The Adoption of Online Internet Banking in Islamic Banking Industry

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Abstract. This research is conducted to investigate the factors impact Islamic bank’s consumers in adopting online internet banking. To test the hypotheses developed, this study uses the extended theory of The Unified Theory of Acceptance and Use of Technology (UTAUT) consisting of expected performance, effort expectations, social influences, facility conditions, and religious factors. This study utilizes 250 Islamic banking customers as the sample, gathered from Bandung and Jakarta. Using Partial Least Square Modelling as the data analysis method, the results reveals that the expected performance and religious factor are the most important determinants for Islamic banking customers to adopt online services. This research extends the existing knowledge of internet banking adoption in the context of Islamic banking. From a practical perspective, this study provides a guidance and strategy for Islamic bank managers to encourage their customers to adopt online internet banking services.

1. Introduction

The rapid growth of the Sharia banking industry makes the company must be able to create a competitive advantage in increasing the market share, one of its breakthroughs is using digitalization technology. Alalwan et al. [2] maintain that the sensitivity of customers to financial institutions has increased dramatically to problems related to cost, time and convenience, where the banking sector has begun to use technology. The latest modernization in the banking sector is mobile banking (internet banking) [4]. Internet banking provides a new breakthrough in revolutionizing the way banks operate primarily in terms of services to increase customer volume [1]. According to statistics published by The Demand Institute (2017) in research [1], where a cashless payment system is expected to reach US $10tn over the past decade, this provides enlightenment where traditional (face-to-face) transactions will begin to be eroded by digital transactions (internet service banking). The quality of electronic banking services (e-banking) has become a major field because of its strong impact on business performance, at a lower cost, which will create loyal customers [5].

Banking is one sector that has changed dramatically due to technological advancements [3]. Increasing the ability of banks to provide comfort, service quality and speed of service has been proven to contribute significantly to the business environment by implementing technology use mechanisms [2]. From some of the findings and results of previous studies explaining the importance of technology transfer in the field of the banking industry. It is not denied that the banking industry must see from two parties, namely the industry itself and the customers, where the industry has presented technology-based services, while the customer side is still lacking in the adoption of these technology services. Thus, it needs further research on how a technology that has been provided by the industry can be
adopted by customers, especially industries that are still rarely studied, namely Sharia internet banking services.

Basically Sharia internet banking services have a high market potential, but in plain view the level of acceptance is still below the average. There are several things that can affect the acceptance of Sharia internet banking including performance expectations, effort expectations, social influences, facilitation conditions and the level of customer religiosity, using the Unified theory of technology acceptance and use (UTAUT) by adding customer religiosity variable. According to Raza, Shah [3] the level of customer religiosity must be considered in future studies because it can provide further explanation for the pattern of adoption of sharia banking customers. This discussion clearly shows the need to assess what factors make customers adopt internet banking in the context of Islamic banking. The results of the study found that the performance expectation variable was the highest predictor and business expectations had a negative influence in the intention to adopt variable Islamic internet banking. This discovery is considered very important to help the Islamic banking industry become more modern by improving the performance of Islamic internet banking services to be more creative, and competitive.

1.1 Performance expectancy (PE)
Performance expectancy shows that someone tends to select and adopt certain technologies. If the technology be able to improve individual’s concert where it does not spend a lot of time and effort in using technology [6]. PE tells individuals who have used technology to improve their performance [7] and is expected to be consistently proven become the strongest predictor of behavioral intentions. Base on Mazhar et al [8] recorded that the clients advance good purpose to implement the M-banking technology if they capable to understand the amount an advantage received from technology.
H1. PE has a positive impact on attitude toward personal’s goal

1.2 Effort Expectancy (EE)
The ease of technology will increase the technology adoption. According to a research conducted by Mahzar et al. [8] one will easily adopt technology if the Internet banking application is easy to use. If users find convenience in technology, it will growth their willingness to conduct banking transactions [2]. In contrast, Amin, Isa [9] observed the issues that impact to M-banking adoption and recorded that perceptions of ease of implement did not affect the personal’s purpose to adjust it.
H2. EE has a positive impact on attitude towards personal’s goal

1.3 Social Influence (SI)
Recent literatures reveal that social influence is a significance factor in affecting client satisfactorily and adopting new technologies [6]. Result from the research [7] also shows that consumer adoption of certain technologies tends to encourage acquaintances and relative adjust alike technology, especially if customers are satisfied with the technological performance. Regarding technology adoption, social influences from acquaintances, relative, and colleagues able to influence the decision to adopt technology [6].
H3. SI has a positive impact on attitude towards personal’s goal

1.4 Facilitating Conditions (FC)
The availability of funds to support facilities is very possible in supporting technological development, so that the technology can function properly and be easily adopted. [6]. The facilitating condition is the readiness of the bank itself, which provides internet services to accommodate the expectations of customers and companies that can be directly seen from readiness, reliability and ease of internet banking. The better willingness to accept the technology it will make better the FC availability to the user. [10].
H4. FC has a positive impact on attitude towards personal’s goal

1.5 Religiosity
Religiosity is a commitment from someone to their beliefs that can influence attitudes and behavior. [11]. Strengthening this view, according to [11] maintaining one's religious identity will influence his behavior, where if a religious will automatically the behavior will be in accordance with the guidance of his religion. If individuals feel that the services of Islamic banks are in line with Sharia or Islamic
values, their attitude will be favorable to Islamic banks. The religiosity can be affect to attitudes towards Islamic banking is also reported in previous studies [12, 13]. Science creates technology, and faith gives us direction. The model used to operationalize religiosity in this study is in accordance with those proposed by [12], where religiosity has five dimensions including: ideological dimensions (ID) The ideological dimension of personal commitment to obeying divine rules can affect not only personal social communication but also in making decisions about choosing and consuming products and services [13]. Ritual (RT) dimension, the ritual dimensions include actions, such as prayer, fasting and hajj and relative Islamic religious and ritual practices determined by religion [11]. Intellectual Dimension (IN) is the level of intelligence and motivation of someone in absorbing the knowledge gained from learning. [11]. Consequential (KO) dimension Consequential dimensions refer to the importance of religious commitment has been debated to be a determinant of greater religious behavior because it shapes behavioral motivations and intentions [11], and experience/experience (EX) experimental dimensions describe practicality according to religion [11].

H5. Religiosity has a positive impact on attitudes toward personal’s goal (See figure 1).

![Conceptual framework](image)

**Figure 1. Conceptual framework**

2. Method
The data in this study take samples from customers of several Islamic banks including BNI Syariah, Bank Muamalat and Bank Syariah Mandiri. Data was collected from two cities namely Bandung and Jakarta. The time used for this study was from October to December 2018, this study distributed questionnaires to 250 respondents and after screening available data 35 responses were deleted because the values were incomplete. The sample used was 215 respondents consisting of women (69.7%), and men (30.3%) with the majority (49.7%) at the age of under 25 years with a final education S1/Diploma. In addition, most of them are private employees earning one to three million rupiah. While the frequency of interacting with the internet in one day most of them interact more than five times with the internet. All variables are measured on a 5-point Likert scale, from "strongly disagree" to "strongly agree".

To test the hypothesis, this study uses Structural Equation Modeling (SEM). SEM allows researchers to assess latent constructs and test the relationship between variables simultaneously [14]. To test the relationship between predictors and construct responses, modeling uses a variant-based Structure Equation Modeling (SEM) which can simultaneously test models and data processed using least square (PLS) partial analysis tools.

3. Results and Discussion
The measurement model is the dominant factor in technology adoption using PLS-SEM testing. Model measurement can be done by testing the reliability and validity, with reliability indicator values> 0.7, and loadings> 0.4 with acceptable assumptions. This study has a loading value of more than 0.6 and a composite reliability of more than 0.7. The Validity was tested through the average variance pull out value (AVE> 0.5) [14]. Moreover, the current discriminant validity test is through heterotrait-monotrait (HTMT<0.9) [15]. Based on these criteria, this study has an AVE value of more than 0.5
and HTMT values that are less than 0.9 for each variable studied, so that this study has met the criteria for reliability (Table 1).

### Table 1. Loading, composite reliability, and AVE

| Construct/item (mean; standard deviation) | Loading* | CR  | AVE  |
|------------------------------------------|----------|-----|------|
| **Performance expectancy (4.315; 0.577)** |          |     |      |
| PE1 Helps in everyday life               | 0.876    |     |      |
| PE2 Flexible                             | 0.843    |     |      |
| PE3 Saves Time                           | 0.888    |     |      |
| PE4 Increases Productivity               | 0.845    |     |      |
| **Effort expectancy (4.109; 0.665)**     |          |     |      |
| EE1 It’s not difficult to learn          | 0.860    |     |      |
| EE2 A clear feature                      | 0.926    |     |      |
| EE3 Easy to use                          | 0.917    |     |      |
| EE4 Shortly learn                         | 0.879    |     |      |
| **Social influence (3.425; 0.797)**      |          |     |      |
| SI1 User known person                    | 0.843    |     |      |
| SI2 Family members                       | 0.866    |     |      |
| SI3 Friend suggestions                   | 0.850    |     |      |
| **Facilitating conditions (3.998; 0.618)** | 0.896 |     | 0.684 |
| FC1 Facilities and infrastructure        | 0.810    |     |      |
| FC2 Knowledge of internet services       | 0.850    |     |      |
| FC3 Knowledge of other services          | 0.873    |     |      |
| FC4 Help in use                          | 0.772    |     |      |
| **Religiosity (4.437; 0.469)**           | 0.894    |     | 0.515 |
| RE3 Never leave prayer 5 times           | 0.719    |     |      |
| RE4 Regularly read the Koran             | 0.701    |     |      |
| RE5 To avoid committing sin              | 0.804    |     |      |
| RE6 Basic knowledge of religion          | 0.735    |     |      |
| RE7 Respects the rights of others according to religion | 0.815 |      |      |
| RE8 Helping those in need                | 0.741    |     |      |
| RE9 It’s nice to see people follow religious teachings | 0.613 |      |      |
| RE10 Feelings of fear of sin             | 0.580    |     |      |
| **Behavioral intention (3.917; 0.714)**  | 0.906    | 0.764 |      |
| BI1 Continue to use Sharia internet banking | 0.891 |     |      |
| BI2 Always use it                        | 0.880    |     |      |
| BI3 Does not change internet banking services | 0.850 |     |      |

**Note:** *All are significant at p < 0.01*

In order to adjust the model fit, the next step manipulated the variables by testing of goodness of fit (GoF) is carried out to ensure conformity of structural models [15]. The GoF value of this study is 0.626 which is in the large category so the proposed model has good quality [14]. The evaluation of model quality is based on its capability to predict endogenous constructs through these criteria: coefficient of determination ($R^2$), cross-validated redundancy ($Q^2$), path coefficients, and the effect size ($f^2$) [14]. The independent variables studied could predict 55.7% ($R^2$: 0.557) from variable behavioural intention. Then, to assess the relevance of predictions, Hanseler [15] states that the value ($Q^2$ $> 0$) of this study has a variable behavioural intention value of $Q^2$ of 0.391. Thus, the predictions obtained by the proposed model are fairly satisfying.

Furthermore, the assessment of the significance of the path coefficient and hypothesis testing are measured by using the bootstrapping method. On the other hand, the model obtained from the test results shows that the appraisal model using bootstrap is satisfactory because no estimation problems occur, seen from critical t-values for the two-tailed test: 1.65 (significance level $= 0.1$), 1.96
(significance level = 0.05), and 2.58 (significance level = 0.01) [14]. Performance expectancy has a coefficient of 0.364 with t-value of 6.159 for behavioural intention. Thus, H1 is acceptable. Then, effort expectancy has a coefficient of -0.046 with t-value of 0.676 towards behavioural intention. This indicates that H2 cannot be proven. Furthermore, social influence has a coefficient of 0.137 with a t-value of 1,991 so H3 is accepted. Then, facilitating conditions has a coefficient of 0.327 with a t-value of 3.935. In brief, facilitating conditions have a significant effect on behavioural intention. Therefore, H4 is accepted. In addition, the religiosity variable has a coefficient of 0.149 with a t-value of 2.676 which confirms that H5 is accepted. (See Figure 2 and Table 2).

![Figure 2](image-url)

**Figure 2. Result of testing the model.**

| Path | Effect | \( \beta \) | \( t \)-value |
|------|--------|-------------|-------------|
| **H1:** Performance expectancy => Behavioral intention | 0.364 | 6.159** |
| **H2:** Effort expectancy => Behavioral intention | -0.046 | 0.676 |
| **H3:** Social influence => Behavioral intention | 0.137 | 1.991* |
| **H4:** Facilitating conditions => Behavioral intention | 0.327 | 3.935** |
| **H5:** Religiosity => Behavioral intention | 0.149 | 2.676** |

*Note: **p<0.01; *p<0.05

The testing model results note that this study reveals H1, H3, H4 and H5 significant at p <0.01. Performance expectancy has the strongest effect (0.157) on behavioral intention. While effort expectation, social influence, facilitating conditions, and religiosity each have small effect sizes (0.002, 0.028, 0.116, and 0.040) in behavioral intention.

The results of the research revealed the answers of a motivating factor for adopting Sharia internet banking, which is a positive relationship to the variable performance expectancy, social influence, facilitating conditions and religiosity towards the behavioral intention. While the effort expectancy (EE) variable has a negative effect, which means that the variable does not encourage someone to adopt sharia internet banking. These findings mean that Sharia internet banking services must present easy to use, easily accessible internet banking services, have assistance options and high security networks. Furthermore, these findings reveal that variable performance expectancy (PE) is the highest forecaster of the goal of adopting Sharia internet banking.
4. Conclusion

The factors that influence Sharia internet banking adoption are performance expectations, effort expectations, social influences, facilitation conditions and the level of customer religiosity. Positive effects can be obtained from variable performance expectations, social influences, facility conditions, and religiosity on behavioral intentions. Expectation effort variables have a negative influence. This finding is consistent with previous research [9] which shows that attempts to use expectations do not affect personal goals to be adopted. From these results it can be concluded that Sharia internet banking services are not easy to use. Among other factors, the performance expectation variable is the highest predictor of intention to adopt Sharia internet banking. In other words, someone will adopt technology if they believe which technology is useful and easy to operate [6]. Religiosity variable is also an important factor for someone who adopts Sharia internet banking. According to previous research [16], the level of spiritualitly will thus increase the volume of customers in regions that are not touched by Sharia banking services, by providing input to industry players in determining the right strategy to market Sharia internet banking services for the benefit of the people.

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