

E-Banking Acceptance in Thailand: An Emphasis on Islamic Banks' Customers

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Abstract— The objective of the paper is to examine the level of acceptance of E-banking services in Thailand, with a special focus on Islamic banks' customers. The study also attempts to identify the main dimensions that would contribute to the acceptance and proper usage of E-banking services by Islamic banks' customers. A survey questionnaire was distributed to 500 Islamic banks' customers in Thailand. The survey covered the capital city of Bangkok and surrounding areas, but focused mostly on the southern part of Thailand, which is majority Muslim area. The collected data was subsequently analysed using descriptive statistics, one sample *t*-test, and structural equation modelling (SEM). The findings revealed that Islamic banks' customers in Thailand have a high tendency of adopting E-banking services across-groups. Furthermore, the results showed that perceived ease of use has a significant positive impact on perceived usefulness. In addition, both perceived ease of use and usefulness have a significant positive impact on customers' adoption of E-banking services. These findings have a significant contribution to the theory, policymakers, as well as the practitioners and regulators in the banking and Islamic banking areas.

Keywords- Thailand, Islamic Banking, E-banking, SEM.

I. INTRODUCTION

During the past few decades, Islamic banking has emerged not only as a complementary component in modern banking systems, but has also imposed itself as viable alternative to the long existing conventional banking. Nevertheless, the conventional banking is still relatively stronger in many aspects as it has been practised for a long time compared to the newly established Islamic banking system. One of these aspects is the advanced E-banking system that was developed and put in place long before the development of modern Islamic banking. It goes without saying that having a developed and secure E-banking system contributes in enhancing the performance and efficiency of banks.

It is noteworthy that Islamic banking has been introduced in Thailand since early 2003, through the Islamic Bank of Thailand (iBank). The Bank was set up by the Islamic Bank of Thailand Act B.E. 2545 (2002), as a state enterprise under the Ministry of Finance, administered by a board of governors, with an advisory council on Islamic banking and hence considered to be fully operating in accordance with the rules of Sharia¹. iBank has currently more than 30 branches all

around the country, though the Muslim population is mainly centered in the Southern region of the country.

The Thai context was chosen not only because it has received less research focus in the Islamic banking area, but also because Islamic banking per se has been introduced to Thailand for many years, but has not been performing as expected. It is noteworthy that in a similar context, that of Malaysia for instance, it was observed that one of the reasons why some Islamic banks were avoided by customers is their lack of a handy and useful E-banking system (Echchabi and Olaniyi, 2012). Hence, the objective of the paper is to investigate the level of acceptance and use of E-banking services in Thailand, with a special focus on Islamic banks' customers.

The remaining part of the paper is organised as follows: section two discusses the main studies in the area of E-banking acceptance as well as the research model. Section three briefly discusses the methodology and method applied in data analysis as well as the respondents' profile. Section four presents the survey results, and section five concludes the paper with some recommendations for future studies.

II. LITERATURE REVIEW

The area of internet banking acceptance has been widely emphasised both theoretically and empirically. However, most of these studies were focusing on conventional commercial banks, while very few studies examined this aspect from the Islamic banks' customers' perspective.

In this regard, Krauter and Faullant (2008) studied the acceptance of internet banking in Austria focusing on a sample of 381 respondents and using Structural Equation Modelling (SEM). Their results confirmed the influence of internet trust on risk perception and consumer attitudes towards internet banking. Moreover, propensity to trust is a determinant not only for interpersonal relationships but also for trust in technological systems.

Aderonke and Charles (2010) investigated the factors that determine users' behavioural intentions to use electronic banking services in Nigeria. The study covered a sample of 500 respondents from Lagos and the surrounding areas. The results showed that banks' customers who are active users of e-Banking system use it because it is convenient, easy to use, time saving and appropriate for their transaction needs. Also the network security and the security of the system in terms of

¹ <http://www.bankthailand.info/Islamic-Bank-of-Thailand.htm>

privacy are the major concerns of the users and constitute hindrance to intending users.

Echchabi (2011) examined the customers' intention to use online banking services in Morocco. The author applied SEM to a sample of 300 respondents. The results indicated that perceived ease of use has a significant positive influence on the perceived usefulness of online banking, and both the variables have a significant positive influence on the attitude towards online banking. The latter further has a significant positive influence on the intention to adopt online banking services in Morocco. Furthermore, the invariance analysis showed that the influence is different between male and female customers.

In a different context, Hassanuddin, Abdullah, Mansor, and Hassan (2012) investigated the factors influencing the acceptance of internet banking services provided by the Malaysian cooperative banks. The authors covered a sample of 171 respondents and mainly applied descriptive statistics to achieve the objective of the study. The findings revealed that ease of use, security and privacy as well as quality of internet connection are the main factors that contribute towards acceptance of internet banking services.

In another context, Khater, Almansour, and Mahmoud (2014) explored the factors influencing customers' acceptance of internet banking services in Sudan. The authors covered a sample of 207 respondents and applied SEM in the analysis. Their findings indicated that internet connection quality has direct effect on the behavioral intention to use internet banking in Sudan.

In the specific context of Islamic banking, relatively fewer studies have been conducted. Feraro-Banta (2014) for instance attempted to examine the electronic banking services in Islamic banks in Bahrain. The author focused on a sample of 200 customers and applied mixed methodology. The findings revealed that Islamic banks in Bahrain are intensively making use of electronic services for their banking operations. Furthermore, the bank customers have higher expectations as to the electronic banking services of Islamic banks. In addition, there is no considerable divergence between the level of expectations of customers and the status of the electronic banking services in Islamic banks in the Kingdom of Bahrain except for the transfer of funds.

It is noteworthy that TAM is one of the most widely accepted and applied models for technology-related studies. The model which was initiated by Davies (1989) is based on three main dimensions, namely, perceived ease of use, perceived usefulness and behavioural intention. TAM suggests that perceived ease of use has a positive effect on perceived usefulness, and both have a positive effect on the intention to adopt a technology. TAM indeed gives an opportunity to include a wide range of aspects related to both easiness of using technology as well as the usefulness of the system. Thus, based on the TAM framework, the following hypotheses are posited:

H1: Perceived ease of use has a positive influence on the perceived usefulness of e-banking by Islamic banks' customers in Thailand.

H2: Perceived ease of use has a positive influence on the customers' intention to use e-banking by Islamic banks' customers in Thailand.

H3: Perceived usefulness has a positive influence on the customers' intention to use e-banking by Islamic banks' customers in Thailand.

H4: The Islamic banks' customers in Thailand are indifferent in using e-banking.

III. METHODOLOGY

The current study focuses on the Islamic banks' customers in Thailand. Particularly, in Bangkok the capital city and surrounding areas, as well as in the Southern region of the country. The target sample size was 500 respondents determined through the previous similar studies in this area (e.g. Echchabi and Abdul Aziz, 2013).

The survey questionnaire was specifically designed to collect information about the perception of the Islamic banks' customers regarding the usefulness and easiness to use E-banking services as well as their intention to adopt and/or continue using them in their future transactions. For measuring this information, Likert type scaling was used (1 = Strongly disagree and 5 = Strongly agree). 15 items were listed in this section and most of them were derived from the previous studies conducted in other settings as highlighted above, as well as from the current Islamic finance and internet banking literature with the necessary adaptations made for the specific context of this study, mainly from Echchabi and Abdul Aziz (2013) and Echchabi (2011). The second section of the questionnaire explored information about respondents' profile, i.e. gender, age, education level, etc. The questionnaire was made in English and was subsequently translated into Thai language and distributed in both versions.

The collected data were subsequently analysed using SEM and one sample *t*-test. The choice of this technique was inspired by Hair, Black, Babin and Anderson (2010) as well as from similar studies conducted in this area. It is worth mentioning that the analysis was performed using AMOS 18 and SPSS 18.

The demographic information in Table 1 indicates that 77.4 per cent of the respondents are male, while 22.6 per cent are female. In terms of age grouping, 43.2 per cent of the respondents are between 20 and 30 years old, 31.2 per cent of the respondents are aged between 31 and 40 years old, 13 per cent are aged between 41 and 50 years old, 9.2 per cent are less than 20 years old, and 3.4 per cent of the respondents are above 50 years of age.

Regarding the level of education, around 51.4 per cent are bachelor's degree holders, 23.6 per cent are holding high school certificates, 13.6 per cent are holding postgraduate degrees, 6.2 per cent are holding diploma, and 5.2 per cent are

holding professional degrees. In terms of occupation, 51.2 per cent of the respondents are employed in the private sector, 21.6 per cent are self-employed, 16.8 per cent are students, and 10.4 per cent of the respondents are employed with the public sector.

TABLE I: PROFILE ANALYSIS

Demographics	Categories	Percentage
Gender	Male	77.4
	Female	22.6
Age	Less than 20 years	9.2
	20 to 30 years	43.2
	31 to 40 years	31.2
	41 to 50 years	13
	More than 50 years	3.4
Education level	High school certificate	23.6
	Diploma	6.2
	Professional degree	5.2
	Bachelor’s degree	51.4
	Postgraduate degrees	13.6
Occupation	Public sector	10.4
	Private sector	51.2
	Self-employed	21.6
	Student	16.8

IV. RESULTS

A. Reliability and validity measures

Prior to the structural model estimation through (SEM), a basic requirement is the analysis of the model’s validity. The latter is made of four main elements, namely, convergent validity, discriminant validity, face validity, and nomological validity.

Convergent validity refers to the requirement that the items measuring a given construct should share a high proportion of common variance. There are several tools to assess convergent validity, including average variance extracted (AVE), factor loadings, as well as reliability measures (Cronbach Alpha for this study) (Hair *et al.*, 2010). Accordingly, it is suggested that a Cronbach Alpha greater or equal to 0.6 is acceptable, similarly, an acceptable level of AVE and factor loadings should be 0.5 and above.

In this regard, Table 2 shows that the Cronbach Alpha values are ranging between 0.73 and 0.84. Furthermore, the AVE values range between 0.55 and 0.6. Hence, all the requirements for convergent validity are met, since all the factor loadings are also greater than 0.5. Thus, convergent validity is achieved in this model.

TABLE II: CONVERGENT VALIDITY MEASURES

Constructs	Cronbach Alpha	AVE
Perceived usefulness	0.74	0.55
Perceived ease of use	0.73	0.58
Behavioural intention	0.84	0.6

In addition, discriminant validity refers to the requirement that each construct in the model is distinct from the remaining constructs. There are different ways to assess discriminant validity. In this study the correlation between constructs will be fixed to 1 and the fit indices for the baseline and restricted models will then be compared. At this level, discriminant validity is achieved if the difference in fit indices between the two models is significant. In this regard, the results in Table 3 show a Chi square value of 179.03 and 85 degrees of freedom for the baseline model, and a Chi square value of 387.42 and 88 degrees of freedom for the restricted models. This amounts to a Chi square difference of 208.39 and degrees of freedom difference of 10. By comparing the Chi square difference with the tabulated Chi square value corresponding to a degree of freedom of 3 and a confidence margin of 0.05, namely, 7.81, it can be concluded that the fit indices for the baseline and restricted model are significantly different. Hence, discriminant validity is achieved by this model. Beside these two validity measures, face validity and nomological validity were also analysed by consulting the experts in this field, as well as the previous studies.

TABLE III: DISCRIMINANT VALIDITY MEASURES

Elements	Chi square	DF
Baseline model	179.03	85
Restricted model	387.42	88
Change	208.39	3

Finally, the results indicate that the model’s Comparative Fit Index (CFI) is 0.965 and RMSEA value is 0.046. These values are acceptable values for both indicators (Broyles, Leingpibul, Ross and Foster, 2010; Singh, Sandhu, Metri and Kaur, 2011; Kim and Forsythe, 2010). Hence, the overall model is validated.

B. Structural model

In order to test the hypotheses posited above, the path analysis using SEM is applied for the first three hypotheses, while *t*-test is used to test the fourth hypothesis. In this regard, the mean values in Table 4 show high *t*-values for all the variables including behavioural intention, with significant probability values. Hence, hypothesis 4 is rejected. This mainly indicates that the respondents are satisfied with their e-banking experience and are enthusiastic about it and intend to continue using these services. This is illustrated by their appreciation of the usefulness and ease of use of e-banking which is a prerequisite for regularly using it in their daily studies.

TABLE IV: DESCRIPTIVE ANALYSIS AND T-TEST

Constructs	Mean	t	Standard deviation
Perceived ease of use	3.81	30.26***	0.63
Perceived usefulness	4	37.7***	0.64
Behavioural intention	3.81	26.83***	0.72

*** refer to significant *t*-test at 1%

The results of the path analysis summarised in Table 5 indicate that perceived ease of use has a significant positive impact on the perceived usefulness of e-banking services. Hence, hypothesis 1 is supported. This is in line with the findings of Davies (1989). This implies that the usefulness of e-banking services for the Islamic banks is highly dependent on the extent to which the e-banking procedures and transactions are easy to understand and apply. In addition, it also depends on the extent to which the Islamic banks' customers perceive e-banking to be useful in helping them efficiently conduct their daily banking operations.

Furthermore, the perceived ease of use is also found to have a significant positive influence on the intention to use e-banking. Hence, hypothesis 2 is supported. This is also in line with the findings of Davies (1989), and it indicates that the above mentioned dimensions equally motivate the customers to effectively use e-banking services.

On the other hand, perceived usefulness has a significant positive impact on the intention to use e-banking services. Hence, hypothesis 3 is supported. This is in line with Davies (1989). Particularly, the usefulness of these services is mainly perceived by the Islamic banks' customers in terms of efficiency/time saving in conducting banking operations, in terms of cost saving, as well as in terms of the social prestige that they provide compared to the traditional ways of banking.

TABLE V: STANDARDISED TOTAL EFFECTS

	Perceived Usefulness	Perceived Ease of Use
Behavioural Intention	0.28***	0.49***
Perceived Usefulness	-	0.62***

V. DISCUSSIONS AND CONCLUSIONS

The objective of the current study was to explore the intention of the Islamic banks' customers to use e-banking and to determine the factors that influence it. Overall, the results indicated that the respondents are intending to use e-banking services. On the other hand, the findings revealed that the perceived ease of use has a positive effect on perceived usefulness, and both have a significant positive effect on behavioural intention to use e-banking.

These findings have significant implications for the theory, for the policy makers and regulators as well as for the practitioners. Particularly, this study is an extension of the technology acceptance model to a different setting and a different area of study that has been poorly studied previously; hence this study proves the applicability of this theory in this new context. Similarly, the current study provides insights to the practitioners and policymakers on the important dimensions to be emphasized to enhance the e-banking usage by Islamic banks' customers in Thailand and similar settings.

This is expected to promote the Islamic banks' activities and render them to be relatively more competitive.

The current study has a number of limitations that should be taken into account in the future studies in this area. Firstly, the sample size is relatively limited, though accurately calculated, hence the results cannot be generalised to the whole population of Islamic banks' customers in Thailand. Thus, the future studies are recommended to select a larger and more representative sample size, in order to generalise the results to the whole country. The future studies are also recommended to extend these findings to other contexts and preferably using other models as well.

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