



ANALYSIS OF VARIABLES THAT AFFECT MOBILE BANKING ADOPTION AND CUSTOMER LOYALTY ON USERS OF BCA MOBILE APPLICATION IN MANADO

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Abstract: The development of the use of mobile banking in Indonesia continues to increase every year. This also has an impact where competition in mobile banking in Indonesia is becoming increasingly stringent every year. With this increasing competition, companies engaged in the banking industry, especially those managing mobile banking applications, must maintain and maintain usage behavior for both new customers and old customers. This research is causal research using quantitative methods and processed with the help of statistical program, namely SPSS version 22.0. Data collection was carried out by distributing questionnaires to 200 respondents with pre-determined characteristics of the respondents. In this study there are 13 hypotheses including nine hypotheses accepted and four hypotheses rejected.

IndexTerms - Perceived Awareness, Availability of Resource, Mobile Computing Self-Efficacy, Perceived Image, Perceived Ability to Use, Perceived Information Quality, Perceived Functional Benefit, Multilingual Option, Perceived Trust, Perceived Security, Perceived Uncertainty, Mobile Banking Adoption, Customer Loyalty, BCA Mobile Application.

I. INTRODUCTION

Banking is an industry that has functions, among others, to handle cash, credit as well as other transactions. It can be assumed that banking is a business activity that receives and maintains money owned by individuals or other groups and also lends funds to carry out economic activities. Over time, the rapid development of technology has caused many types of businesses and industries to participate in digital channels, one of which is the banking industry. With this new channel, banking provides a breakthrough in the digital world known as Mobile Banking (M-banking) where mobile banking can be accessed via a cell phone, making it easier for customers to use it anywhere and anytime for transactions [1].

Bank Central Asia (BCA) is one of the largest private banks in Indonesia. Bank Central Asia (BCA) was established on February 21, 1957, which at that time was under the name Bank Central Asia NV and was known as an important part of the Salim Group. Along with the development of BCA, many innovations have been made, one of which is BCA Mobile. BCA Mobile is the first digital banking innovation in Indonesia. The BCA Mobile application was created to meet the needs of customer transactions that initially used conventional methods to become digital methods. The BCA mobile application is not only intended for BCA who are already BCA customers, but also for people who wish to register to become BCA customers [2].

The ease of transactions, which include convenience, flexibility, as well as security, has made the BCA Mobile application so popular and popular. This can be seen from the number of downloads available on the application confirmation site, both based on IOS and Android. BCA Mobile needs to maintain and even increase customer loyalty in order to maintain its position in digital banking in Indonesia [3]. The reason for the importance of researching customer loyalty, according to [7], customer loyalty refers to the intention of users to revisit the site, and to consider repurchasing services or products consistently in the future.

This research will focus on Perceived Awareness, Availability of Resource, Mobile Computing Self-Efficacy, Perceived Image, Perceived Ability to Use, Perceived Information Quality, Perceived Functional Benefit, Multilingual Option, Perceived Trust, Perceived Security, Perceived Uncertainty for Mobile Banking Adoption and ultimately customer loyalty to users of the BCA Mobile application in Manado.

II. LITERATURE REVIEW

A. Customer Loyalty

Customer Loyalty is a commitment that is firmly held by Users to buy these products in the future even though there are situations where other companies can cause a change in behavior [14]. According to [7], customer loyalty is the intention of the User to revisit the site and consider repurchasing services or products consistently in the future. According to [19] Customer loyalty is a commitment that is firmly held by users to buy and subscribe to these products in the future even though there are situations where they can cause users to switch.

B. Perceived Awareness

In previous research conducted by [41] it was found that Perceived Awareness has a significant effect on Mobile Banking Adoption, this occurs because awareness generated by the surrounding environment is related to the importance of using mobile banking for work efficiency being the main impetus. This is in line with research conducted by [26] where in research in Malaysia, the awareness factor has a significant effect on mobile banking adoption. As according to [16] it was found that Perceived Awareness has a significant effect on Mobile Banking Adoption.

H1: Perceived Awareness has a significant effect on Mobile Banking Adoption.

C. Availability of Resources

Previous research conducted [17] found that Availability of Resources has a significant effect on Mobile Banking Adoption. A similar opinion is in accordance with [22] who state that Availability of Resources has a significant effect on Mobile Banking Adoption. This happens because in the use of mobile banking, the user first needs to have a supporting device, so that the use feels more useful and efficient.

H2: Availability of Resources has a significant effect on Mobile Banking Adoption.

D. Mobile Computing Self-Efficacy

According to [8] mobile computing self-efficacy has a significant effect on mobile banking adoption. Other studies that get similar results are [33] who found that confidence factors have a significant influence for someone to use mobile banking services. According to [24] mobile computing self-efficacy has a significant effect on mobile banking adoption. According to [20] self-confidence in the use of electronic devices such as devices and so on can be a driving factor for someone to use mobile banking services.

H3: Mobile computing self-efficacy has a significant effect on mobile banking adoption.

E. Perceived Image

In [9] research it was found that Perceived Image has a significant effect on Mobile Banking Adoption. This happens because a good image will convince potential users that every transaction made is guaranteed. This is in line with the findings made by [10] where it was found that the crucial factor that convinced users to adopt mobile banking was the image of the mobile banking brand itself.

H4: Perceived Image has a significant effect on Mobile Banking Adoption.

F. Perceived Ability to Use

According to [33] Perceived Ability to Use has a significant effect on Mobile Banking Adoption. This is in accordance with [21] where competence plays a role for someone to be able to use new services, one of which is mobile banking. According to [11] the competency factor is a benchmark for a user in choosing the mobile banking that best suits him.

H5: Perceived Ability to Use has a significant effect on Mobile Banking Adoption.

G. Perceived Information Quality

According to [25] in a study in Bangladesh it was found that the quality of information available clearly and could be remembered by prospective user can provide a stimulus to adopt the use of mobile banking. According to [23] Perceived Information Quality has a significant effect on mobile banking adoption. According to [40] good quality of information needs to be delivered lightly to prospective user, this is easy to remember and can be converted to adopt the use of mobile banking.

H6: Perceived Information Quality has a significant effect on mobile banking adoption.

H. Perceived Functional Benefit

According to [35] it was found that perceived functional benefits had a significant effect on mobile banking adoption. As for this in accordance with research conducted by [4] which found that if mobile banking can provide benefits through the function they have, it will encourage the intention of prospective user to adopt it. The study was conducted on youth groups in Turkey. According to [39] functional advantage factor will give a good impression because prospective user will see minimal risk factors but with large profits.

H7: Perceived Functional Benefit has a significant effect on mobile banking adoption.

I. Multilingual Option

In research conducted by [20] it was found that the diversity of languages in a mobile banking system can help potential customers to better understand the features of features. This encourages the intention to use mobile banking. Meanwhile, according to [30] the choice of language gives a positive impression for consumers to facilitate use, this has an impact on the choice to use the service. According to [6] Multilingual Option has a significant effect on Mobile Banking Adoption.

H8: Multilingual Option has a significant effect on Mobile Banking Adoption.

J. Perceived Trust

In research conducted by [12] was found that trust will influence decision making in a use. According to [5] Trust factors that can arise based on previous usage experience or environmental influences can cause potential users to adopt mobile banking usage. Meanwhile, [13] found that trust is a factor that significantly influences a person's decision to use mobile banking.

H9: Perceived Trust has a significant effect on Mobile Banking Adoption.

K. Perceived Security

According to [37] safety factors are crucial factors for a prospective user of mobile banking. This is related to the risks that might occur, such as theft of personal data and so forth. According to [28] prospective user will believe in a service to be used by carrying out some basic assessments, one of which is about the security of the system. According to [15] safety factors are the basic things that are the assessment of prospective users to use mobile banking. According to [29] safety factor is the main thing in influencing trust. As according to [27] the perception of the meaning of the prospective user of the use can have a significant effect on trust.

H10: Perceived security has a significant effect on mobile banking adoption.

H11: Perceived security has a significant effect on perceived trust.

L. Perceived Uncertainty

Previous research by [38] found that uncertainty is a factor that has a significant effect on trust. According to [35], perceived uncertainty is a key factor other than security that affects trust. Meanwhile, according to [31] high uncertainty will make users perceive a service as an untrusted service, and vice versa. According to [18] Perceived Uncertainty has a significant effect on Perceived Trust.

H12: Perceived Uncertainty has a significant effect on Perceived Trust.

M. Mobile Banking Adoption

According to [32] Mobile Banking Adoption has a significant effect on Customer Loyalty. In line with this, according to [34] Mobile Banking Adoption has a significant effect on Customer Loyalty, this is because the use of mobile banking is perceived as more efficient and reliable. According to [35] The use of mobile banking with well-known bank names can affect user loyalty. According to [8]. The efficiency factor, then the benefits of using mobile banking can affect the loyalty and satisfaction of users.

H13: Mobile Banking Adoption has a significant effect on customer loyalty.

III. RESEARCH ISSUE AND METHODOLOGY

This research is causal because it is based on the development of previous research models to test and answer the problems discussed in the previous chapter. The research method used is a quantitative method. The method used in this study will refer to references that can carry out simultaneous analysis processes related to the research model, namely the quantitative method using SPSS software version 22.0. This research model is expected to be able to explain the relationship between variables in order to understand the factors that influence the customer loyalty of BCA Mobile application users in Manado and make an implication that the results will approach the requirements of a measurement that will be described through a research design.

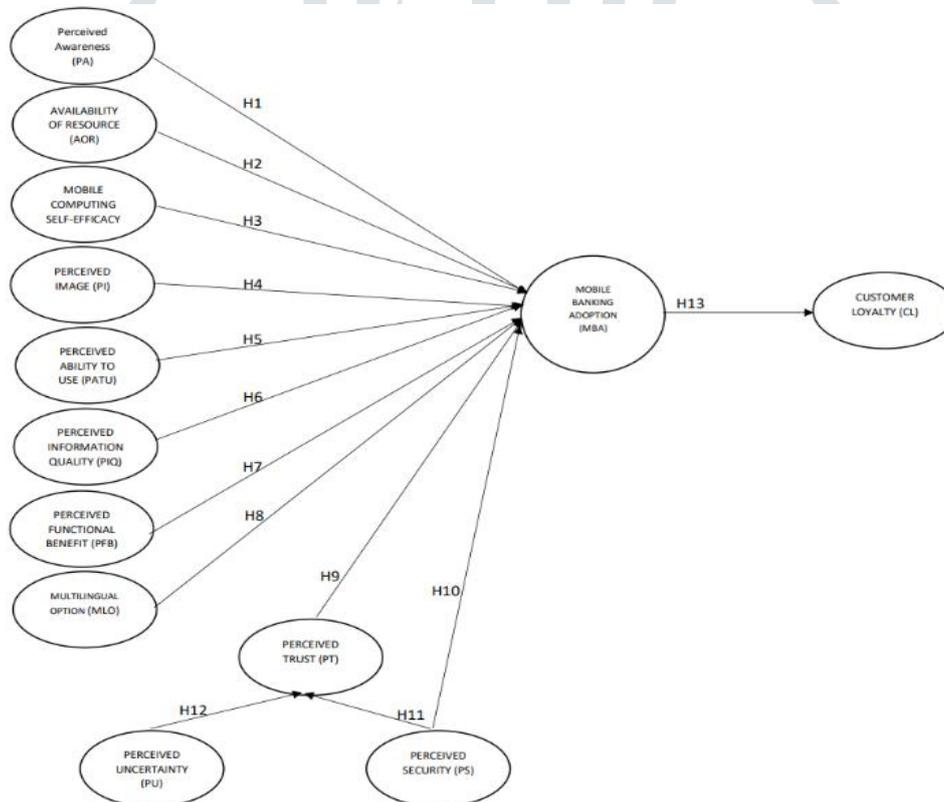


Figure 1. Research Model

IV. FINDINGS AND DISCUSSION

Findings

Based on the general description of the respondents, it is known that most of the 200 respondents to the BCA Mobile application users in Manado are 79.5% or 159 respondents aged 18-35 years. The T-test or also known as the partial test is used in order to test a hypothesis by determining that the average for the variables associated with two independent samples or groups will be the same. A statistically significant partial relationship can also be known through the results of the T test. If based on a comparison of the probability value with the criterion error rate (α) is 0.05, then the basis for returning the T test is as follows [27]:

a) If probability > 0.05 , then H_0 is accepted (not significant)

b) If probability ≤ 0.05 , then H_0 is rejected (significant)

In this study, there are 13 hypotheses. Of the 13 hypotheses studied, nine were accepted and four were rejected. This was based on the table below:

Table 1 Hypotheses Testing Results

No	Hypothesis	Sig	Standard	Notes
H1	PA → MBA	0.027	0.05	Accepted
H2	AOR → MBA	0.776	0.05	Rejected
H3	MCSE → MBA	0.876	0.05	Rejected
H4	PI → MBA	0.012	0.05	Accepted
H5	PATU → MBA	0.013	0.05	Accepted
H6	PIQ → MBA	0.027	0.05	Accepted
H7	PFB → MBA	0.004	0.05	Accepted
H8	MLO → MBA	0.820	0.05	Rejected
H9	PT → MBA	0.881	0.05	Rejected
H10	PS → MBA	0.000	0.05	Accepted
H11	PU → PT	0.001	0.05	Accepted
H12	PS → PT	0.000	0.05	Accepted
H13	MBA → CL	0.000	0.05	Accepted

Discussions

In this study, there are 13 hypotheses. Of the 13 hypotheses studied, nine were accepted and four were rejected. The first hypothesis is that perceived awareness has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.027 (below 0.05) which indicates that this hypothesis is accepted. The second hypothesis is the availability of resources has a significant effect on mobile banking adoption. This hypothesis is proven by the t test where the significance is 0.776 (above 0.05) which indicates that this hypothesis is rejected. The third hypothesis is that Mobile Computing self-Efficacy has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.876 (above 0.05) which indicates that this hypothesis is rejected. The fourth hypothesis is that perceived image has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.012 (below 0.05) which indicates that this hypothesis is accepted. The fifth hypothesis is perceived ability to use has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.013 (below 0.05) which indicates that this hypothesis is accepted. The sixth hypothesis, namely perceived information quality, has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.027 (below 0.05) which indicates that this hypothesis is accepted.

The seventh hypothesis is that perceived functional benefits, has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.004 (below 0.05) which indicates that this hypothesis is accepted. The eighth hypothesis, namely the multilingual option, has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.820 (above 0.05) which indicates that this hypothesis is rejected. The ninth hypothesis, namely perceived trust, has no significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.881 (above 0.05) which indicates that this hypothesis is rejected. The tenth hypothesis, namely perceived security, has a significant effect on mobile banking adoption. This hypothesis is supported by the t test where the significance is 0.000 (below 0.05) which indicates that this hypothesis is accepted. The eleventh hypothesis is that perceived security has a significant effect on perceived trust. This hypothesis is supported by the t test where the significance is 0.000 (below 0.05) which indicates that this hypothesis is accepted. The twelfth hypothesis is that perceived uncertainty has a significant effect on perceived trust. This hypothesis is supported by the t test where the significance is 0.001 (below 0.05) which indicates that this hypothesis is accepted. The thirteenth hypothesis, namely Mobile banking adoption has a significant effect on customer loyalty. This hypothesis is supported by the t test where the significance is 0.000 (below 0.05) which indicates that this hypothesis is accepted.

The customer loyalty variable formed by mobile banking adoption has a regression coefficient of 0.614. This shows that users choose to use the BCA Mobile application for various book-transfer transaction needs, choose to use the BCA Mobile application for bill payment needs (such as: online shopping, insurance payment needs, and so on), like the convenience when transacting using the BCA Mobile application.

Mobile banking adoption is also formed by Perceived awareness, availability of resources, mobile computing self-efficacy, perceived image, perceived ability to use, perceived information quality, perceived functional benefits, multilingual option, perceived trust, perceived security. Where the variable Perceived security has the highest regression coefficient, namely 0.233. This shows that if users feel that transactions using the BCA Mobile application are safe, feel that the BCA Mobile application protects all information about accounts, and feel that the BCA Mobile application does not share personal information with other sites, then this will have a major impact on mobile banking adoption.

The variable Perceived functional benefit has the second highest regression coefficient, namely 0.179. this shows that if users feel they can use the BCA Mobile application from anywhere without needing to go to the bank, it is important, they feel they can use the BCA Mobile application at any time, they feel that using the BCA Mobile application can increase efficiency in transaction needs, it will have a big impact on mobile banking adoption.

Perceived image variable has the third highest regression coefficient, namely 0.160. this shows that if the user feels that the BCA Mobile application has a positive image in society, feels that the BCA Mobile application has a guaranteed good company name, transacting using the BCA Mobile application can increase social status, it will have an impact on mobile banking adoption.

variable Perceived ability to use has the fourth highest regression coefficient, namely 0.165. this shows that if the user feels that making transactions using the BCA Mobile application is easy, feels that the interaction in the BCA Mobile application service is easy to

understand, feels that the interaction in the BCA Mobile application service is easy to understand, then it will have a major impact on mobile banking adoption.

The variable Perceived information quality has the fifth highest regression coefficient, namely 0.140. This shows that if the user feels that the information provided by the BCA Mobile application is the latest information, feels that the BCA Mobile application service provides information according to their needs, the BCA Mobile application service provides information systematically, it will have an impact on mobile banking adoption.

The variable Perceived awareness has the sixth highest regression coefficient, namely 0.131. This shows that if users feel they know the BCA Mobile application services, feel they know the benefits of using the BCA Mobile application, feel they know the benefits of using the BCA Mobile application, then it will have a major impact on mobile banking adoption.

The availability of resource variable has the seventh highest regression coefficient, namely 0.016. This shows that if the user feels that the Internet connection to run the BCA Mobile application has an affordable cost, the BCA Mobile application can be used properly using various types of cell phones, the BCA Mobile application can be used properly using various types of cellular cards, it will have an impact on mobile banking adoption.

The multilingual option variable has the eighth highest regression coefficient, namely 0.013. This shows that if the user feels that the availability of language options in the BCA Mobile application makes it easier to use existing services, feels that without a standard Indonesian language option, then they cannot understand the services available on the BCA Mobile application, using standard Indonesian will avoid mistakes in using existing services on the BCA Mobile application, it will have a big impact on mobile banking adoption.

Perceived Trust is also formed by Perceived Security, and Perceived Uncertainty. Where the variable Perceived security has the highest regression coefficient, namely 0.528. This shows that if users feel that transactions using the BCA Mobile application are safe, feel that the BCA Mobile application protects all information about accounts, and feel that the BCA Mobile application does not share personal information with other sites, then this will have a major impact on perceived trust.

Perceived Uncertainty has the second highest regression coefficient, namely 0.195. This shows that if users feel that the services of the BCA Mobile application are well managed despite the large number of application users, feel that transactions through the BCA Mobile application virtual services are comfortable, and feel that the results of BCA Mobile application transactions are certain even though they do not have direct interaction, it will have a big impact on perceived trust.

Conclusion

This model was developed in the framework of research on customer loyalty of BCA Mobile application users in Manado. This research model is formed by the influence relationship of Mobile Banking Adoption, which is influenced by variables by perceived awareness, availability of resources, mobile computing self-efficacy, perceived image, perceived ability to use, perceived information quality, perceived functional benefit, multilingual option, perceived trust, and perceived security. Meanwhile, perceived trust is influenced by perceived security and perceived uncertainty.

Based on the data processing that has been done, the results obtained are nine hypotheses accepted and four hypotheses rejected. There is a significant relationship between perceived awareness on mobile banking adoption, perceived image on mobile banking adoption, perceived ability to use on mobile banking adoption, perceived information quality on mobile banking adoption, perceived functional benefits on mobile banking adoption, perceived security on mobile banking adoption, perceived security on perceived trust, and perceived uncertainty on perceived trust and mobile banking adoption on customer loyalty. Meanwhile, an insignificant relationship was found between the availability of resources on mobile banking adoption, mobile computing self-efficacy on mobile banking adoption, multilingual options on mobile banking adoption and perceived trust on mobile banking adoption.

Research Limitation

By looking at the results of existing research, there are many limitations to the research conducted by the author, the recommendations that can be conveyed by the author are as by looking at the limitations of the research object which only takes respondents, namely users of the BCA Mobile application in Manado. It is hoped that in subsequent studies it can use the same or modified models that can be applied to different objects to obtain results that can be generalized to the factors that influence usage behavior.

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