional banking system.

Islamic banking has emerged as the fastest growing industry over the past few decades with an average growth rate of 18 per cent per annum (IFSI report, 2017). Islamic banking has received enormous acceptance around the globe in both Muslim and non-Muslim countries breaking through its expansion boundaries (Aziz, 2006). The government of Brunei Darussalam has envisioned developing Brunei into international Islamic finance hub. The

sultanate has constructed an efficient and supporting financial environment for the progressive and robust growth of Islamic banking industry (Norjidi, 2017). The notable competitive edge towards the development of an International Islamic finance hub is its strong Islamic philosophy ingrained in the lives of Bruneians.

Despite the creation of supporting and flexible microenvironment, the growth of Islamic banks in Brunei is inconsistent due to stiff competition and frequent transformations in the macroenvironment. The deflation in the prices of hydrocarbons has resulted in less liquid market and limited growth opportunities for Islamic banks (Baiduri Bank annual report, 2015). While the growth opportunities for Islamic banks remain low, there is a dire need to instigate customized products and services to propagate in competitive financial industry.

Over the past few years, vicious banking competition has escalated not only in Brunei but also in many Islamic countries. Globalization, liberalization, and digitalization have nourished today's ferocious business competition. Islamic banks in Brunei are the indexed participants of the financial industry and are exposed to punitive competition from deep-rooted local and international conventional banks. Islamic banking business dimensions have significantly transformed from existence for the mere religious obligation to become potential competitors of conventional banks (Hidayat and Akhmad, 2015). It clearly emphasizes to understand the growing needs and preferences of Islamic bank customers. Bruneian Islamic bank customers' positive perception is critical towards Islamic banking as 78.8 per cent population comprised of Muslims (DEPD, 2016). Furthermore, Islamic banks are intimidated to compete with earlier well accepted and established conventional banks.

Several studies were broadly conducted to investigate the Islamic banking marketing issues such as consumer adoption of Islamic banking services. However, in context of Brunei literature does not contain any prospective study investigating the elements of Islamic banking adoption. Therefore, the present study sheds light on latent ingredients of Islamic bank adoption in Brunei. It is consequential to procure inclusive understanding and knowledge of customers' discrete needs for implementation of suitable marketing strategy to apprehend substantial market share (Ahmad and Haron, 2002).

Additionally, recent studies are accustomed to pivot on adoption of new product or technology and a handful but emerging studies were conducted on adoption of financial services such as online banking, mobile banking, self-service, and technology (Sathye, 1999; Meuter et al, 2005; Black et al., 2001; Gerard and Cunningham, 2003). The notable study on Islamic banking services awareness in Brunei was undertaken by (Bashir, 2013). However, the findings of the study did not render knowledge on Islamic banking adoption factors. It is deduced a significant research gap consequentially this study attempts to examine customers' understanding and adoption of Islamic banking services in Brunei to complement research gap exploiting Rogers (2003) Diffusion of Innovation theory.

## **2. Literature review**

### *Diffusion of Innovation Theory*

Diffusion of innovation (DOI) theory (Rogers, 2003) is classified as a prevailing model in innovation adoption studies. Over half a million studies were delineated to have implemented DOI theory (Rogers, 2003; Thambiah et al, 2011b; Jamshidi and Hussin, 2012). DOI has been a persistent motivation to conduct research on adoption of innovation (Thambiah et al, 2010). DOI theory is constructive in providing a reliable podium to researchers for undertaking product and services adoption of diverse individuals (Anuar et al, 2012). The majority of studies

have investigated adoption of internet banking, technology, agriculture, and health services (Al-Ghaith, 2010; Hoffmann et al, 2012; Pannell, 2003; Rogers, 2003).

However, the remarkable prevalent studies exploited DOI theory on adoption of Islamic banking services were critiqued by (Kaabachi and Obeid, 2016; Ali and Puaah, 2017; Mahdzan et al, 2017; Mbawuni and Nimako, 2017; Warsame and Ireri, 2018). The study posited that despite of propagating studies on adoption of Islamic banking services, literature still in need of critical research implementing revolutionary models to encompass consumer behaviour (Gait and Worthington, 2008). Jamshidi and Hussin (2012) insinuated homogeneous stance on the implication of Rogers (2003) DOI theory to test Islamic banking adoption. However disregarding the scholars' efforts, the studies on Islamic banking adoption are insufficient for the development of better services and products (Hidayat and Al-Bawardi, 2012).

#### *Understanding on Islamic banking attributes*

Rogers' (2003) DOI theory depicts that an individual undergoes five phases of the mental process prior to adoption and acceptance of products and services. The mental process initiates with awareness, develops into knowledge, persuasion, decision and confirmation of adoption. After awareness creation, an individual needs to exploit the core features and advantages offered by product or service. The study on Islamic banking indicated that 80 per cent Muslim and 53 per cent non-Muslim participants subscribed to Islamic banking services for monetary rewards (Haron et al, 1994). Similarly, the study on non-Muslim bank customers revealed their incapability to understand Islamic banking concepts despite possessing a moderate level of knowledge on Islamic concepts (Loo, 2010). Furthermore, study ascertained the lack of knowledge on awareness of Islamic finance principles among Islamic bank employees (Awan et al, 2011). Khattak and Rehman (2010) found that Islamic bank customers' aged from 21 to 40 years had higher awareness level towards Islamic banking services compared to others. Similarly, another subsequent study Mahdzan et al. (2017) found lower understanding of Islamic banking concepts among Islamic bank customers. Echchabi and Aziz (2012) empirical study on Moroccan Islamic bank customers found relatively higher awareness of Islamic banking concepts. In the context of Brunei Bashir (2013), study indicated a limitation of customers' knowledge regarding Islamic banking concepts, products, and services.

#### *Perceived attributes of innovation*

DOI theory identified five key attributes of innovation known as relative advantage, compatibility, complexity, observability and uncertainty. Empirical studies implementing these attributes to examine the adoption of Islamic banking services suggest variable outcomes.

#### *Relative advantage*

Consumers' superiority level against available substitutes of a product or service is known as a relative advantage (Rogers, 2003). The relative advantage attribute in this study was adopted because of its consistent significance found during the investigation of adoption factors. Tornatzky and Klien (1982) study predicted relative advantage as an essential component to determine the adoption of innovation. Economic profitability, low initial cost, lower discomfort, social prestige, time efficiency, effort, and immediate rewards were identified as the major sub-dimensions of relative advantage (Gerard and Cunningham, 2003). The subsequent study therefore contemplates exploring relative advantage within the dimensions of economic benefits such as profit

earning, unnecessary burden of interest, mutual profit and loss sharing, and fairness.

### Compatibility

The level of consistency and compatibility of a new product or service with consumers' needs beliefs, values, experiences, habits, skills and work practices (Harrington and Ruppel, 1999). In the context of Islamic banking, the extent of products and services suitability is explored establishing consumers' banking needs, beliefs, values, experience, and habit. Islamic financial institutions are expected to obtain and muster deposits under Shariah compliance (Perry and Rehman, 2011). Rogers (2003) ascertained that, individuals incline collaborating ideas according to their best interest, needs, and prevailing attitudes. The studies of Al-Ghaith et al. (2010) and Amin et al. (2013) predicted that compatibility bear a significant positive impact on the adoption of innovation. Echchabi and Aziz (2012) explored Moroccans customers' adoption of Islamic banking services and revealed a significant impact of compatibility to adopt Islamic banking services. Withal, Tornatzky and Klien (1982) meta-analysis of innovation adoption ratified significant linkage between compatibility and individuals' values and beliefs.

### Complexity

Complexity is the users' indication of understanding or difficulty in innovation usage (Rogers, 2003). A few innovations are characterized as explicit in such a way that prospective adopters determine it facile and user friendly while some users discover it complex and negatively affecting on adoption. The study vindicated the initial positive effect of complexity during adoption, which eventually dominates usage in a negative direction (Arts et al, 2011). Numerous studies found complexity negatively impacting adoption of a product or services. Tan and Teo (2000), found no significant impact of complexity in adoption of internet banking services. Ostlund (1974), combat these findings and delineated the positive impact of complexity towards internet banking adoption. Butt et al (2011) explored complexity impacts on adoption and found that ambiguous products, transactions and complex procedures hinders non-users of Islamic banking to adopt and subscribe to Islamic banking services. Complexity perception affects customers' understanding and results in incredulity on adoption of specific product or service. However, the study found that users understanding level might facilitate to diminish perceived complexity (Thambiah et al, 2011b). The study on adoption of Islamic banking services in Malaysia found insignificant relationship between complexity and adoption (Mahadzan et al, 2017). Another study on acceptance of Islamic banking in Pakistan found significant positive relation of complexity and adoption of Islamic banking (Ali and Pua, 2017). Similarly, the study on adoption of Islamic financial system in Tunisia found negative impact of complexity during adoption process (Kaabachi and Obeid, 2016).

### Observability

The level of visible outcomes of an innovation in the minds of consumers is known as observability (Rogers, 2003). A few concepts are simple to observe and communicate to others, whereas in case of innovation it becomes difficult to describe it to others. The study found that the intangible nature of services hamper visible attributes of usage (Yusof, 1999). The study on internet banking adoption found that observability does not contribute in adoption as internet banking users are not interested in displaying the outcomes of their financial transactions to others. However, in case of Islamic banking it was found that Muslim consumers find it relatively easy to evaluate and explain the benefits of Islamic banking to others that proved positive relationship between

adoption and observability (Yusof, 1999). The other parallel studies predicted that in case of Islamic banking it requires a casual effort to explain benefits of Islamic banking to others ((Kaabachi and Obeid, 2016; Ali and Puah, 2017).

### Uncertainty

Uncertainty refers to consumers' perception over available substitutes during adoption of a product or service (Rogers, 2003). Uncertainty initiates information collection remitting apprehensive mental condition. The newness of adoption and associated risks create uncertain perception among consumers (Rogers, 2003). The perceived newness, associated doubts, and risks drive consumers towards acceptance or rejection of innovation (Kotler and Armstrong, 2001). The adoption of Islamic banking services and the doubts of actual Shariah compliance creates number of concerns in consumers' minds. The study found that adoption and uncertainty are negatively related (Yusof, 1999). The higher uncertainty level leads to rejection of adoption (Rogers, 2003). The adoption of Islamic banking services in Tunisia also found negative relationship between uncertainty and innovation (Kaabachi and Obeid, 2016). However, the study on acceptance of Islamic banking services in Pakistan found positive relationship between uncertainty and adoption (Ali and Puah, 2017).

### 2.4 Service Quality

Gronross (1982) defined service quality as, "the procedure containing succession of more or less intangible diversion usually but not necessarily always, through the interaction between consumers and service provider personnel or resources focus to meet customers' needs." Service quality is actually gap between customers' expectations and perceptions. The lower gap refers to better service quality leading to permanent adoption of innovation. Erol and El-Bdour (1989) found that fast and efficient services, bank reputation, image, and confidentiality were the most significant criteria considered by customers for selection of banks. In context of Islamic banking, Dusuki and Abdullah (2007) suggested that combination of Islamic and financial reputation were the most significant components of bank adoption among Malaysian customers.

Conforming to the findings of past studies and variance in scholars' opinion, the present study aims to investigate the effect of above variables on adoption of Islamic banking services postulating following hypotheses;

*H1:* The level of understanding and awareness has a positive influence towards the adoption of Islamic banking services in Brunei.

*H2:* Relative advantage has a positive influence towards the adoption of Islamic banking services in Brunei.

*H3:* Compatibility has a positive influence towards the adoption of Islamic banking services in Brunei.

*H4:* Complexity has a negative influence towards the adoption of Islamic banking services in Brunei.

*H5:* Observability has a positive influence towards the adoption of Islamic banking services in Brunei.

*H6:* Uncertainty has a negative influence towards the adoption of Islamic banking services in Brunei.

*H7:* Service quality has a positive influence towards the adoption of Islamic banking services in Brunei.

The theoretical model of this study is illustrated below in figure 1.

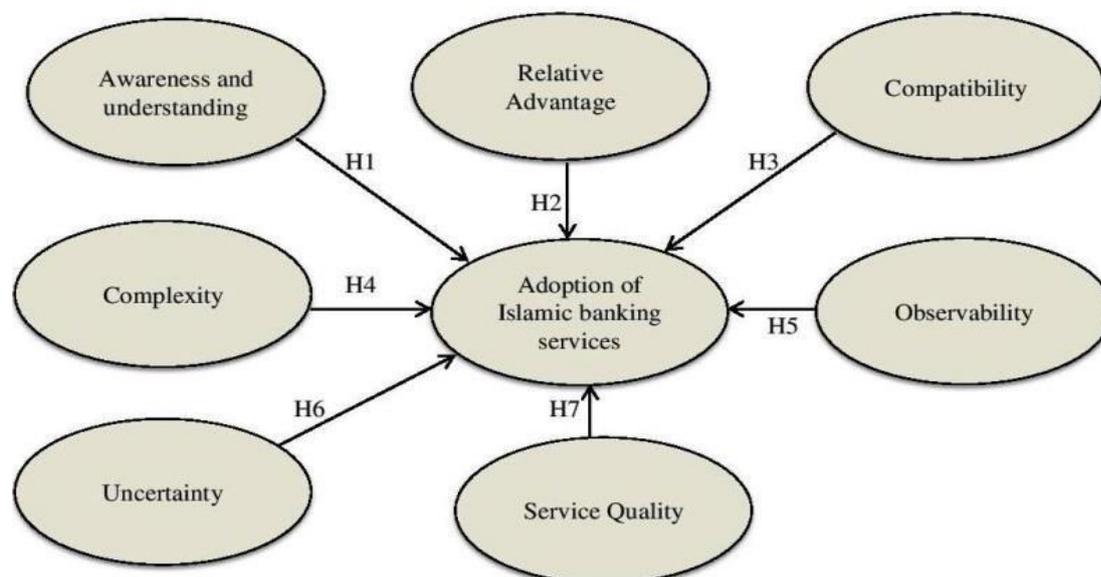


Figure 1: Theoretical Model

### 3. Methodology

The study adopted a quantitative approach to effectuate the objectives of this study. The targeted respondents were 245 bank customers located in Muara district of Brunei. The convenience nonprobability data collection technique was adopted, as it was impossible to procure inclusive details of customers because of banks' confidential policies. The primary data was collected exploiting self-administrated questionnaire. The research instrument was developed deploying Rogers (2003) DOI theory as illustrated in figure 1. The research instrument was drafted in English using simple and easily understandable words.

The questionnaire comprised of three sections. The first section (A) aimed to exhibit demographic information of respondents such as gender, age, religion, education level, occupation, and income. Section B incorporated adoption of Islamic banking using three simple coded questions. The first question was, "Are you an Islamic banking customer?" The respondents were provided with dichotomous options of 'Yes' or 'No' (Yes=1; No=0) to answer this question. This measurement was adopted with slight modifications of the prior study (Lassar et al, 2005) from online banking to Islamic banking adoption context. The study indicated that even though usage of such technique may represent limited behaviour measurement however it is adjudged adequate because the implication of such measurement enabled the researcher to exploit the actual behaviour in the area under investigation. Additionally, it is a composed and less complicated to understand and determined respondents' adoption of Islamic banking services. The second question was an indication of types of Islamic banking products (saving/current account, credit card, property financing, auto financing and personal financing) held. The third question measured respondents knowledge on numerous Islamic banking concepts such as riba, shariah, Ijarah, mudarabah, musyarakah and Murabaha through 5-Likert scale (Very low=1 to Very high=5).

Third section 'C' exhibited 17 items representing 3 items for each variable of relative advantage, compatibility, complexity, observability and service quality whereas uncertainty utilized only 2 items. Relative advantage items were acquired from Mahadzan et al (2017), compatibility, complexity and uncertainty items were acquired from Al-Jabri and Sohail (2012). Observability items were acquired from Rugimbana and Iversen (1994) and service quality items were obtained from Carter model (Othman and Owen, 2003). The respondents were conferred with

5-Likert scale (Strongly disagree=1 to strongly agree=5) to respond these questions. Collectively 263 samples of the online questionnaire were circulated and 250 completed questionnaires were returned out of which 5 were incomplete and 245 samples were gauged for data analysis.

#### 4. Results and Discussion

##### *Demographic profile of the respondents*

A brief overview of the respondent's profile reveals that from total 245 respondents, males were 47.34% (116) and females were 52.65% (129). The majority (67.74%) of participants aged from 20 to 39 years and others (below 19 and 40 to above 50 years) were 32.23%. In terms of religion, 69.79% were Muslim, most of (68.57%) the respondents held a bachelor degree. 34.28% were working in government sector, and the income for the majority of (58.36%) participants ranged from 1,001 to 5,000 Brunei dollars. The detailed profile of the participants is depicted in table 1.

Table1: Demographic profile of respondents

<b>Demographic Items</b>	<b>Frequency</b>	<b>Percentile %</b>
<i>Gender</i>		
Male	116	47.34
Female	129	52.65
Total	245	100
<i>Age</i>		
Below 19	34	13.87
Between 20-29	84	34.28
Between 30-39	82	33.46
Between 40-49	30	12.24
Above 50	15	6.12
<i>Religion</i>		
Muslim	171	69.79
Christian	23	9.38
Buddhist	38	15.51
Others	13	5.30
<i>Education</i>		
Diploma	25	10.20
Bachelor	168	68.57
Master	35	14.28
Doctorate	17	6.93
<i>Occupation</i>		
Government Sector	84	34.28
Private Sector	64	26.12
Academic Staff	26	10.61
Student	40	16.32
Others	31	12.65
<i>Income (BND)</i>		
Below 1,000	42	17.14
Between 1,001-5,000	143	58.36
Between 5,001-10,000	41	16.73
Above 10,000	19	7.75

*Islamic banking adoption*

The adoption of Islamic banking services was determined asking whether respondents are Islamic bank customers. It may seem a simple question however, it was assumed an effective method as the question was easy to understand and it exceptionally measured respondents’ adoption of Islamic banking services. The results of customers’ Islamic banking adoption are exhibited in table 2. The estimated results represent that 86.53% were Islamic and 13.46% were non-Islamic bank customers. The table further presents the type of Islamic banking products and services customers use. It can be noted that customers utilize different Islamic banking products and services such as saving and current account, credit card, personal and auto financing. The majority (82.44%) of the respondents held a saving account with Islamic banks.

Table 2: Adoption of Islamic banking

<b>Islamic banking customers</b>	<b>Frequency</b>	<b>%</b>
Islamic bank customers	212	86.53
Non-Islamic banking customers	33	13.46
Total	245	99.99
<i>Types of Islamic banking products</i>		
Saving account	202	82.44
Current account	20	8.16
Saving/current account	12	4.89
Saving/current account/credit card/auto/personal financing	11	4.48

*Understanding and awareness of Islamic banking concepts*

The first objective of this study is to explore the customers’ understanding level of numerous Islamic banking concepts. In order to achieve this objective, the study investigated customers’ understanding and awareness of Islamic banking concepts such as riba, Shariah, mudarabah, musyarakah and murabahah. The results of understanding level are depicted in table 3. The overall awareness and understanding level of Islamic banking services was computed by adding the mean values implemented concepts (riba, Shariah, mudarabah, musyarakah and Murabaha) divided by a number of concepts ( $11.61/5=2.32$ ).

Table 3: Mean score of respondents’ level of understanding of Islamic banking concepts

<b>Value/concepts</b>	<b>Mean</b>	<b>SD</b>
Riba	3.07	1.256
Shariah	3.02	1.619
Mudarabah	1.93	.907
Musyarakah	1.86	.844
Murabahah	1.73	.836
Average mean	2.32	-

The findings determined that the average of customers’ understanding level was 2.32. The mean values of Islamic banking concepts further indicate awareness and understanding of each concept. The results of riba and Shariah indicate that customers’ awareness and the understanding level was above average with mean values 3.07 and 3.02. These findings are consistent with the recent study of Mahadzan et al. (2017) and past study of Khan et al. (2008). These studies suggested that riba and Shariah are the basic, well understood, and popular concepts in Islamic banking and most of the Islamic banking customers have a fair knowledge of these concepts. The mean values of mudarabah (1.93), musyarakah (1.86) and Murabaha (1.73) indicated below average ( $\mu = 2.32$ ) awareness and understanding of these concepts among customers. The overall findings indicate that customers’ understanding level of Islamic banking concepts is below average. The overall findings of customer understanding and awareness level corroborate the findings of earlier studies administrated by Gerrard and Cunningham (1997), Naser et al. (1999) and Ramdhony (2013). These findings suggest the dire need for improvement in understanding and awareness level of Bruneian customers. Government and Islamic financial institutions are required to educate Bruneians on a permanent basis for the achievement of its long-term goals to develop Brunei as Islamic finance hub.

*Factors influencing the adoption of Islamic banking*

Prior to the determination of factors impacting the adoption of Islamic banking services, it is essential to measure the reliability and adequacy of collected samples. Reliability test facilitates to establish consistency among respondents’ response. Reliability test is computed by Cronbach’s alpha, Nunnally (1978) suggested 0.70 alpha value of acceptable reliability measurement. Table 4 outlines the Cronbach’s alpha values of adopted variables. The overall computed value is .822; it signifies the reliability of measurement instrument. Kaiser-Meyer\_Olkin (KMO) and Bartlett’s tests were effectuated to confirm the sampling adequacy. Table 5 exhibits the results of KMO and Bartlett’s test. The value of KMO test value for all the items is .700 that is 70%, indicating the adequacy of collected samples as the KMO value is greater than the benchmark of 0.50 (Leech et al, 2005).

Table 4: Reliability test results

<b>Variables</b>	<b>Number of Items</b>	<b>Cronbach’s alpha</b>
Relative advantage	3	.824
Compatibility	3	.777
Complexity	3	.728
Observability	3	.788
Uncertainty	2	.720
Service quality	3	.726
Overall	17	.822

Table 5: KMO and Bartlett’s test results

<b>KMO measure of sampling adequacy and Bartlett’s test of Sphericity</b>	<b>0.700</b>
Approximately chi-square	451.559
df	136
Significance	0.000

After fortifying the reliability and adequacy of collected samples, the study investigates the willingness of Bruneian customers to adopt Islamic banking services. To accomplish this objective one sample t-test and

multiple regression analysis were effectuated. The t-test was performed by setting the test value as ‘3’ as the neutral point. The results of t-test are presented in table 6.

Table 6: One sample t-test results

Test value =3

Adoption determinant	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
					Awareness and understanding	2.600
Relative advantage	3.666	245	0.000	.322	.12	.53
Compatibility	4.666	245	0.000	.951	.65	.25
Complexity	1.000	245	0.000	.004	.71	.30
Observability	3.666	245	0.000	.927	.71	.14
Uncertainty	2.000	245	0.000	.355	.16	.55
Service quality	4.000	245	0.000	.396	.18	.61

The t-test results suggest that all items are significant at 95% confidence level, which signifies that Bruneian customers are responsive towards the adoption of Islamic banking services. The positive mean difference values further confirm customers’ willingness to adopt Islamic banking services. The results of t-test value assert rejection of hypothesis 4 and 6 as customers did not perceive any negative influence of complexity and uncertainty in the adoption of Islamic banking. The results of multiple regression analysis presented in table 7 to elaborate factors affect the adoption of Islamic banking.

Table 7: Regression coefficients (adoption is the dependent variable)

Constant	Unstandardized coefficient		Standardized coefficients Beta	t	Sig.
	B	Standard error			
Awareness and understanding	.577	.162		.424	.583
Relative advantage	.845	.375	.281	.615	.539
Compatibility	.612	.049	.281	.275	.204
Complexity	.675	.056	.262	.301	.194
Observability	.204	.023	.493	.842	.162
Uncertainty	.724	.022	.408	.970	.152
Service quality	.187	.024	.449	.830	.269

The results stipulate that standardized Beta value for all the constants is positive which implies that all independent variables have a positive impact on the dependent variable (Islamic banking). It can be deduced that, the overall *understanding of Islamic banking* positively impacts the adoption of Islamic banking services hence; hypothesis 1 is accepted. This result are consistent with the findings of (Thambiah et al, 2012; Mbawuni and Nimako, 2017; Ali and Puah, 2017; Mahadzan et al, 2017), understanding and awareness of Islamic banking have a significant positive impact on the adoption of Islamic banking services.

An overview of predicted results in table 7 manifests that *relative advantage* holds a positive impact on the adoption of Islamic banking services hence, hypothesis 2 is accepted. The predicted outcome is consistent with prior findings of (Mahadzan et al, 2017; Ali and Puah, 2017; Thambiah et al, 2013; Echchabi and Aziz, 2012). The *compatibility* results indicate the positive impact towards the adoption of Islamic banking services that proves the acceptance of hypothesis 3. It is consistent with prior findings that Islamic banking services are relevant and suitable with bank customers' needs and life style Fisher and Chu (2009), Nor (2005), Mahadzan et al. (2017), Ali and Puah (2017).

*Complexity* results determine its positive impact on the adoption of Islamic banking services signifying that consumers did not perceive the complexity of Islamic banking products and services impact towards adoption hence, hypothesis 4 is not accepted. The suitable explanation of this result is the educational level of respondents. Since most of the respondents held bachelor's degrees, which imply that, respondents had a fair level of understanding of Islamic banking products and services. The complexity findings are consistent with findings of Ali and Puah (2017), Al-Jabri and Sohail (2012). However, it contradicts the findings of Echchabi and Aziz (2012), Kaabachi and Obeid (2016) as these studies found complexity negatively impacting on adoption of Islamic banking services.

*Observability* was found to have a positive impact on the adoption of Islamic banking services; it supports the hypothesis 5 of this study. These findings are consistent with findings of Rugimbana and Iversan (1994), Thambiah et al. (2013), Ali and Puah (2017). *Uncertainty* showed positive influence on adoption of Islamic banking services therefore hypothesis 6 is not accepted. The findings are consistent with the findings of Ali and Puah (2017) whereas contradicts the studies of Echchabi and Aziz (2012), Kaabachi and Obeid (2016). The impact of *service quality* proved a positive influence on adoption signifying service quality positively contributes towards the adoption of Islamic banking services. It proves the acceptance hypothesis 7 of this study. It reinforces the notion that better service quality assurance will enable customers to positively adopt Islamic banking services (Bashir, 2013).

Overall, the analysis found that customer' understanding and awareness of Islamic banking concepts was below average. All the variables (understanding and awareness, relative advantage, compatibility, complexity, observability, uncertainty and service quality) had a positive impact on the adoption of Islamic banking services. The findings proved the acceptance of hypotheses *H1*, *H2*, *H3*, *H5*, and *H6* whereas rejected the hypotheses *H4* and *H6*.

## 5. Conclusion

This study focused to gauge the willingness of Bruneian customers to adopt Islamic banking services. The study exceptionally explored the significant variables that may influence customers' adoption of Islamic banking services. The factors influence adoption of Islamic banking services were adopted from Rogers (2003) Diffusion of Innovation theory. The inclusive factors were understanding and awareness, relative advantage, compatibility, complexity, observability, uncertainty and service quality. The results determined that Bruneian customers are willing to adopt Islamic banking services. The study found below average customers understanding and awareness of Islamic banking concepts. However, despite below average understanding and awareness level, customers held above average understanding of basic Islamic banking concepts. The study proved that understanding and awareness level, complexity, and uncertainty of Islamic banking products and services do not hinder Bruneians to adopt Islamic banking services. Furthermore, relative advantage, compatible products and services, observability and service quality are the positive instruments in adopting Islamic banking services.

The study has exceptionally contributed towards the knowledge complimenting the past studies especially in the context of Brunei. The literature does not exhibit any formal study on factors influencing Bruneian customers to

adopt Islamic banking services. This study has potentially filled this knowledge gap. The findings of this study may contribute to benefit practitioners, stakeholders, regulators, and policymakers of Islamic financial institutions. The regulators and policymakers of Islamic financial institutions may gauge the findings of this study to develop Brunei into global Islamic finance hub. Additionally, the findings of this study suggest the practitioners and stakeholders to implement relevant measures to enhance knowledge and awareness of Islamic banking concepts by educating Bruneians regarding numerous Islamic banking concepts.

The present study has certain limitations such as implemented research instrument, sample size, and geographical location for data collection. The research instrument of this study is the major limitation as the inclusion of cultural dimensions and bank employees' competence may represent different adoption level of Bruneian customers. This sample size of 245 customers may consider limited and unreliable to generalize the findings to the entire population. The data was collected from one district of Brunei known as Muara. However, the expansion of geographical locations for data collection may alter the outcome of this study.

## References

- Ahmad, N. & Haron, S. (2002). Perceptions of Malaysian corporate customers towards Islamic banking products and services. *International Journal of Islamic Financial Services*, 3(1), 13-29.
- Al-Ghaith, W.A., Sanzogni, L. & Sandhu, K. (2010). Factors influencing the adoption and usage of online services in Saudi Arabia. *The Electronic Journal of Information Systems in Developing Countries*, 40(2), 34-50.
- Ali, M. & Puah, C.H. (2017). Acceptance of Islamic banking as innovation: a case of Pakistan. *Humanomics*, 33(4), 499-516.
- Al-Jabri, I.M. & Sohail, M.S. (2012). Mobile banking adoption: application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), 379-391.
- Amin, H., Rahman, A., & Abdul-Razak, D. (2013). An integrative approach for understanding Islamic home financing adoption in Malaysia. *International Journal of Bank Marketing*, 31(7), 544-573.
- Anuar, M.M., Adam, F., & Mohamad, Z. (2012). Muslim Consumers' Perception on Internet Banking Services. *International Journal of Business and Social Science*, 3(3), 63-71.
- Arts, J.W., Frambach, R.T., & Bijmolt, T.H. (2011). Generalizations on consumer innovation adoption: A meta-analysis on drivers of intention and behavior. *International Journal of Research in Marketing*, 28(2), 134-144.
- Awan, H.M. & Shahzad Bukhari, K. (2011). Customer's criteria for selecting an Islamic bank: evidence from Pakistan. *Journal of Islamic Marketing*, 2(1), 14-27.
- Aziz, Z.A. (2006). *Islamic Banking and Finance Progress and Prospects*. Collected Speeches 2000-2006, Bank Negara Malaysia, Kuala Lumpur.
- Baiduri Bank Annual Report. (2015). Published by *Autoriti Monetari Brunei Darussalam*, Retrieved from [www.baiduri.com.bn/documents/baiduri\\_annual\\_report\\_2015\\_english\\_31082016.pdf](http://www.baiduri.com.bn/documents/baiduri_annual_report_2015_english_31082016.pdf) (accessed on January 10, 2018).
- Bashir, M.S. (2013). Analysis of Customer Satisfaction with the Islamic Banking Sector: Case of Brunei Darussalam. *Asian Journal of Business and Management Sciences*, 2(10), 38-50, ISSN: 2047-2528.
- Black, N.J., Lockett, A., Winkhofer, H., & Ennew, C. (2001). The adoption of internet financial services: a qualitative study. *International Journal of Retail and Distribution Management*, 29(8), 390-408.
- Butt, I., Saleem, N., Ahmed, H., Altaf, M., Jaffer, K., & Mahmood, J. (2011). Barriers to adoption of Islamic banking in Pakistan. *Journal of Islamic Marketing*, 2(3), 259-273.
- Department of Economic Planning and Development annual report. (2016). *Department of Statistics*. Prime

- Minister's Office, Brunei Darussalam.
- Dusuki, A.W., & Abdullah, N.I. (2007). Why do Malaysian customers patronize Islamic banks?. *International Journal of Bank Marketing*, 25(3), 143-160, available at: <http://dx.doi.org/10.1108/02652320710739850>
- Echchabi, A., & Aziz, H.A. (2012). Empirical Investigation of Customers' Perception and Adoption Towards Islamic Banking Services in Morocco. *Middle-East Journal of Scientific Research*, 12(6), 849-858.
- Erol, C., & El-Bdour, R. (1989). Attitudes, behaviour, and patronage factors of bank customers towards Islamic banks. *International Journal of Bank Marketing*, 7(6), 31-39.
- Fisher, R., & Chu, S.Z. (2009). Initial online trust formation: The role of company location and web assurance. *Managerial Auditing Journal*, 24(6), 542-563.
- Gait, A., & Worthington, A. (2008). An empirical survey of individual consumer, business firm and financial institution attitudes towards Islamic methods of finance. *International Journal of Social Economics*, 35(11), 783-808.
- Gerrard, P., & Cunningham, J.B. (2003). The diffusion of internet banking among Singapore consumers. *International Journal of Bank Marketing*, 21(1), 16-28.
- Gronroos, C. (1982). An Applied Service Marketing Theory. *European Journal of Marketing*, 16(7), 30-41.
- Hidayat, R., & Akhmad, S. (2015). The Influence of Service Quality, Religious Commitment and Trust on the Customers' Satisfaction and Loyalty and Decision to do the Transaction in Mandiri Sharia Bank of Jawa Timur. *Al-Ulum*, 15(1), 57-90.
- Hassan, K., & Lewis, M. (2007). *Handbook of Islamic banking*. Edward Elgar Publishing Limited, Uk, ISBN: 9781845420833, pp: 443.
- Haque, A., Jamal, U., & Ahmad, Z. (2007). *Islamic banking: Customer perception and its prospect on bank product selection towards Malaysian customer perspective*. Proceedings of the 5<sup>th</sup> International Islamic Finance conference, September 3-4, 2007, Kuala Lumpur.
- Harrington, S. J., & Ruppel, C.P. (1999). *Practical and value compatibility: their roles in the adoption, diffusion, and success of telecommuting*. Paper presented at the Proceedings of the 20th international conference on Information Systems.
- Haron, S., Ahmad, N., & Planisek, S.L. (1994). Bank patronage factors of Muslim and Non-Muslim customers. *International Journal of Bank Marketing*, 12(1), 32-40.
- Hidayat, S.E., & Al-Bawardi, N.K. (2012). Non-Muslims' Perceptions Toward Islamic Banking Services in Saudi Arabia. *Journal of US-China Public Administration*, 9(6), 654-670.
- Hoffmann, A.O., Franken, H., & Broekhuizen, T.L. (2012). Customer intention to adopt a fee-based advisory model: An empirical study in retail banking. *International Journal of Bank Marketing*, 30(2), 102-127.
- Islamic Financial Services Industry Stability Report (2017). *Published by Islamic Financial Services Board*, Malaysia, Kuala Lumpur.
- Jamshidi, D., & Hussin, N. (2012). A conceptual framework for adoption of Islamic Credit Card in Malaysia. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2(3), 102-110.
- Kaabachi, S., & Obeid, H. (2016). Determinants of Islamic banking adoption in Tunisia: empirical analysis. *International Journal of Bank Marketing*, 34(7), 1069-1091.
- Khan, M.M., & Bhatti, M.I. (2008). Islamic banking and finance: on its way to globalization. *Managerial Finance*, 34(10), 708-725.
- Khattak, N.A., & Rehman, K.U. (2010). Customer satisfaction and awareness of Islamic banking system in Pakistan. *African Journal of Business Management*, 4(5), 662-671.
- Kotler, P., & Amstong, G. (2001). *Principles of Marketing*. 9th Ed, Prentice Hall, Upper Saddle River, NJ.

- Lassar, W.M., Manolis, C., & Lassar, S.S. (2005). The relationship between consumer innovativeness, personal characteristics, and online banking adoption. *International Journal of Bank Marketing*, 23(2), 176-199.
- Leech, N.L., Barrett, K.C., & Morgan, G.A. (2005). *SPSS for intermediate statistics use and interpretation*. Job Characteristics and Organizational Commitments of Taiwanese Expatriates Working in Mainland China Li-Fen Tsai 180 Mahwah, Lawrence Erlbaum, USA.
- Loo, M. (2010). Attitudes and perceptions towards Islamic banking among Muslims and non-Muslims in Malaysia: implications for marketing to baby boomers and x-generation”, *International Journal of Arts and Sciences*, 3(13), 453-485.
- Mahdzan, N.S., Zainudin, R., & Au, S.F. (2017). The adoption of Islamic banking services in Malaysia. *Journal of Islamic Marketing*, 8(3), 496-512, DOI: 10.1108/JIMA-08-2015-0064.
- Mbawuni, J., & Nimako, S.G. (2017). Determinants of Islamic banking adoption in Ghana. *International Journal of Islamic and Middle Eastern Finance and Management*, 10(2), 264-288.
- Meuter, M.L., Binter, M.J., Ostrom, A.L., & Brown, S.W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing*, 10(2), 61-83.
- Naser, K., Jamal, A., & Al-Khatib, K. (1999). Islamic banking: a study of customer satisfaction and preferences in Jordan. *International Journal of Bank Marketing*, 17(3), 135-151.
- Nor, K.M. (2005). *An empirical study of internet banking acceptance in Malaysia: An extended decomposed theory of planned behavior*. Unpublished PhD thesis, Southern Illinois: University Carbondale.
- Norjidi, D. (2017). Strong Islamic philosophy key to be finance hub. *Borneo Bulletin*, 03 August, 4-5.
- Nunnally, J.C. (1978). *Psychometric Theory*. New York, NY: McGraw-Hill.
- Ostlund, L.E. (1974). Perceived innovation attributes as predictors of innovativeness. *Journal of Consumer Research*, 1(2), 23-29.
- Othman, A.Q., & Owen, L. (2003). The Multi Dimensionality of CARTER Model to Measure Customer Service Quality (SQ) in Islamic Banking Industry: A Study in Kuwait Finance House. *International Journal of Islamic Financial Services*, 3(4), 328-341.
- Pannell, D.J. (2003). Uncertainty and adoption of sustainable farming systems Risk management and the environment: Agriculture in perspective. *Springer*, 67-81.
- Perry, F.V., & Rehman, S.S. (2011). Globalization of Islamic finance: myth or reality?. *International Journal of Humanities and Social Science*, 1(19), 107-119.
- Ramdhony, D. (2013). Islamic banking awareness attitudes and bank selection criteria. *International Journal of Humanities and Applied Sciences*, 2(2), 29-35.
- Rogers, E.M. (2003). *Diffusion of Innovations*. 5th Ed., The Free Press, New York, NY.
- Rugimbana, R., & Iversen, P. (1994). Perceived attributes of ATMs and their marketing implications. *International Journal of Bank Marketing*, 12(2), 30-35.
- Sathye, M., (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, 17(7), 324-334.
- Tan, M., & Teo, T.S. (2000). Factors influencing the adoption of Internet banking. *Journal of the AIS*, 1(1), 5-23.
- Thambiah, S., Eze, U.C., Tan, K.S., Nathan, R.J., & Lai, K.P. (2010). Conceptual framework for the adoption of Islamic retail banking services in Malaysia. *Journal of Electronic Banking Systems*, 2(10), 1-10.
- Thambiah, S., Ismail, H., & Malarvizhi, C.A. (2011a). Islamic retail banking adoption: a conceptual framework. *Australian Journal of Basic and Applied Sciences*, 5(12), <http://www.bnm.gov.my>.
- Thambiah, S., Ismail, H., & Malarvizhi, C. (2011b). Islamic Retail Banking Adoption: A Conceptual Framework. *Australian Journal of Basic & Applied Sciences*, 5(12), 649-657.

- Thambiah, S., Ramanathan, S., & Mazumder, M.N.H. (2012). The determinants of Islamic retail banking adoption in Malaysia. *International Business & Economics Research Journal*, 11(4), 437-442.
- Thambiah, S., Ismail, H., Ahmed, E.M., & Khin, A.A. (2013). Islamic retail banking adoption in Malaysia: the moderating effect of religion and region. *The International Journal of Applied Economics and Finance*, 7(1), 129-142.
- Tornatzky, L.G., & Klein, K.G. (1982). Innovation Characteristics and Innovation Implementation. A Meta-Analysis of Findings. *IEEE Transactions on Engineering Management*, 29(1), 28-45.
- Warsame, M.H., & Ileri, E.M. (2018). Moderation effect on Islamic banking preferences in UAE. *International Journal of Bank Marketing*, 36(1), 41-67.
- Yusof, M.Y.R. (1999). *Islamic Banking: Adoption of a Service Innovation*. Unpublished MSc thesis, NTU, Singapore.

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