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THE ANALYSIS OF TECHNOLOGY ACCEPTANCE MODEL (TAM) ON USE BEHAVIOR MOBILE BANKING TO BCA CUSTOMER

Helena Damayanti Siregar
Faculty of Economics, Gunadarma University
Jl. Margonda Raya No. 100 Depok 16424, West Java, Indonesia
helenasrgr03@gmail.com

Emmy Indrayani
Faculty of Economics, Gunadarma University
Jl. Margonda Raya No. 100 Depok 16424, West Java, Indonesia
emmyindra@gmail.com

Abstract

The development of technology and information in Indonesia currently gives a lot of benefits. Nowadays in almost every aspect of human life using information technology, for instance in the economic, social, education, politics and many other aspects. The one industry that is adapting technology and information is the banking industry. Adaptation of technology and information used in the banking industry is the presence of service facilities for customers in the form of mobile banking that can be accessed by customers' Smartphones. The purpose of this research is to analyze The Technology Acceptance Model on use behavior mobile banking model for BCA customers. The research method is a quantitative method using Structural Equation Modeling (SEM) analysis. The results of this research were obtained that the variable perceived ease of use, perceived usefulness, attitude towards using, behavior intention, use behavior, had a significant and positive effect on bank BCA mobile banking behavior with the attitude towards using variable having the highest t value.

Keywords: Technology Acceptance Model, Mobile Banking, Use behavior, Technology information, Bank, Customers

INTRODUCTION

Nowadays, almost every single aspect of human life use the information technology, such as aspects in the economics, social, educational, politics and many others. The emergence of technology and information as well as the various benefits presented are the ability of technology to facilitate users to communicate, contribute, participate, discuss, give feedback and even share knowledge, (Kraut: 2002). One of industry that is adapting technology and information is the banking industry. Technology and information itself are present in the banking industry, one of which emerged as a competitive advantage of companies where banks can compete with other competitors and reach distant and diverse markets. It is the presence of service facilities for customers in the form of mobile banking that can be accessed by customers via smartphones.

Mobile banking is an innovative bank services that allows customers to conduct banking transaction activities via smartphones. Mobile banking itself is here to facilitate customers in carrying out banking activities more effectively and efficiently because it can be done anytime, anywhere and without having to come to the bank/ATM. (Riswandi, Budi and Agus : 2005). But in the emergence of this mobile banking service, there is several problem where not every banking customer has the same perception and knowledge about mobile banking services. Technology and information can be said to be successful if they can be well received by customers, therefore it is necessary to identify the determinants of technology and information acceptance. With the adaptation of technology and information in the banking industry, one example is the mobile banking service, The purpose of this research to analyze Technology Acceptance Model (TAM) and find out the factors of customers to accept the use of mobile banking of BCA consumer.

LITERATURE REVIEW

Information Technology (IT)

The information technology is the study or the way yo use of electronic equipment, especially computers, to store, analyze and distribute anything including words, numbers and images. According to Alter (1992) Information technology includes hardware, software to carry out one or a number of data processing such as capturing, transmitting, storing, retrieving and manipulating or displaying the data.

Mobile Banking

Mobile banking is the way to conduct online financial transactions with the mobile telecommunication devices such as mobile phones or tablets. Through smartphones, the user

can access financial and non-financial services such as account management, balance information, transfers, bill payments, PIN changes and check book requests (Dahlberg, Mallat, Ondrus & Zmijewska, 2008; Luarn & Lin, 2005; Shaikh & Karjaluoto, 2015).

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was introduced by Fred D. Davis in 1986, is an adaptation of TRA that was made specifically for modeling user acceptance of information systems. According to Davis (1989), the purpose of the Technology Acceptance Model (TAM) is to explain the determinants of information based technology acceptance in general and to explain the behavior of end-users of information technology with a wide enough variation and the user population to provide a basis in order to find out the influence of the factors external to the psychological foundation. The first unmodified Technology Acceptance Model (TAM) used five main constructs such as Perceived Ease Of Use, Perceived Usefulness, Attitude Towards Using, Behavior Intention, Behavior.

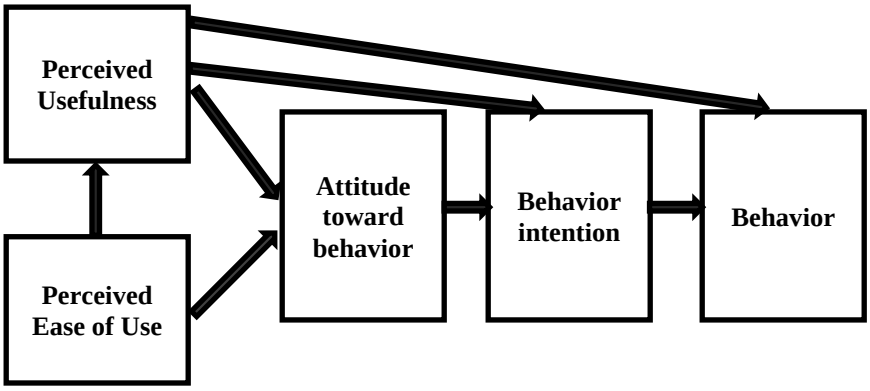

Figure 1 Technology Acceptance Model (TAM)

Perceived Ease Of Use

Perceived ease of use is how far someone believes that using a technology will be free from effort (Jogiyanto, 2007). Based on the definition it can be concluded that ease of use will reduce the effort (both time and energy) of a person in learning computers. IT users believe that is more flexible, easy to understand and to operate (compatible) as a characteristic of ease of use. Indicators of perceived ease of use (Davis et al. 1989) consist of :

1) Easy to learn, which means consumers can clearly understand how to learn the banking transaction system through BCA's mobile banking application,

2) Can be controlled, which means facilities and features provided in Bank BCA mobile banking to function properly,

3). Clear & understandable, which means that BCA bank mobile banking facilities or features are appropriate for their use, features presented are complete and do not cause other perceptions,

4). Flexible transactions, which means can be carried out without a hitch and can be done anytime without being limited by place and time,

5). Easy to become skilled / proficient, that is in subsequent use, consumers can access BCA's bank mobile banking easily according to their wishes after one use.

Perceived Usefulness

Perceived usefulness is the extent to a person who believes that using a technology will improve the performance of his work. (Jogiyanto: 2007). The benefits of using IT can be known from the trust of IT users in deciding IT acceptance. With one belief that the use of IT is making a positive contribution to its users. Indicators of perceived usefulness according to (Davis: 1989) such as:

1. Accelerating work, BCA's mobile banking can shorten the time used in the process of completing a work activity;
2. Improving performance that can increase transactions conducted by customer;
3. Increase productivity, by using BCA's mobile banking can increase consumer productivity in banking transactions;
4. Effectiveness, by using BCA's mobile banking can speed up time for consumers to conduct banking transactions;
5. Make work easier, by using BCA Mobile banking consumers can easily carry out banking transactions;
6. Give benefits, by using BCA's mobile banking is beneficial for customer to make transactions.

Attitude Toward Behavior

Attitude towards behavior is defined by Davis et al. (1989) as a positive or negative feelings from someone if they have to do the behavior that will be determined. Attitude towards using indicators according to (Davis et al. 1989) consists of good ideas, wise ideas, liking the use of the system and feeling happy about using the system.

Behavioral Intention

Behavioral intention is a someone desire to do a certain behavior. Somebody will do a behavior if they have the desire or interest to do it (Jogiyanto, 2007). The behavioral intention indicator

according to (Venkatesh et al., 2003) consists of the intention to continue to use, the desire to use, the plan to continue to use. Behavioral intention indicators according to (Davis et al. 1989) consists the desire to use the system and the desire to use the system frequently or periodically.

Use Behavior

Use behavior is an action taken by someone. In the context of the use of information technology systems, behavior is the actual usage of technology (Jogiyanto, 2007). indicators of use behavior according to (Venkatesh et al., 2003) consist of the actual use of technology in practice, frequency of use and number of hours of system use.

RESEARCH METHOD

In this research, the object that studied by the author is a comparative analysis of The Technology Acceptance Model (TAM) method on the use of mobile banking behavior on BCA customers. The way the authors obtain the data for research uses interviews, questionnaires, observation, library research, and web public sites. Where respondents in this research are BCA customers who use mobile banking services. The sampling method of this research used non probability sampling technique that is purposive sampling. Sampling of this research used the theory of Roscoe (1975) by means of the number of variables multiplied by 10. The variables used in this study are 14. Then 14 x 10 = 140 Respondents rounded of to 200 respondents. The analytical method used in this study is Structural Equation Model (SEM) by using SMARTPLS software. The measurement scale in this research used a likert scale.

RESULTS AND DISCUSSION

Validity Test

Validity tests were conducted to determine the ability of research instruments to measure what should be measured (Jogiyanto and Abdillah 2009) .

Table 1 Result of Validity Test

Variable	AVE	Critical Value	Model Evaluation
PU	0.542		VALID
PEOU	0.559		VALID
ATU	0.721	>0.5	VALID
BI	0.756		VALID
UB	0.675		VALID

Source: SmartPLS Output

Based on the Table 1, it is known that each indicator variable is considered valid because it has a AVE value of more than 0.5 so that it can be stated that the indicator used in this study has a good convergent, so that it can be used for further analysis.

Reliability Test

Reliability test is used to measure the consistency of measuring instruments in measuring a concept or can also be used to measure the consistency of respondents in answering statement items in a questionnaire or research instrument

Table 2 The Results of Reliability Test

Variable	AVE	Critical Value	Model Evaluation
PU	0.876		
PEOU	0.881		
ATU	0.912	>0,7	Reliable
BI	0.925		
UB	0.861		

Source: SmartPLS Output

Based on Table 2, each construct of the TAM method has a composite reliability value of more than 0.7, with the behavior intention construct having the highest composite reliability of 0.925 so that it can be concluded that all variables have the highest level of reliability.

R-Square Analysis

R-Square or the coefficient of determination is one of the simple measures and is often used to test the quality of a regression line equation (Gujarati, 2004: 81). The R-Square value provides an overview of the suitability of the independent variable in predicting the dependent variable.

Table 3. R- Square Analysis

Variabel	R-Square
Perceived Ease of Use	
Perceived Usefulness	0.319
Attitude toward Using	0.434
Behavioral Intention	0.421
Use Behavior	0.216

Source: SmartPLS Output

a. R-square value (R2) of the endogenous construct Perceived Usefulness in the first model was 0.319. This indicated that the construct of the perceived ease of use in the first model could only explain the construct of the perceived usefulness of 31.9% and the remaining 68.1% was explained by other variables outside the research.

b. R-square value (R2) of the endogenous construct Attitude toward Using in the second model was 0.434. This indicated that the construct of perceived ease of use and perceived usefulness in the second model can only explain the construct of attitude toward using of 43.4% and the remaining 53.6% is explained by other variables outside the research.

c. R-square value (R2) of the endogenous construct of behavioral intention in the third model was 0.421. Perceived usefulness and attitude toward using in the third model can only explain the construct of behavioral intention of 42.1% and the remaining 57.9% is explained by other variables outside the research.

d. R-square value (R2) of the endogenous construct of use behavior in the fourth model was obtained at 0.216. behavioral intention in the fourth model can only explain the construct of use behavior of 21.6% and the rest 78.4% is explained by other variables outside the research.

Hypothesis Test

The hypothesis is a temporary conclusion to a problem that is still presumptive because it still must be proven. Hypothesis test is intended as a way to determine whether a hypothesis should be accepted or rejected. Following are the outputs created with the help of Smart-PLS software:

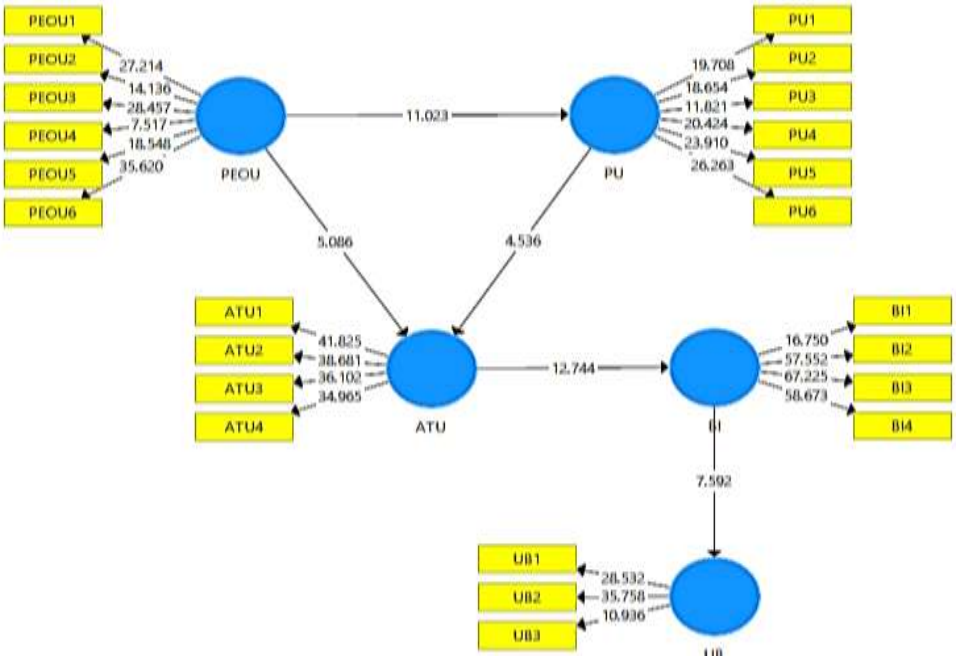

Figure 2 Hypothesis test output

Table 4 Hypothesis test output

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
PEOU -> PU	0.565	0.573	0.051	**11.023**	0.000
PEOU -> ATU	0.403	0.402	0.079	**5.086**	0.000
PU -> ATU	0.340	0.341	0.075	**4.536**	0.000
ATU -> BI	0.649	0.650	0.051	**12.744**	0.000
BI -> UB	0.465	0.474	0.061	**7.592**	0.000

Source: SmartPLS Output

H1: ***Perceived ease of use had a significant positive effect on the perceived usefulness of BCA mobile banking****.*

Based on the Table 4, it shows the positive and significant effect between the construct of PEOU on PU with a coefficient value of 0.565 and significant at the 5% level. This is proven by the high value of statistics for the PEOU construct over PU over 1,97220, which is 11,023 and the p-value is 0,000. So it can be concluded that Ha is acceptable. BCA customers will feel greater benefits if they feel the ease of using the mobile banking system. When the perceived ease of the customer is positive, the perceived usefulness will also increase. In conclusion, the better perceived ease of use felt by customers, the higher the perceived usefulness of customers for BCA's mobile banking. This is consistent with the results found by Davis et al (1993) and David Kurniawan (2013).\

H2: **Perceived ease of use had a significant positive effect on attitude toward using BCA mobile banking**

Based on the Table 4, it shows the positive and significant effect between the PEOU construct on ATU with a coefficient value of 0.403 and significant at the 5% level. This is evidenced from the magnitude of the t statistic value for the PEOU construct of ATU above 1,97220 which is equal to 5,086 and the p-value of 0,000. So it can be concluded that Ha is acceptable. Confidence in the convenience felt by customers will automatically bring a positive attitude to choose to use mobile banking as a way for banks to facilitate customers in meeting their transaction needs. This means that the convenience provided by Instagram makes customers feel that mobile banking can ease their work in banking transactions. A good system in mobile banking can be seen from the speed of the system in controlling an input or request for information and user friendly system, easy for customers to become skilled when the BCA

mobile banking system, Customers easily to access mobile banking anytime and anywhere so it is very flexible. The instructions on Instagram are clear and easy to understand so that customers do not feel difficulties when using mobile banking. This is consistent with the results found by David Kurniawan (2013).

H3: **Perceived usefulness has a significant positive effect on attitude toward using BCA mobile banking**

Based on the Table 4, it shows the positive and significant influence between the constructs of PU on ATU with a coefficient value of 0.340 and significant at the 5% level. This is evidenced from the magnitude of the t statistic for the construct of PU to ATU above 1.97220 which is 4.536 and the p-value is 0.000. So it can be concluded that Ha is acceptable. In this research, customers have trusted that BCA mobile banking is beneficial to be used and can meet customer needs, namely transaction settlement more quickly, improve performance and productivity, increase effectiveness so that customers will show a positive attitude to receive and use mobile banking services. This positive attitude can be seen in the frequency of using mobile banking by customers, where the greater the frequency of use the greater the benefits felt by customers when using mobile banking services. The high frequency of use also has a positive impact in the form of optimizing the benefits of using mobile banking. This is consistent with the results found by David Kurniawan (2013).

H4: **Attitude toward using has a significant positive effect on behavior intention using BCA mobile banking**

Based on the Table 4, it shows the positive and significant influence between the construct of ATU on BI with a coefficient value of 0.649 and significant at the 5% level. This is evidenced from the magnitude of the statistical value for the ATU construct of ABI above 1.97220 which is 12.744 and the p-value is 0,000. So it can be concluded that Ha is acceptable. In this research, whether or not the attitude towards using customers about the acceptance of mobile banking technology will have a significant effect on whether or not the customer's intention to use mobile banking services. The relationship between attitude towards using mobile banking to behavior intention has a strong influence. Customers who have a positive attitude towards mobile banking will bring up the behavioral intention to buy later. When customers feel happy using mobile banking, it will bring up the customer's intention to make a purchase. This is really consistent with the results found by David Kurniawan (2013).

H5: ***Behavior intention using had a significant positive effect on use behavior***

Based on the Table 4, it shows that there is a positive and significant influence between the BI construct on UB with a coefficient value of 0.465 and significant at the 5% level. This is evidenced from the magnitude of the t statistic value for the ATU construct of BI above 1,97220 which is equal to 7,592 and the p-value of 0,000. So it can be concluded that Ha is acceptable. This shows that the higher the intention of the customers to use mobile banking, the higher the use behavior. This is consistent with the results found by Ito (2018).

CONCLUSION

Through the TAM method of BCA bank mobile banking behavior can be explained by the construct of perceived ease of use affects the perceived usefulness, perceived ease of use affects the attitude towards using, perceived usefulness affects the attitude towards using, attitude towards using affects behavior intention and behavior intention influence on use behavior. By the attitude towards using variable has the largest t-statistic value of 12, 744 which means that the influence of customer attitudes towards BCA's mobile banking is huge to the real behavior of using mobile banking. This proven that BCA customers already have a good attitude and have an awareness that the presence of BCA's mobile banking is very helpful for customers in conducting banking transactions.

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