



# Analysis of Factors Affecting Behavioral Intention and Use of Behavioral of Mobile Banking Using Unified Theory of Acceptance and Use of Technology 2 Model Approach

Maja Iskandar<sup>1\*</sup>, Hartoyo Hartoyo<sup>2</sup>, Irman Hermadi<sup>3</sup>

<sup>1</sup>Master Graduate School of Business, IPB University, Indonesia, <sup>2</sup>School of Business, IPB University, Indonesia, <sup>3</sup>Department of Computer Science, IPB University, Indonesia. \*Email: [majaiskandar@gmail.com](mailto:majaiskandar@gmail.com)

Received: 24 December 2019

Accepted: 16 February 2020

DOI: <https://doi.org/10.32479/irmm.9292>

## ABSTRACT

The percentage of mobile banking users is currently lower than the number of active internet users with smartphones in Indonesia. The current study extends the Unified Theory of Acceptance and Use of Technology 2 by adding two important factors, perceived risk and observability. The purpose of this study is to investigate the factors influencing behavioural intention and use behaviour of Mobile banking by customers of Indonesian. Data was collected by conducting an online survey questionnaire completed by 360 respondents. The authors analysed the model through structural equation modelling LISREL. The results showed observability, performance expectation, hedonic motivation, facilitating conditions as positive and significant of behaviour intentions. The perceived risk, and price value indicated negative and significant in explaining behaviour intention. Behavioral intention and experience has positive and significant to use behavior mobile banking.

**Keywords:** Behavioral Intention, Mobile Banking, Observability, Perceived Risk, SEM, Unified Theory of Acceptance and Use of Technology 2

**JEL Classifications:** C31, G02, G21

## 1. INTRODUCTION

The use of digital technology especially the internet, has become a part of lifestyle in society, the growth of internet users in Indonesia in 2017 amounted to 143.26 million people, as much as 44.16% conducted internet activities using smartphones and 39.28% using a combination of smartphones and computers, as well as from the number of users who use the internet in the economic sector for new banking activities by 7.39% (APJII, 2017).

Mobile banking is a form of internet-based banking activity model through wireless devices and a service that enables bank customers to conduct banking transactions via smartphones, this mobile banking service can be used by using the menus available on the SIM (Subscriber Identity Module) Card, USSD (Unstructured Supplementary Service Data), or through applications that can be downloaded and installed by customers (OJK, 2015). The ease

of use and the widespread availability of cellular communication has led to the phenomenal growth of financial transactions in rural and urban areas, especially in many developing countries in Asia (Misra and Bisht, 2013).

The emergence of new competitors, which is financial technology companies have an impact on banking industry transactions. The effect is a change in customer behavior from conventional activities such as visiting bank offices, switching to digital transaction activities. The percentage of internet users to access banking services is 7.39% and percentage of those conducting banking transactions on mobile banking has only reached 17.04% (APJII, 2017).

Based on data from one national private bank as of March 2019, from 4.2 million retail banking customers registered in the mobile banking application at 18.5% and those actively using

mobile banking application just counted at 41.4% of registered customers or only 7.7% of total customers. The number of carried out transactions was 1.63 million transactions and the amount of money transacted was 1656 billion rupiah.

Previous research mentioned the significant influence of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) variable on behavioral intention to use mobile banking. Gharaibeh et al. (2018) concluded that effort expectancy, performance expectancy, social influence, trust and mass media had a significant positive effect on the adoption of mobile banking in Jordan. Baptista and Oliveira (2015) conducted a study on behavioral intention in mobile banking in Mozambique with the results that effort expectancy, hedonic motivation and experience had a significant impact. Bhatiasevi (2015) added that the perception factor of credibility, and perceived comfort had a significant positive effect on behavioral intention to use mobile banking in Thailand in addition to the factors of effort expectancy, performance expectancy, and social influence. Al-Jabri and Sohail (2012) explained that the relative profit, compatibility and observability factors showed a significant positive impact while risk perception had a negative impact on behavioral intention in mobile banking in Saudi Arabia. Blaise et al. (2016) concluded that performance, expectation efforts, social influence, and facility conditions, perceived trust and perceived risk have a significant influence on the use of m-commerce in North America.

This study is different from previous studies, this study accommodates UTAUT2 variables and risk perception variables and observability variables from the Diffusion of Innovation theory. This study also analyzes up to the most significant indicator variable on behavioral intention.

## 2. LITERATURE REVIEW

### 2.1. Mobile Banking

The banking business is experiencing changes related to the development of technology that has an impact on shifting relationships between banking customers and banks. With the existence of digital-based service options, banking customers do not really need to conduct banking transactions directly to bank branches, but customers can take advantage of ATM services, online chat, internet banking and mobile banking (Citigroup, 2016). The integration between internet technology and mobile networks creates opportunities and new technologies in banking business services, namely mobile banking which provides a service

mechanism wherever and whenever for banking services as the use of smartphones and tablet PCs develops (Dash et al., 2014).

Tiwari et al. (2006) states that the mobile banking utility from the perspective of the bank is to:

1. Support intensive competition in the banking sector.
2. Adapting to specific target segment requirements.
3. Functioning as a distribution channel.
4. Increase the volume of sales of banking products.
5. Increase customer satisfaction.
6. As a company image product.

Mobile banking provides opportunities for banks to maintain their existing customer base, smart technology based on customer segmentation by offering innovative services that have added value.

### 2.2. UTAUT2

There are several research models developed to explain the factors that influence the interest and use of an information technology system including Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Table 1).

The UTAUT was developed comprehensively from the eight theoretical perspective models (Venkatesh et al., 2003). Extending theory to study the context of developing applications and services from technologies that target consumers, modifying some of the relationships that already exist in the UTAUT model concept and introducing new relationships, then added three new constructs namely hedonic motivation, price values and habits (Venkatesh et al., 2012). The main purpose of UTAUT2 is to complete the better construct so that it can explain the emerging technology can increase the use of technology for users. Venkatesh et al. (2012) stated that UTAUT2 created an important increase in the variables explained in the use of technology by 56% to 74%.

The constructor of the UTAUT2 Model consists of:

1. Performance Expectancy is the level of individual confidence that through the system usage can help him obtain performance gains in his activities (Venkatesh et al., 2003).
2. Effort Expectancy is defined as the ease of use of a system that can reduce effort and time effort in activities (Venkatesh et al., 2003).
3. Social Influence is the level of trust in the social environment that convinces individuals to use the new system (Venkatesh et al., 2003).

**Table 1: List of technology acceptance theories**

Theory	Abbreviation	Initiator	Year
Theory of reasoned action	TRA	Ajzen and Fishbein	1975
Innovation diffusion technology	IDT	Rogers	1983
Social cognitive theory	SCT	Bandura	1986
Theory of planned behavior	TPB	Davis et al.	1989
Model of PC utilization	MPUC	Thompson et al.	1991
Motivational model	MM	Davis et al.	1992
Technology acceptance model	TAM	Taylor and Todd	1995
Combined TAM and TPB	C-TAM-TPB	Taylor and Todd	1995
Unified theory of acceptance and use of technology	UTAUT	Venkatesh et al.	2003
Unified theory of acceptance and use of technology 2	UTAUT2	Venkatesh et al.	2012

4. Facilitating Conditions, namely a level of trust of an individual if the organization and existing technical infrastructure can support the use of a technological system (Venkatesh et al., 2003).
5. Hedonic Motivation is pleasure derived from the use of technology and determine its adoption and usage (Brown and Venkatesh, 2005).
6. Price is the perception of the gap between the benefit of using technology and the rates charged (Dodds et al., 1991).
7. Habit (Habit) is the extent to which a person tends to behave automatically due to previous learning (Limayem et al., 2007).

### 2.3. Diffusion of Innovation (DOI)

DOI theory contributes by examining innovation and the success of technology dissemination through more appropriate indicators of consumer behavior, and trying to explain how, why, and at what level the new technology idea spreads and a process when an innovation is communicated from time to time in social systems (Rogers, 2003).

There are five attributes, namely:

1. Relative Advantage: relative advantages that result in increased efficiency, economic benefits and increased status.
2. Complexity: How relatively difficult an innovation can be understood and used.
3. Compatibility: Important features of innovation as adjustments to the lifestyle of users that can drive increased adoption quickly.
4. Observability: Describes the extent to which an innovation is seen by members of the social system, and its benefits can be easily observed and communicated
5. Triability: The extent to which an innovation can be tested before the commitment of potential users to adopt the innovation is made.

### 2.4. Risk Perception

Risk perception is an attribute that refers to the level of risk in using an innovation (Ram and Sheth, 1989). Risk should be considered as one of the biggest concerns in the adoption and use of mobile banking services (Chen, 2013). Despite the success of mobile phones, researchers believe that mobile banking customers experience many types of risks (Agu et al., 2016). Banks need to take serious and urgent steps to respond complaints and provide special guarantees in reducing risk perceived by customers (Al-Jabri and Sohail, 2012).

### 2.5. Experience

Experience is how much or how often someone uses certain technology. Previous experience is a determinant of behavior, there is a significant difference between experienced users and users who are not experienced in the influence of behavioral factors (Ajzen and Fishbein, 1975). Venkatesh et al. (2012) defines experience as an opportunity to use a technology product and is generally formed from individual operational activities along with the passage of time using that technology product. Increased experience and routine behavior leading to the habit of using technology products can be a support in maintaining and increasing the actual use of technology products (Albashrawi, 2017). Agarwal and Prasad

(1999) explain the existence of a strong relationship between previous individual experiences with similar technology and individual behavior to use the technology.

## 3. METHODOLOGY

This study uses non-probability techniques by sampling according to the purpose (purposive sampling). The sample selection is based on certain characteristics that are already known before, which are banking customers who have opportunity to use mobile banking and are domiciled in Indonesia.

Primary data in this study were obtained from distributing questionnaires by online using Google forms. The questionnaire was designed into two parts, the first section about general data and profile of respondents including gender, age, level of education, location, length of time using mobile banking, and the number of mobile banking applications used. In the second part questions about the variables to be analyzed. The scale used is the Likert scale approach with a Likert scale ranging from 1 to 5.

Model used is a combination of UTAUT2 with observability characteristics from DOI theory, as well as perceived risk. The combination of these models are based on the assumption that acceptance of technological concepts which is complex phenomenon and requires more than one model (Shen et al., 2010) and will be able to strengthen the significance and predictions of the results obtained (Oliveira et al., 2016). Figure 1 explains the SEM-LISREL research model.

Structural model:

$$\eta_1 = \gamma_{11}\xi_1 + \gamma_{12}\xi_2 + \gamma_{13}\xi_3 + \gamma_{14}\xi_4 + \gamma_{15}\xi_5 + \gamma_{16}\xi_6 + \gamma_{17}\xi_7 + \gamma_{18}\xi_8 + \zeta_1$$

$$\eta_2 = \gamma_{29}\xi_9 + \beta_{21}\eta_2 + \zeta_2$$

Calculation model for X:

$$PE_1 = \lambda PE_{11}\xi_1 + \delta_1; PE_2 = \lambda PE_{21}\xi_1 + \delta_2; PE_3 = \lambda PE_{31}\xi_1 + \delta_3;$$

$$PE_4 = \lambda PE_{42}\xi_1 + \delta_4$$

$$EE_1 = \lambda EE_{12}\xi_2 + \delta_5; EE_2 = \lambda EE_{22}\xi_2 + \delta_6; EE_3 = \lambda EE_{32}\xi_2 + \delta_7;$$

$$EE_4 = \lambda EE_{42}\xi_2 + \delta_8$$

$$SI_1 = \lambda SI_{13}\xi_3 + \delta_9; SI_2 = \lambda SI_{23}\xi_3 + \delta_{10}; SI_3 = \lambda SI_{33}\xi_3 + \delta_{11}$$

$$FC_1 = \lambda FC_{14}\xi_4 + \delta_{12}; FC_2 = \lambda FC_{24}\xi_4 + \delta_{13}; FC_3 = \lambda FC_{34}\xi_4 + \delta_{14};$$

$$FC_4 = \lambda FC_{44}\xi_4 + \delta_{15};$$

$$HM_1 = \lambda HM_{15}\xi_5 + \delta_{16}; HM_2 = \lambda HM_{25}\xi_5 + \delta_{17}; HM_3$$

$$= \lambda HM_{35}\xi_5 + \delta_{18}$$

$$PV_1 = \lambda PV_{16}\xi_6 + \delta_{19}; PV_2 = \lambda PV_{26}\xi_6 + \delta_{20}; PV_3 = \lambda PV_{36}\xi_6 + \delta_{21}$$

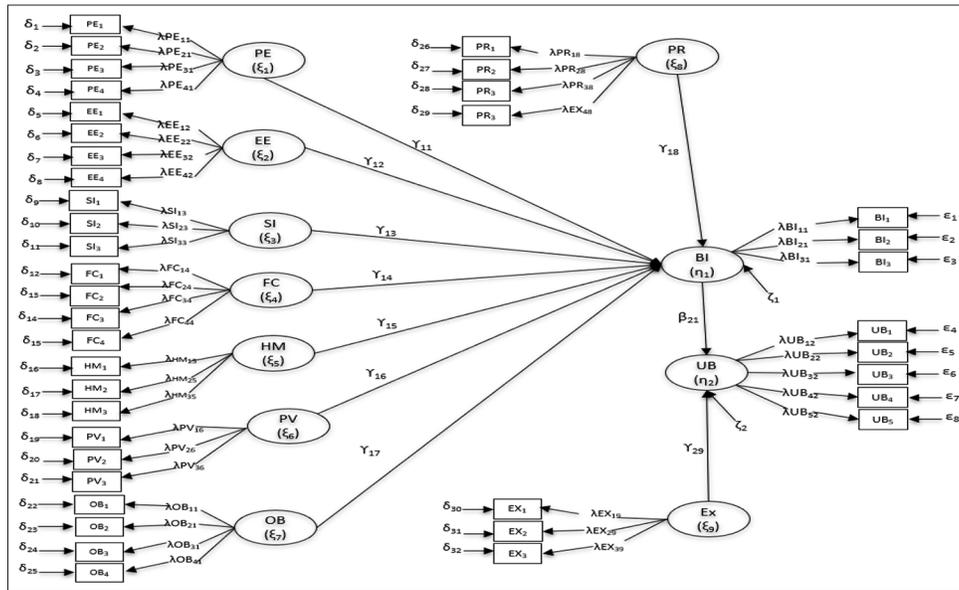
$$OB_1 = \lambda OB_{17}\xi_7 + \delta_{22}; OB_2 = \lambda OB_{27}\xi_7 + \delta_{23}; OB_3 = \lambda OB_{37}\xi_7 + \delta_{24};$$

$$OB_4 = \lambda OB_{47}\xi_7 + \delta_{25}$$

$$PR_1 = \lambda PR_{18}\xi_8 + \delta_{26}; PR_2 = \lambda PR_{28}\xi_8 + \delta_{27}; PR_3 = \lambda PR_{38}\xi_8 + \delta_{28};$$

$$PR_4 = \lambda PR_{48}\xi_8 + \delta_{29}$$

Figure 1: Research model



$$EX_1 = \lambda EX_{19} \xi_9 + \delta_{30}; EX_2 = \lambda EX_{29} \xi_9 + \delta_{31}; EX_3 = \lambda EX_{39} \xi_9 + \delta_{32}$$

Calculation model for Y:

$$BI_1 = \lambda BI_{11} \eta_1 + \varepsilon_1; BI_2 = \lambda BI_{21} \eta_1 + \varepsilon_2; BI_3 = \lambda BI_{31} \eta_1 + \varepsilon_3$$

$$UB_1 = \lambda UB_{12} \eta_2 + \varepsilon_4; UB_2 = \lambda UB_{22} \eta_2 + \varepsilon_5; UB_3 = \lambda UB_{32} \eta_2 + \varepsilon_6; UB_4 = \lambda UB_{42} \eta_2 + \varepsilon_7; UB_5 = \lambda UB_{52} \eta_2 + \varepsilon_8$$

Explanation of the operational variables used in this study are as follows:

1. Performance expectancy (Venkatesh et al., 2012)
  - a. Using mobile banking has the benefit of completing the payment process (PE1).
  - b. Using mobile banking will complete the payment process quickly (PE2).
  - c. Using car banking simplifies, helps, or supports work (PE3).
  - d. Using mobile banking will improve performance (PE4).
2. Effort expectancy (Venkatesh et al., 2012)
  - a. Learning how to use mobile banking is easy (EE1).
  - b. Interact with mobile banking clearly so that it can be understood (EE2).
  - c. Easy to become skilled in using mobile banking (EE3).
  - d. Mobile banking is easy to use (EE4).
3. Social influence (Venkatesh et al., 2012)
  - a. An important person for me thinks that I should use mobile banking services (SI1).
  - b. People who influence my behavior think that I had to use mobile banking services (SI2).
  - c. The use of mobile banking services is a status symbol in the environment (SI3).
4. Acilitating condition (Venkatesh et al., 2012)
  - a. Have the knowledge needed to use mobile banking services (FC1).

- b. Have the knowledge needed to use mobile banking (FC2) services.
  - c. Mobile banking is compatible with other technologies used (FC3).
  - d. Can get help from others when having difficulties using mobile banking (FC4).
5. Hedonic motivation (Venkatesh et al., 2012)
    - a. Using mobile banking is fun (HM1).
    - b. Using mobile banking services is entertaining (HM2).
    - c. Using mobile banking services is very convenient (HM3).
  6. Price value (Venkatesh et al., 2012)
    - a. The cost of using mobile banking is cheap (PV1).
    - b. The cost of using mobile banking is reasonable (PV2).
    - c. The cost of using mobile banking, according to the benefits obtained (PV3).
  7. Observability (Al-Jabri and Sohail, 2012)
    - a. Mobile banking can be accessed anywhere or anytime in the territory of Indonesia (OB1).
    - b. Mobile banking does not have a queue (OB2).
    - c. Mobile banking can immediately see the effect of the transaction (OB3).
    - d. Friends around me discuss the use of mobile banking (OB4).
  8. Perceived risk (Al-Jabri and Sohail, 2012)
    - a. The emergence of misuse of important personal or financial information when using mobile banking (PR1).
    - b. Mobile banking is likely to be an error, thereby creating problems with the transaction (PR2).
    - c. Using mobile banking for bill payments, the potential for fraud (PR3).
    - d. Mistakes when using mobile banking can cause financial losses (PR4).

9. Experience (Venkatesh et al., 2012 and Albashrawi (2017))
  - a. Have a lot of experience in using mobile banking (EX1).
  - b. Has long used mobile banking (EX2).
  - c. When using mobile banking, attention is focused on my online banking activities (EX3).
10. Behavioral intention (Venkatesh et al., 2012)
  - a. Want to know more about mobile banking (BI1).
  - b. Intend to continue to use mobile banking in the future (BI2).
  - c. Planning to conduct transactions on mobile banking (EX3).
11. Use behavior (Venkatesh et al., 2012)
  - a. Mobile banking users (UB1).
  - b. Use mobile banking to check accounts (UB2).
  - c. use mobile banking to transfer money (UB3).
  - d. use mobile banking for payment transactions (UB4).
  - e. use mobile banking for investment transactions (Mutual Funds, Bonds) (UB5).

### 3.1. Hypothesis

To answer the problem in this study, the authors propose a research hypothesis:

1. H<sub>1</sub>: Observability has a significant positive effect on behavioral intention
2. H<sub>2</sub>: Performance Expectancy has a significant positive effect on behavioral intention.
3. H<sub>3</sub>: Effort Expectancy has a significant positive effect on behavioral intention.
4. H<sub>4</sub>: Social Influence has a significant positive effect on behavioral intention.
5. H<sub>5</sub>: Facilitating Condition has a significant positive effect on behavioral intention.
6. H<sub>6</sub>: Hedonic Motivation has a significant positive effect on behavioral intention.
7. H<sub>7</sub>: Price Value has a significant positive effect on behavioral intention
8. H<sub>8</sub>: Perceived Risk has a significant negative effect on behavioral intention.
9. H<sub>9</sub>: Behavioral intention has a significant positive effect on use behavior.
10. H<sub>10</sub>: Experience has a significant positive effect on use behavior.

Data processing that carried out was descriptive analysis, analysis by SEM-LISREL method and priority determination stage. The application software used was LISREL 8.80. The stage of determining priority indicators for behavioral intention was done using quadrant charts as in the Importance Performance Analysis technique (Martilla and James, 1977). The X-axis determines the average range of respondents' perceptions on the questionnaire indicator, while the Y-axis determines the loading factor of the indicator.

## 4. RESULT AND DISCUSSION

The results of the distribution of questionnaires produced 360 questionnaires that met the completeness to be processed. The

number of male respondents was 52% and female respondents were 48%. This study grouped ages according to generations based on research by Bencsik and Machova (2016). Respondents are dominated by the range of age between 25 years and 31 years (30.6%), ages between 32 years and 38 years (25.8%), ages 18 years and 24 years (20.3%), ages between 39 years and 47 years (16.9%), and over the age of 48 years (6.4%). The education level of the largest respondents was undergraduate/bachelor graduates (S1), totaling 63.1%, while the smallest percentage was Doctoral graduates (S3) of 1.9%. Most of the respondents residing in Java with a percentage of 73.1% and followed by respondents on the island of Sumatra 15.3%, the smallest percentage of respondents was in the Maluku/Papua region (1.9%). Respondents who have used mobile banking services for 6 to 12 months is 42.8%, while respondents who have not used mobile banking services are 11.7%.

Based on Table 2, all model conformity indices have a measure of the suitability of the measurement model with a good match category, which exceeds the minimum suitability of the model.

Validity is related to whether a variable measure what should be measured (Wijanto, 2015). A variable has good validity for the construct of its latent variable, if the value of t factor loading (loading factor) is greater than the critical value ( $\geq 1.96$ ) or for practicality ( $\geq 2$ ) (Ridgon and Ferguson, 1991). Hair et al. (2010) suggest a standardized loading factor (SLF) value  $\geq 0.5$  indicates that convergent validity has either been achieved or more is expected to be SLF  $\geq 0.7$ .

Reliability is the consistency of a measurement. There are two ways in measuring reliability, the first is construct reliability (CR), which is a deciding indicator that shows whether or not convergent validity is good, the second is variance extracted (VE), which is a reflection of the total number of constructs in the observed variable explained by latent variables. Hair et al. (1998) states that a construct has a good reliability value if the value of CR  $\geq 0.70$  and the value of VE  $\geq 0.50$ .

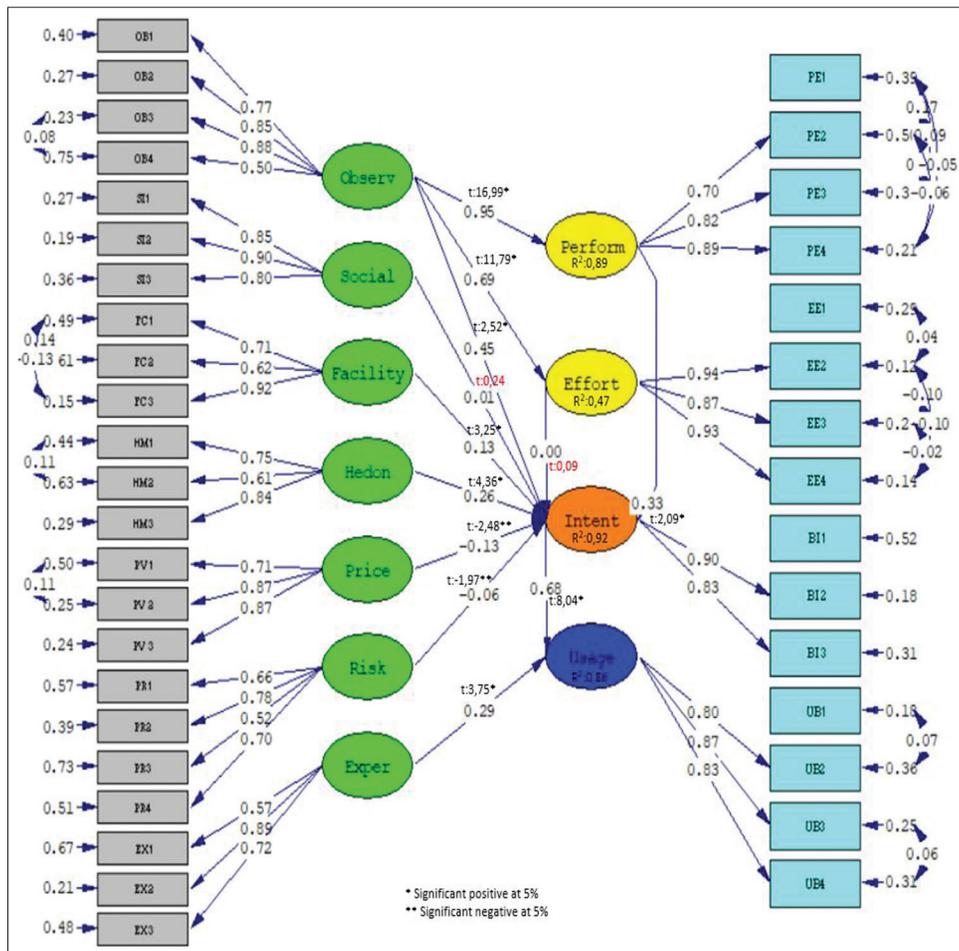
Based on Table 3, shows the validity and reliability of the model variables. Invalid indicators are FC4 and UB5 and were eliminated when calculating CR and VE. The results of the reliability evaluation of all latent variables are reliable criteria.

Figure 2 also shows the coefficient of determination between variables of the analyzed model. The coefficient of determination for the structural equation of behavioral intention toward

**Table 2: Model suitability index**

Indicator	GOF	Expected size	Result	Conclusion
SRMR		SRMR<0.08	0.05	Good fit
RMSEA		RMSEA<0.08	0.07	Good fit
NNFI		NNFI $\geq 0.90$	0.97	Good fit
NFI		NFI $\geq 0.90$	0.96	Good fit
CFI		CFI $\geq 0.90$	0.98	Good fit
RFI		RFI $\geq 0.90$	0.96	Good fit
IFI		IFI $\geq 0.90$	0.98	Good fit
Normed Chi-square		1.0<Normed Chi-square<5	2.85	Good fit

Figure 2: Standardized model and t-value model



performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, observability, and perceive risk variables is 0.92. Whereas in the variable use behavior the coefficient of determination is 0.86 for the behavioral intention and experience variables.

Structural equations

$$\begin{aligned}
 \text{Intent} = & 0.48 * \text{Observ} + 0.33 * \text{Perform} + 0.021 * \text{Effort} \\
 & (0.12) \quad (0.12) \quad (0.044) \\
 & 3.96 \quad 2.82 \quad 0.49 \\
 & + 0.022 * \text{Social} + 0.12 * \text{Facility} + 0.25 * \text{Hedon} \\
 & (0.036) \quad (0.043) \quad (0.064) \\
 & 0.62 \quad 2.78 \quad 3.86 \\
 & - 0.15 * \text{Price} - 0.079 * \text{Risk} \\
 & (0.056) \quad (0.032) \\
 & - 2.64 \quad - 2.48
 \end{aligned}$$

$$\begin{aligned}
 \text{Errorvar.} = & 0.083, R^2 = 0.92 \\
 & (0.022) \\
 & 3.70
 \end{aligned}$$

$$\begin{aligned}
 \text{Use} = & 0.66 * \text{Intent} + 0.30 * \text{Exper}, \text{Errorvar.} = 0.14, R^2 = 0.86 \\
 & (0.084) \quad (0.077) \quad (0.023) \\
 & 7.86 \quad 3.88 \quad 5.82
 \end{aligned}$$

### 4.1. Hypothesis Testing Results

Hypothesis testing in this study was conducted by evaluating the path coefficient and the calculated value for each path of the model. Testing of each path of the two latent variables will produce a value of tcount, if the tcount > 1.96 can be concluded that the influence of the variable is significant.

Based on Table 4 explains that from 10 existing hypotheses, there are 2 hypotheses that were rejected because they were insignificant (H3 and H4), and 1 hypothesis that was rejected due to a significant negative effect (H7).

### 4.2. Priority Determination

Based on the research, there are three latent variables that influence behavioral intention variables, namely observability, performance expectancy and hedonic motivation. To find out the relationship between the loading factor value and the average value of each indicator of the most influential variable, a simple mapping approach is used, such as the Importance Performance Analysis technique (Figure 3).

**Table 3: The results of the measurement model**

Latent variable		Validity evaluation			Evaluation of reliability*		
		SLF	t-value	Validity	VE	CR	Reliability
Exogenous Observability	OB1	0.80	17.74	Valid	0,59	0,85	Reliable
	OB2	0.83	18.84	Valid			
	OB3	0.87	20.18	Valid			
	OB4	0.54	10.66	Valid			
Performance expectancy	PE1	0.83	18.52	Valid	0,69	0,90	Reliable
	PE2	0.76	16.05	Valid			
	PE3	0.85	19.80	Valid			
	PE4	0.87	20.14	Valid			
Effort expectancy	EE1	0.82	18.23	Valid	0,76	0,93	Reliable
	EE2	0.83	18.07	Valid			
	EE3	0.88	19.29	Valid			
	EE4	0.95	22.08	Valid			
Social influence	SI1	0.85	19.13	Valid	0,72	0,89	Reliable
	SI2	0.90	20.67	Valid			
	SI3	0.80	17.68	Valid			
Facility condition	FC1	0.68	10.79	Valid	0,55	0,79	Reliable
	FC2	0.61	11.56	Valid			
	FC3	0.94	18.07	Valid			
	FC4	0.24	4.42	Invalid			
Hedonic motivation	HM1	0.76	15.63	Valid	0,55	0,78	Reliable
	HM2	0.61	11.56	Valid			
	HM3	0.83	17.76	Valid			
Price value	PV1	0.71	14.06	Valid	0,67	0,86	Reliable
	PV2	0.87	19.19	Valid			
	PV3	0.87	19.28	Valid			
Perceived risk	PR1	0.73	14.47	Valid	0,51	0,80	Reliable
	PR2	0.82	16.90	Valid			
	PR3	0.60	11.36	Valid			
	PR4	0.68	13.29	Valid			
Experience	EX1	0.56	11.52	Valid	0,54	0,77	Reliable
	EX2	0.88	20.06	Valid			
	EX3	0.73	15.29	Valid			
Endogenous Behavior intention	BI1	0.69	-	Valid	0,66	0,85	Reliable
	BI2	0.90	16.02	Valid			
	BI3	0.83	14.81	Valid			
Use behavior	UB1	0.90	-	Valid	0,72	0,91	Reliable
	UB2	0.80	23.43	Valid			
	UB3	0.87	23.57	Valid			
	UB4	0.83	21.58	Valid			
	UB5	0.30	5.69	Tidak valid			

\*invalid constructs are eliminated in VE and CR calculations

**Table 4: Hypothesis testing by evaluating the path coefficient and t<sub>count</sub>**

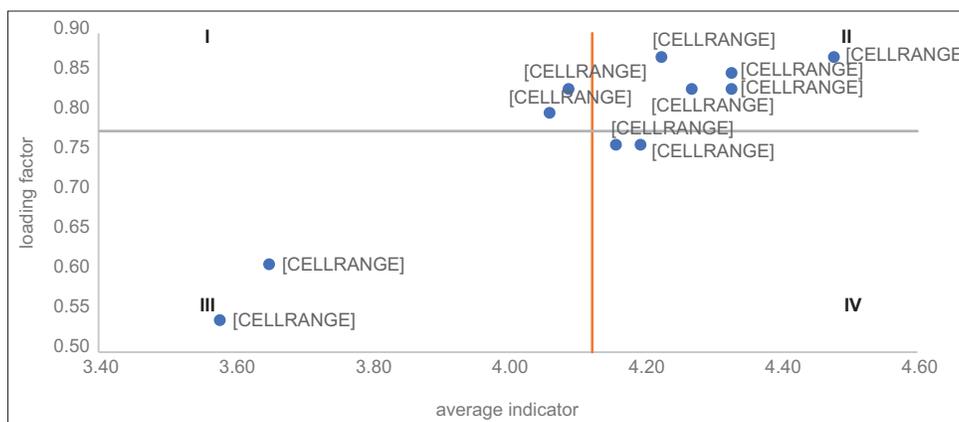
Hypothesis	Variable relationship	Path coefficient	t <sub>count</sub> *	Significant
H1	Observability→Behavioral intention	0,48	3,96	Significant
H2	Performance expectancy→Behavioral intention	0,33	2,82	Significant
H3	Effort expectancy→Behavioral intention	0,02	0,49	No significant
H4	Social influence→Behavioral intention	0,02	0,62	No significant
H5	Facilitating condition→Behavioral intention	0,12	2,78	Significant
H6	Hedonic motivation →Behavioral intention	0,25	3,86	Significant
H7	Price value→Behavioral intention	-0,15	-2,64	Significant
H8	Perceived risk→Behavioral intention	-0,08	-2,48	Significant
H9	Behavioral intention→Use behavior	0,66	7,86	Significant
H10	Experience→Use behavior	0,30	3,88	Significant

\*Significant 0,05

There are two indicators that are in quadrant I, namely HM3 (using mobile banking services is very convenient) and OB1 (can access mobile banking anywhere or anytime in the territory of Indonesia) which are priorities to be improved. In quadrant II there are five

indicators that must be maintained services namely PE1 (using mobile banking support to complete important work), PE3 (using mobile banking beneficial in daily life), PE4 (using mobile banking completes the payment process quickly), OB2 (not facing queue

**Figure 3:** Determining priority indicators



when using mobile banking) and OB3 (can immediately see the effects of transactions on mobile banking).

### 5. CONCLUSION

The conclusions of this study are as follows:

1. Behavioral intention is significantly positive influenced by the variables of observability, performance expectancy, hedonic motivation and facilitating conditions. The price value and perceive risk factors have a significant negative effect.
2. Latent variables social influence and effort expectancy do not affect behavioral intention.
3. Use behavior of mobile banking users is significantly positively influenced by behavioral intention and experience.

Based on this research, managerial implications are obtained, which the development of differentiation in HM3 indicators that makes the appearance of mobile banking more accommodating of user and application interactions (user interface/UI) and able to accommodate the experience of users who have used mobile banking applications (user experience/UX). The designed UI/UX has appropriate and simple design features but still focuses on banking transaction activities and user experience, and controls the application of multimedia. The second indicator, OB1, can be developed by increasing the ability to access mobile banking applications that can accommodate bandwidth availability. Collaboration with communication service providers can be an alternative solution.

### REFERENCES

Agarwal, R., Prasad, J. (1999), Are individual differences germane to the acceptance of new information technologies. *Decision Sciences*, 30(2), 361-391.

Agu, B.O., Simon, N.P.N., Onwuka, I.O. (2016), Mobile banking-adoption and challenges in Nigeria. *International Journal of Innovative Social Sciences and Humanities Research*, 4(1), 17-27.

Ajzen, I., Fishbein, M. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Massachusetts, US: Addison-Wesley.

Albashrawi, M.A. (2017), *Understanding Mobile Banking Usage Behavior: A Multi Model Perspective*. Massachusetts, US: University of Massachusetts Lowell.

Al-Jabri, I.M., Sohail, S.M. (2012), Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13, 379-391.

APJII. (2017), *Infografis Penetrasi dan Perilaku Pengguna Internet Indonesia*. Available from: [https://www.web.kominfo.go.id/sites/default/files/Laporan%20Survei%20APJII\\_2017\\_v1.3.pdf](https://www.web.kominfo.go.id/sites/default/files/Laporan%20Survei%20APJII_2017_v1.3.pdf). [Last accessed on 2019 Oct 10].

Bandura, A. (1986), *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.

Baptista, G., Oliveira, T. (2015), Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural models. *Computers in Human Behavior*, 50(C), 418-430.

Bencsik, A., Machova, R. (2016), *Knowledge Sharing Problems from the Viewpoint of Intergeneration Management*. 4<sup>th</sup> ed. Russia: Academic Conferences and Publishing Limited, ICM LG. p42.

Bhatiasevi, V. (2015), An extended UTAUT model to explain the adoption mobile banking. *Information Development*, 2015, 1-16.

Blaise, R., Muchnick, M., Ferreira, G., Herr, J. (2016), Mobile commerce competitive advantage: A quantitative study of variables that predict m-commerce purchase intentions. *Journal of Internet Commerce*, 17(2), 1-19.

Brown, S., Venkatesh, V. (2005), Model of adoption of technology in the household: A baseline model test and extension incorporating household life cycle. *MIS Quarterly*, 29, 399-436.

Chen, C. (2013), Perceived risk, usage frequency of mobile banking services, managing service quality. *An International Journal*, 23(5), 410-436.

Citigroup. (2016), *Annual Report*. Available from: <https://www.citigroup.com/citi/investor/quarterly/2017/annual-report>. [Last accessed on 2019 Oct 12].

Dash, M., Bhusan, P.B., Samal, S. (2014), Determinants of customers' adoption of mobile banking: An empirical study by integrating diffusion of innovation with attitude. *Journal of Internet Banking and Commerce*, 19, 1-21.

Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989), User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.

Davis, F.D., Bagozzi, R.P., Warshaw P.R. (1992), Extrinsic and intrinsic motivation to use computers in the workspace. *Journal of Applied Social Psychology*, 22(14), 1111-1132.

Dodds, W.B., Monroe, K.B., Grewal, D. (1991), Effects of price, brand, and store information on buyers. *Journal of Marketing Research*, 28(3), 307-319.

Gharaibeh, M., Gharaibeh, N., Arshad, M.R.M. (2018), Using the UTAUT2 model to determine factors affecting adoption of mobile banking services: A qualitative approach. *International Journal of*

- Interactive Mobile Technologies, 12(4), 123-134.
- Hair, J.F., Babin, B., Black, W.C., Anderson, R.E. (2010), *Multivariate Data Analysis*. 7<sup>th</sup> ed. New Jersey, US: Pearson.
- Hair, J.F.J., Anderson, R.E., Tatham, R.L., Black, W.C. (1998), *Multivariate Data Analysis*. 5<sup>th</sup> ed. Upper Saddle River, New Jersey: Prentice Hall.
- Limayem, M., Hirt, S.G., Cheung, C.M.K. (2007), How habit limits the predictive power of intentions: The case of IS continuance. *MIS Quarterly*, 31(4), 705-737.
- Martilla, J.A., James, J.C. (1977), Importance performance analysis. *Journal of Marketing*, 41(1), 77-79.
- Mishra, V., Bisht, S.S. (2013), Mobile banking in a developing economy: A customer-centric model for policy formulation. *Telecommunications Policy*, 37(6), 503-514.
- Misra, V., Bisht, S.S. (2013), Mobile banking in a developing economy: A customer-centric model for policy formulation. *Telecommunications Policy*, 37(6), 503-514.
- OJK. (2015), Bijak Ber-e-Banking. Available from: <https://www.ojk.go.id/id/kanal/perbankan/beritadankegiatan/publikasi/Pages/OJK-Luncurkan-Buku-Bijak-Ber-eBanking.aspx>. [Last accessed on 2019 Oct 12].
- Oliveira, T., Faria, M., Thomas, M.A., Popovic, A. (2014), Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management*, 34(2), 689-703.
- Oliveira, T., Thomas, M., Baptista, G., Campos, F. (2016), Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, 61, 404-414.
- Ram, S., Sheth, J. (1989), Consumer resistance to innovations: The marketing problem and its solutions. *Journal of Consumer Marketing*, 6(2), 5-14.
- Ridgon, E.E., Ferguson, C.E.F. (1991), The performance of the polychoric correlation coefficient and selected fitting function in confirmatory factor analysis with ordinal data. *Journal of Marketing Research*, 28(4), 491-497.
- Rogers, E.M. (2003), *Diffusion of Innovations*. 5<sup>th</sup> ed. New York, US: The Free Press.
- Rogers, E.M. (1983), *Diffusion of Innovations*. 3<sup>th</sup> ed. New York: The Free Press.
- Shen, Y.C., Huang, C.Y., Chu, C.H., Hsu, C.T. (2010), A benefit cost perspective of the consumer adoption of the mobile banking system. *Behaviour and Information Technology*, 29(5), 497-511.
- Taylor, S., Todd, P. (1995), Assessing IT usage: The role of prior experience. *MIS Quarterly*, 19(4), 561-570.
- Thompson, R.L., Higgins, C.A., Howell, J.M. (1991), Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15(1), 124-143.
- Tiwari, R., Buse, S., Herstatt, C. (2006), Mobile Banking as Business Strategy: Impact of Mobile Technologies on Customer Behaviour and its Implications for Banks. *Technology Management for the Global Future-proceedings of PICMET '06, Istanbul, 1935-1946*. Working Paper, No. 37.
- Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D. (2003), User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Venkatesh, V., Thong, J.Y., Xu, X. (2012), Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157-178.
- Wijanto, S.H. (2008), *Structural Equation Modeling with LISREL 8.8. Concepts and Tutorials*. 1<sup>st</sup> ed. Yogyakarta, ID: Graha Ilmu.