

Factors Influencing Choice of Islamic Digital Banking: Opportunity or Challenge for the Islamic Finance Industry?

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Abstract

This study tests the TAM model to determine people's perceptions of digital banking. Although empirical research has been conducted on introducing digital banking, this still needs to be improved in the Islamic banking context, as the use of digital banking in Islamic banks is still new. This descriptive and quantitative study uses survey methods to measure an individual's perception of digital banking in Islamic banks. The survey contains closed and open-ended questions to measure the perception of mobile banking users based on the Technology Acceptance Model (TAM). This survey uses a voluntary survey of respondents scattered across different cities in Indonesia. In addition to testing the TAM digital banking model of the original Islamic bank, this study also examines the potential for new variables that emerge from customer perceptions and uses the data to create new unique to Shariah's recruitment-based banks. We propose variables/models according to the technology. We will also consider obstacles to introducing digital banking by Islamic banks.

Keywords: Technology Acceptance Model, Digital Banking, Islamic Bank

1. INTRODUCTION

During the COVID-19 pandemic, digital financial services provided contactless and cashless transaction solutions. Bank Indonesia (BI) noted that the volume of digital banking transactions in April 2020 increased significantly by 37.35% (YoY). BI revealed that digital economic transactions increased rapidly by 60.8% in the same period in 2019. The Fintech and Digital Banking 2025 report released by Backbase and IDC states that more than 63% of customers are predicted to adopt digital banking in the Asia Pacific (APAC) and are willing to switch to neo banks in the next five years. This development indicates the strengthening of the community's need for digital economic and financial transactions.

In Indonesia, financial technology (fintech) development began in 2015 and grew in 2016. The fintech growth is very rapid in Non-Bank Financial Industry (IKNB). Some fintech developments in Indonesia are payment, lending, financial planning, retail investment, crowdfunding, remittance, and finance research. The number of fintech in Indonesia until 2021 reached 114 companies registered and licensed by The Financial Service Authority (OJK).

The studies mentioned were conducted among the millennial consumer population of banking services. The millennial generation is the early adopter of new technology. Therefore is considered to be more likely to use digital banking and fintech

in the future than other generations (Tan, Purba, & Widjaya, 2018). The majority of mobile subscribers in Indonesia are the millennial generation (APJII, 2020). Those between the ages of 20 and 34 have contributed 37,8%, 35 and 49 have contributed 26,3%, and 15 and 19 have contributed 15,1%.

Based on National Survey on Financial literacy and inclusion (OJK, 2019) showed that Islamic financial literacy and inclusion were at 8.93% and 9,1%, and National financial literacy and inclusion indices were 38.03 % and 76.10 %. The results show that young people aged 18-35 years have higher literacy rates compared to other groups, namely 14%% (aged 18-25 years) and 24% (age 26-35 years old) (sikapiuangmu.ojk.go.id). According to Tirta Segara (OJK's Board of Commissioners), this potential needs to be optimized because the millennial generation has great potential as a driver of the Indonesian Economy in terms of quantity, character, level of literacy, and inclusion. EFMA and Oracle Financial Services (2010), the banks must understand the millennial generation's needs and wants if they want to appeal to the millennial generation consumers to engage the banking services, as they are different from other generation groups in terms of perceptions and expectations (Riza, 2019).

Literacy in Indonesia is low compared with other countries with the best literacy Denmark, Germany, and Sweden has the highest literacy rates, at least 65%. However, this is even worse when comparing it to sharia literacy. Sharia financial literacy is closely related to the ability of individuals to know and understand sharia financial products and services. With advances in technology, access to information should be easy. Likewise, their adoption of fintech payments. Such GoPay, OVO, LinkAja, and other. With recorded total transactions reaching USD 28 Billion in 2020 and volume transactions until 1,7 Billion (databooks.katadata.co.id).

Sharia financial literacy in Indonesia is very low, at 8.93%, meaning that of 100 Indonesians, only eight know and understand sharia financial products. The increasing potential use of information technology makes access to information easy. With the number of adoptions of digital banking. The majority of users are the millennials generation. Thus, the opportunity to increase sharia financial literacy. To address this situation, further quantitative research is required to investigate the factors influencing Islamic digital banking adoption. The action research is needed to make changes or interventions, where it collaborates with a related partner such as the OJK, Islamic Banks, and the other partners. Based on the research problem above, the research

questions in this study are:

- a) What factors influence millennial generation consumers in using Islamic mobile banking?
- b) How to improve sharia financial literacy using digital communication strategies?

2. LITERATUR REVIEW

2.1. Islamic Digital Banking

The primary financial needs of Muslims are fulfilled by Islamic banks, in compliance with Islamic laws (Syariah), to use banking services. Islamic bank strictly follows sharia guidelines, the Islamic rules for the transaction (fiqh mullah). The rules were extracted from the Al-Quran, Hadits, ijma', and Qiyas. Based on sharia rules, the financing model should be based on profit and loss sharing, which strictly prohibits return (Riba). Islamic banks are sometimes referred to as conventional banks because they offer full-service financial intermediaries (Raza et al., 2019). Indonesia is the country with the most significant number of Islamic banks. However, the number of customers of Islamic banks is still tiny compared to conventional banks. It is necessary to research to find out individual preferences in Islamic banking. So, using technology, such as digital banking in service innovations, to meet clients' needs is the best understanding through its relationship to the service users and how they perceive the service (Mbama & Ezepeue, 2017). Overall, Muslim people firmly believe that Islamic banks accelerate the economy's growth and play a significant role in the well-being of Muslim societies (Raza et al., 2019).

Consumer trends in the use of digital banking are growing rapidly. More than 34 billion people worldwide (46% of the world's population) use the Internet, and the Internet is increasing by 16% each year (Internet World Stats, 2017). The use of mobile banking is widespread among the general public. The percentage of digital banking users in Asia is very high and continues to grow. By comparison, South Korea has the highest ratio at 96%, followed by Singapore at 94%, Japan at 83%, China at 57%, Malaysia at 41%, Thailand at 19%, the Philippines at 13%, and Indonesia at 36% (). Nguyen and Dan, 2018). Digital banking transactions are increasing dramatically. EDC is 5% and transactions through branches are only 4%. This figure shows that digital banking transactions have increased nearly seven-fold compared to 2010 (katadata.co.id). The sloping curve is shown in Figure 1.

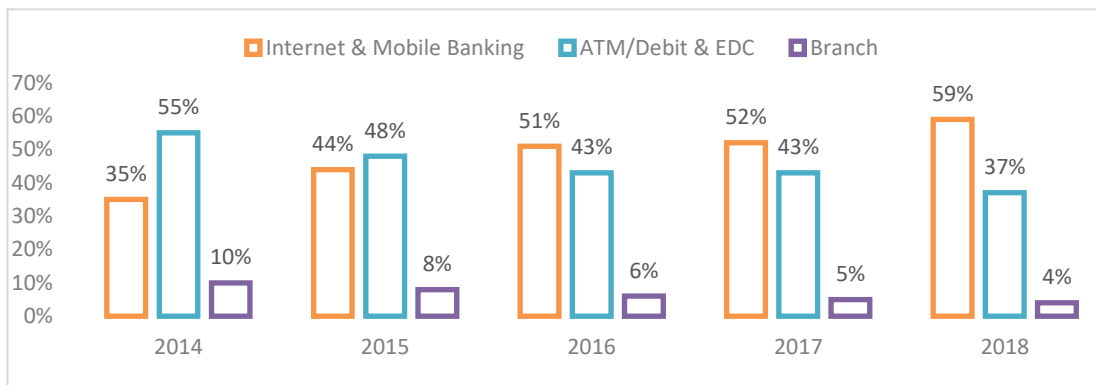


Figure 1. Banking Transactions Based on Frequency (2014 – 2018)

2.2. Customer Journey

When consumers decide to buy or not buy a product, there is a process and stages. In the world of marketing, this process known as the customer journey. The customer journey serves as a marketing tool to map and measure the impact of marketing on consumers. The stage generally consists of 5 stages known as 5 A's: aware, appeal, ask, act, and advocate. Researchers conceptualize customer experience as a customer journey with the firm overtime during the purchase cycle across multiple touchpoints. The customer experience process flows from pre-purchase to purchase to post-purchase; it is iterative and dynamic. (Lemon and Verhoef 2016). In Figure 2 the following are the stages in the customer journey along with suitable strategies to optimize marketing.

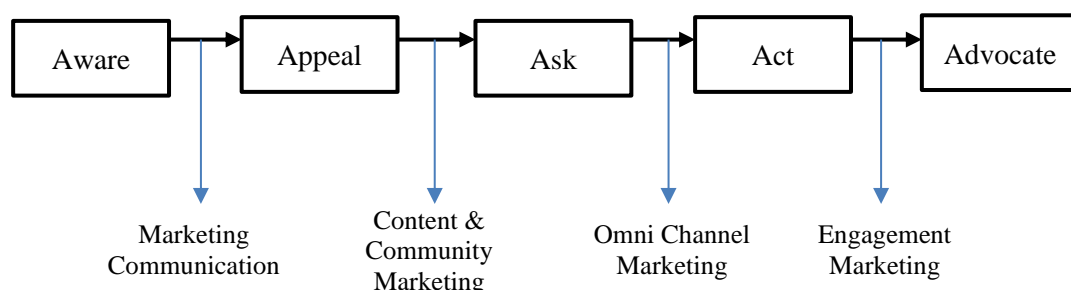


Figure 2. Process Model for Consumer Journey

2.3. Technology Acceptance Model (TAM)

TAM explains that perceived ease of use (PEoU), perceived usefulness (PU), and

attitude toward the product (ATP) are factors that encourage individual acceptance of a product (Riza & Hafizi, 2019). PEOU is the ease of using a product. The more technology products are easy to use, the more satisfied users are because individuals like something instant and easy. Jung et al. (2015) state that PEOU has a positive relationship with user satisfaction. The importance of the PEOU factor in influencing user perceptions is a reference for business owners to create innovative products that are easy to use. In addition, PEOU is also a determinant of perceived usefulness (PU). PU is the benefit/usability of a product in meeting user needs. When individuals feel that a Digital Banking or fintech product is an easy-to-use product, they will assume a product is useful (Aji et al., 2020; Riza, 2019). The perception of benefits arises when they can operate Digital Banking.

However, empirical studies on the adoption of digital banking have been carried out by researchers. Bashir and Madhavaiah (2015) examine consumer attitudes and intentions to use internet banking in India; Mansour et al. (2016) regarding consumer attitudes towards sharia banking e-banking in Sudan; Nguyen and Dang (2018) about the condition of digital banking in Vietnam.

However, research on digital banking in Islamic banking in Indonesia still needs to be improved, especially for the millennial generation. Because the use of digital banking in Islamic banks is still relatively new, this research can add to the wealth of literature in digital banking adoption studies. However, this study has fundamental differences in methodology and context, whereas previous research focused on researching the acceptance factors of digital banking. While in this study, researchers propose action research to get more optimal results and contribute practically and theoretically.

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Name et al. (2016) stated that the critical point of TAM PEOU emphasizes the level of individual belief that using mobile banking is not a difficult thing but is practically easy to use (Davis, 1989). Furthermore, the use of mobile banking will encourage an increase in PU. The level of individual belief that mobile banking products can improve their performance is influenced by the ease of operating the product (PEoU). The results of previous research conducted by Wixom & Todd (2005) and Shipps & Phillips (2012) stated that PEOU affects PU. Therefore, based on the perception that mobile banking is an easy-to-use product (PEoU), the usability (PU) of mobile banking can be felt, so the first hypothesis is formulated as follows:

H1: Perceived Ease of Use has a positive effect on customers' Perceived Usefulness in using digital banking in Islamic banks

TAM describes two specific constructs that influence attitudes: PEOU and PU (Chen, 2016). Acceptance of the new mobile banking technology is explained in the attitude of individuals to use the product. PEOU emphasizes the effort needed to use mobile banking products, while PU is the level of usability of mobile banking (Kim et al., 2016). These two factors become determinants of individual attitudes in mobile banking. Attitudes are generally positive or negative feelings and judgments when individuals use new technology (Ajzen, 2002; Halilovic & Cicic, 2011). When an individual has a highly positive attitude towards the new technology, the intention to use the product will be high. Chuang et al. (2016) stated that PEOU and PU influence attitudes. These results are in line with the results of research conducted by Nam et al. (2016), Wixom & Todd (2005), and Shipps & Phillips (2012), which state that PEOU and PU are positively related to attitudes. Increasing

the desire to use mobile banking requires users' belief that mobile banking is an easy-to-use and valuable product (Davis 1986, 1989). The higher the PEOU and PU in mobile banking, the higher the individual's upbeat assessment of the product. Users believe that mobile banking is easy to use and valuable in solving financial problems, thereby helping to improve user attitudes towards mobile banking services (Chuang et al., 2016). Based on the TAM model and the results of previous research, PEOU and PU have a positive effect on attitudes, so the hypothesis is formulated as follows:

H2: Perceived Ease of Use has a positive effect on the Attitude Toward Product of Islamic bank digital banking

H3: Perceived Usefulness has a positive effect on the Attitude Toward Product of Islamic banking digital banking

H4: Attitude Toward Product positively affects the Intention to Use digital banking in Islamic banks.

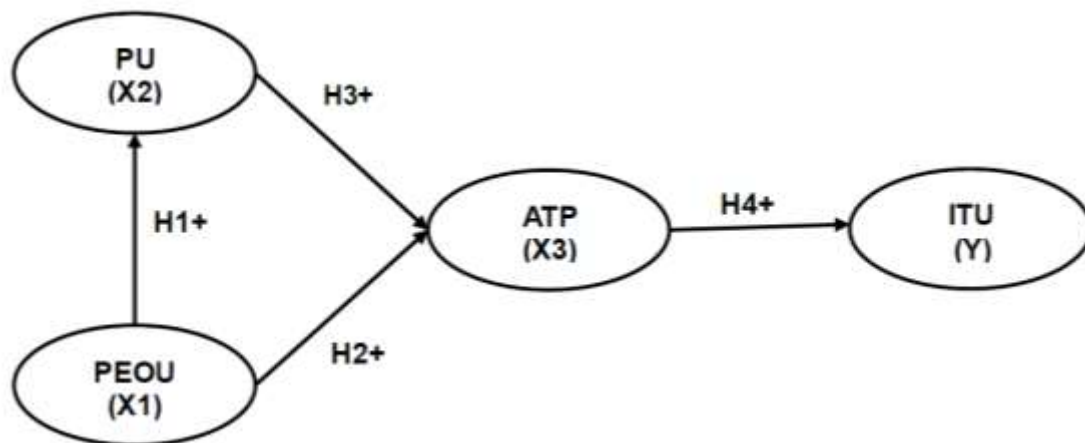


Figure 3. Research Model

3. IMPLEMENTATION METHOD

This research uses surveys to measure an individual's perception of the digital banking they use. This study is quantitative and descriptive. The variables in this study were PEOU, PU, and ATP (Mobile Banking User Attitude). This study uses primary data. NS. Quantitative data was obtained directly from respondents. After receiving the data, the next step is to process the data using a statistical test and interpret the results (Cooper & Schindler, 2011).

The population of this survey is mobile banking users of the Islamic Bank of Indonesia. This study uses a targeted sampling method. This method was chosen to attract respondents who matched the criteria set by the researcher depending on what they wanted to study. The respondents' criteria used in this survey were those who have used mobile banking at Islamic banks. Mobile banking users participating in this survey will receive tools to measure their views on PEOU, their products in connection with PU, and their attitudes towards mobile banking products. The Technology Acceptance Model (TAM) is a construct that describes several factors that make people feel the benefits of using a product. TAM explains that perceived ease of use (PEoU), usefulness (PU), and attitude drive personal product acceptance. PEoU is the ease of use of the product, PU is the ease of use of the product, and attitude is the individual evaluation of the use of the product. The variables of TAM (PEoU, PU, ATP) are Davis (1989), Davis et al. (1989), Mathieson (1991), and Hu et al. (1999) was measured using the equipment developed. PEoU and PU were measured in 6 questions each, and attitude was measured in 3 questions. Each variable was measured on a 5-point Likert scale.

This research model was tested with the Structural Equation Model (SEM). SEMs are used to interpret measurement models' reliability and validity and evaluate structural models to ensure that constructive measurements are valid and reliable before drawing conclusions. SEM allows researchers to test one model at a time, making processing the data and conclusions easier. The structural model was evaluated by examining the value of R² and the size of the structural path coefficients (Hartmann et al., 2010). The significance level and beta value of each relational variable to be tested can be confirmed based on the structural model so that conclusions can be drawn about the proposed hypothesis.

4. RESULT AND DISCUSSION

Respondents in this study were 510 users of mobile banking applications in Islamic banks in Indonesia. Respondents filled out a questionnaire via Google Forms propagated using social media. The demographic information of respondents in this study can be seen in Table 1 below. The table shows that the distribution of the respondents was demographically fairly evenly in all walks of society regarding gender, age, education, occupation, and income. Data from this study also shows the

Table 1. Demographic of Respondent

Variable	Description	Percentage
Gender	Male	43,9%
	Female	56,1%
Age	≤ 20	10,6%
	21 – 30	81,8%
	31 – 40	5,5%
	≥ 40	2,2%
Education	High School/Equivalent	37,3%
	D3/S1	58,2%
	S2/S3	3,1%
	Others	1,4%
Work	Student	68%
	Private sector employee	9,4%
	PNS/POLRI/BUMN	13,5%
	Professional	3,1%
	Self-employed	3,3%
	Others	2,5%
Income	< IDR.1.500.000	64%
	IDR.1.500.001-IDR.3.000.000	23,9%
	IDR.3.000.001-IDR.6.000.000	6,9%
	IDR.6.000.001-IDR.10.000.000	3,1%
	>IDR.10.000.000	2%
Islamic Bank	BSI (Ex.BSM)	36,9%
	BSI (Ex.BRIS)	23,3%
	BSI (Ex.BNIS)	26,5%
	Muamalat	4,7%
	BTN Syariah	0,8%
	Bukopin Syariah	0,6%
	CIMB Syariah	0,4%
	Other Banks	1,2%
Using Duration	6 month – 1 year	23,7%
	1 year – 2 years	39,8%
	2 years – 3 years	23,7%
	>3 years	12,7%

Before testing the hypothesis, it is necessary to test the reliability and validity of the research instrument so that the data obtained are reliable and valid (Cooper & Schindler, 2011). They then tested confirmatory factor analysis (CFA) to see whether the factors were appropriate. Table 2 shows that all variables in this study are reliable, with Cronbach α values for PU equal to 0.935, PEOU 0.947, ATP 0.986 and ITU 0.933. also, the validity of the test showed a good value with a value of 0.965 KMO, and Barlett's Test was 3167.318 with a significance level of 0.000. then, each variable instrument concentrated on each of the factors that have been tested using

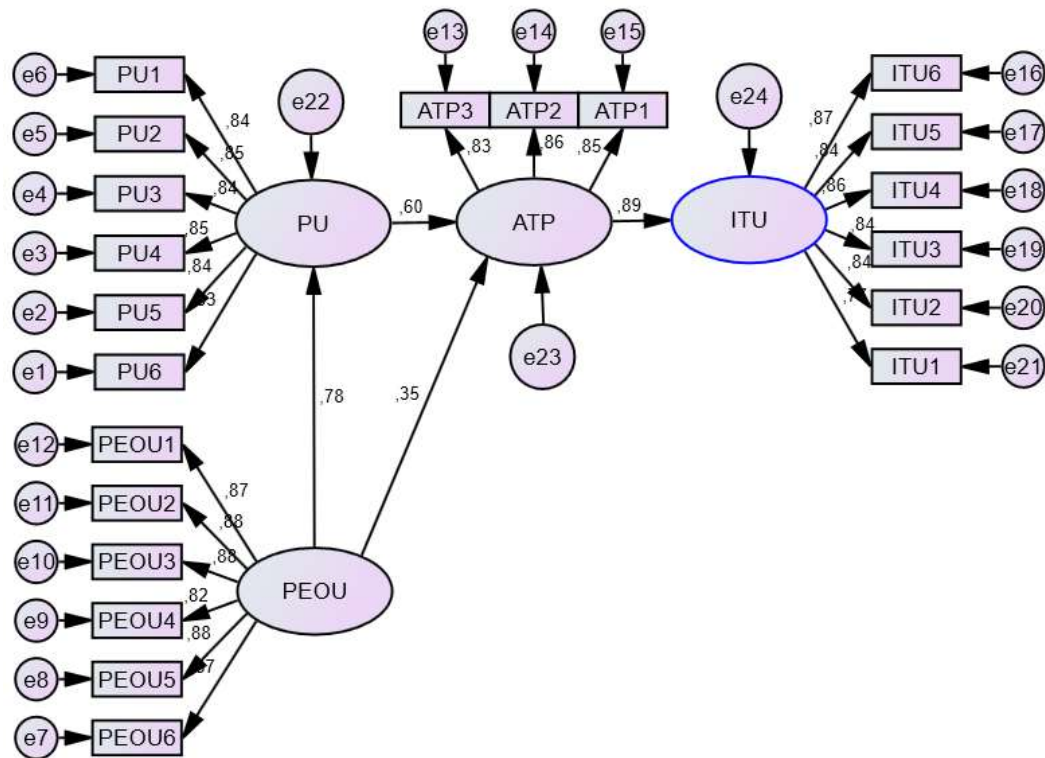
Table 2. Factor Analysis and Results Measurement Item

Code	Variable Items	Loading	Cronbach α
<i>Perceived Ease of Use (PEoU)</i>			0,947
PEOU1	It is easy for me to learn to operate Sharia Digital Banking Bank X	0,808	
PEOU2	It is easy for me to operate Sharia Digital Banking Bank X according to my needs	0,799	
PEOU3	It is easy for me to understand the use of Bank Syariah X's Digital Banking	0,803	
PEOU4	I feel that Bank Syariah X's Digital Banking is flexible to use	0,670	
PEOU5	It is easy for me to master the use of Bank Syariah X Digital Banking	0,756	
PEOU6	Overall, Digital Banking Bank Syariah X is easy to use		
<i>Perceived Usefulness (PU)</i>			0,935
PU1	Sharia Digital Banking X allows me to finish work faster	0,700	
PU2	Using Sharia Digital Banking X can improve my performance	0,786	
PU3	Using Sharia Digital Banking X can increase my productivity	0,731	
PU4	Using Sharia Digital Banking X can increase the effectiveness of my activities/business	0,747	
PU5	Using Sharia Digital Banking X makes it easier for me to do activities/business.	0,691	
PU6	Overall, Sharia Digital Banking X helps complete my work	0,691	
<i>Attitude Toward Product (ATP)</i>			0,986
ATP1	Using Sharia Digital Banking X for my work/business is a great idea	0,710	
ATP2	Using Sharia Digital Banking X for my work/business is a wise thing	0,675	
ATP3	Using Sharia Digital Banking provides benefits for my work/business	0,670	
<i>Intention to Use (ItU)</i>			0,933
ITU1	I will use Sharia Digital Banking X if it can be used where I work	0,551	
ITU2	I will use Sharia Digital Banking X in my work as often as possible when needed	0,724	
ITU3	I will use Sharia Digital Banking X in my work regularly	0,794	
ITU4	If possible, I will use Sharia Digital Banking X in my work	0,712	
ITU5	If possible, I will use Sharia Digital Banking X for other things outside of my job	0,636	
ItU6	If possible, I will use Sharia Digital Banking X in my work regularly	0,773	
KMO	0,965		
Barlett's Test	Sig. 0,000		

Model and Hypothesis Testing

The model test and test hypotheses are analyzed using SEM with AMOS statistical tools. The SEM output is analyzed for simultaneous viewing of a research model and assessing the association of each variable. Based on the output, draw conclusions related to the hypothesis. The results of the measurement model in this study can be seen in Figure 4 below.

Figure 4. Structural Equation Modeling (SEM)



Measurement of the goodness of fit (GOF) in a research model is relative. Using multiple index GOF allows researchers to get an acceptance of the proposed model (Hair et al., 2010, hlm.665). The size of the GOF shows how well the model derived generates a covariance matrix between the variable indicators. The GOF values in this study are as follows: Chi-square value of 768.067 minor, marginal CFI value is 0.944, the value of the marginal TLI is 0.936, while the value of CMIN / df good that is equal to 4,152. Based on the estimation Maximum Likelihood SEM techniques, all of these hypotheses were empirically supported, and the third hypothesis in this study was supported significantly and had a positive effect.

**Table 3. Values Significance Loading and Structural Relationship
Between Constructs**

Effect	Estimate	Critical Ratio	Standardized Regression	P Value	Exp
PEOU => PU	0,765	17,921	0,775	0,000	Significant
PEOU => ATP	0,320	7,462	0,347	0,000	Significant
PU => ATP	0,558	11,724	0,596	0,000	Significant
ATP => ITU	1,055	20,890	0,890	0,000	Significant

Discussion

This study confirms previous research on the perceptions of ease and benefits on

attitudes toward digital banking products. The study also measures consumer acceptance of digital banking, proxied by the Technology Acceptance Model (TAM). The TAM model aims to predict user acceptance of a technology (Hu et al., 1999; Svendsen et al., 2013; Chuang et al., 2016). Digital banking is generally believed to affect profitability and performance positively (Mansour et al., 2016). Digital banking and finance are essential in the industrial revolution 4.0 (Nguyen & Dang, 2018).

Based on data from Market Force 2015 in Wewege (2017), three main reasons consumers switch providers bank is:

1. Because of the lower cost, which is about 45%.
2. They are not satisfied with bank services 36%.
3. The bank does not help improve the welfare of customers.

As for now, mobile banking applications have revolutionized the way consumers interact with the bank. Consumers can check balances, transfer, make payments, and other services with just a mobile banking application. People love the ease, with mobile banking services will improve satisfaction. With mobile banking, transactions have become more effective and efficient. This has the potential to improve the welfare of the customers because transactions can be done quickly and cheaply.

To reconfirm this, researchers gave an open question to respondents to assess their perceptions of mobile banking is used. Then, a respondent's answers are grouped by similarity/core similarity of responses. Open questions are used to explore the reasons respondents use mobile banking. The response of various researchers classify them into five factors, namely:

- Facilitate transaction/business (54%)
- Effective and Efficient (by 16%)
- Practical / Simple (15%)
- Flexible (6%)
- Another reason (by 9%)

Most respondents use digital banking because it allows a business or transaction activity. Many respondents also feel the benefits of mobile banking, such as Effective,

Efficient, practicality and flexibility. Other interesting findings in this study were that almost all respondents answered Yes when asked whether mobile banking supports the ease of doing business or my job. This means that digital banking users in Indonesia have a positive attitude towards mobile banking and Islamic banks.

From the consumer's perspective, digital banking is an opportunity for the Islamic finance industry. However, digital banking will quickly transform and bring new challenges to the Islamic finance industry. Ito et al. (2017) stated that the banking industry is transformed into six areas, namely:

- Banking Clients in 2025, namely, empowerment robot and advisor clients digitally.
- Banking Operating Models in 2025 Namely, banking operations will be marked with AI regarding automation, cooperation, and industrialization.
- Banking Models Revenue 2025we will see a revenue model of banking is very new compared to the existing ones.
- Digital Banking Platforms 2025banking platform will open and can be operated from the front office to the back office.
- Data-Driven Banking 2025database (big data) banking system will allow banks to develop new business models and products to optimize banking processes.
- Banking Value Chain 2025 there would be no banking value chain isolated because there will be a cross-industry ecosystem.

With the rapid transformation, stakeholders in the Islamic finance industry must prepare well and be responsive to industry changes in 4.0 are growing very fast. Because the bank's transformation will present a significant challenge to the status quo, there is a more excellent opportunity for Islamic financial institutions to be market leaders. To take this opportunity, Islamic financial institutions must be prepared to create (1) Digital Ecosystem Bank to collaborate with business start-ups and fintech by applying Digital Banking Model. (2) Implement Digital Blockchain Bank (3) Use the Digital Custody and transaction Bank as the core of excellence (4) Increase banking capabilities based on IT infrastructure, namely the Digital Advisory Bank (Gasser et al.,2017).

5. CONCLUSION

This research studied the perceptions and attitudes towards digital banking on Islamic banking. Researchers tried to measure consumer acceptance of digital banking, proxied by the Technology Acceptance Model (TAM) introduced by Davis (1986). TAM aims to predict user acceptance of the technology.

TAM is widely applied to understand individual attitudes towards using new technology or to predict the adoption and use of information technology. TAM explained that an individual's belief influences the acceptance of new technologies, described by two variables: PEOU and PU. PEOU indicates the cognitive effort required to learn and use information technology products. In comparison, PU measures the individual's subjective assessment of the utility of new information technology products.

Based on the estimation Maximum Likelihood SEM techniques, all of these hypotheses were empirically supported, and the third hypothesis in this study was supported significantly and had a positive effect. Open questions are used to explore the reasons respondents use mobile banking. The response of various researchers classify them into five factors, namely: 1) Ease of 2) Effective and Efficient, 3) Practical, 4) Flexible 5) other factors.

From the consumer's perspective, digital banking is an opportunity for the Islamic finance industry. Nevertheless, digital banking will transform very quickly and bring new challenges where the banking industry is transformed into six areas, namely: 1) Banking Clients, 2) Banking Operating Models, 3) Banking Models Revenue, 4) Banking Digital Platforms, 5) Data-Driven Banking 6) Banking Value Chain.

The results of this study can be used as a reference for the Islamic finance industry stakeholders in determining the strategy and preparing policies to face the rapid transformation. In each challenge facing Islamic financial institutions, some opportunities can be taken to be a market leader. This is because of the era of disruption not only now, but still, there are eras of disruption again in the future, which promises success for its market leader. Because the bank's transformation will present a significant challenge to the status quo, there is a more excellent opportunity for Islamic financial institutions to be market leaders. Islamic financial institutions must be prepared to create innovative and creative strategies to take this opportunity.

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