FACTORS INFLUENCING CONSUMER ACCEPTANCE OF MOBILE BANKING AT SAM RATULANGI UNIVERSITY STUDENTS

FAKTOR-FAKTOR YANG MEMPENGARUHI PENERIMAAN KONSUMEN TERHADAP MOBILE BANKING PADA MAHASISWA UNIVERSITAS SAM RATULANGI

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Abstract: Technology has grown in ways we never could have imagined and has an impact on just about every area of our everyday lives. No generation has felt the impact of the technological advances like this generation. New innovations in telecommunications have also had an impact on the banking industry. With equipment that surpass telephone needs, the mobile phone, and later the smartphone has created a lucrative market opportunity, as the number of people owning mobile phones far exceeds any other technological device. This study multiple linear regression analysis, investigated consumer acceptance of mobile banking, case study of bank negara indonesia (bni) with 100 customers of sam ratulangi university students that already used bni mobile banking application. Results indicated that perceived usefulness, perceived ease of use and perceived risk has a significant and positive influence to consumer acceptance of bni mobile banking. From this study the developers should pay attention on these factors when developing a mobile banking service. The developers and managers need to ensure consumers that bni mobile banking services are secure, to reduce the risk for the consumers.

Keywords: *mobile banking, perceived usefulness, perceived ease of use, perceived risk*

Abstrak: *Teknologi telah berkembang dengan cara-cara yang tidak pernah bisa kita bayangkan dan memiliki dampak pada hampir setiap bidang kehidupan kita sehari-hari. Tidak ada generasi yang tidak merasakan dampak kemajuan teknologi seperti generasi ini. Inovasi baru dalam telekomunikasi juga berdampak pada industry perbankan. Dengan peralatan yang melampaui kebutuhan telepon, ponsel, dan kemudian smartphone telah menciptakan peluang pasar yang menguntungkan, karena jumlah orang yang memiliki ponsel jauh melebihi perangkat teknologi lainnya. Kajian ini mengkaji beberapa analisa regresi linear yang menyelidiki penerimaan konsumen mobile banking, studi kasus bank negara indonesia (bni) dengan 100 nasabah dari mahasiswa sam ratulangi yang telah menggunakan aplikasi mobile banking bni. Hasil penelitian menunjukkan bahwa kegunaan yang dirasakan, kemudahan penggunaan dan risiko yang dirasakan memiliki pengaruh yang signifikan dan positif terhadap penerimaan bni mobile banking. Dari studi ini, para pengembang harus memperhatikan faktor ini ketika mengembangkan layanan mobile banking. Para pengembang dan manajer harus memastikan konsumen bahwa layanan mobile banking bni aman, untuk mengurangi risiko bagi konsumen.*

***Kata kunci**: mobile banking, kegunaan, kemudahan penggunaan, resiko*

INTRODUCTION

Research Background

New innovations in telecommunications had an impact on the banking industry. With equipment that surpass telephone needs, the mobile phone, and later the smartphone has created a lucrative market opportunity, as the number of people owning mobile phones far exceeds any other technological device (Dahlberget al, 2008). For example, Apple's success with the iPhone, and Google's Android operating system, have led to an significant increase in the use of mobile services and applications. A significant factor of the success is the more efficient way of handling everyday tasks, and therefore gives the consumer more time for other activities, something that is valuable in today's society.

Mobile banking can be described as the facility provided by the banks to its clients, in which they can access their bank accounts and undertake monetary transactions remotely using mobile telecommunication devices like smartphones, tablet or cellular device. It can take place through short message service (SMS), mobile web or application. In a recent study by we are social and Hootsuite January 2019, internet usage in financial activities in Indonesia for Mobile Banking has reached 61%. As the "Most Trusted Company Based on corporate Governance Perception Index (CGPI) on Good Corporate Governance Awards 2018" (Annual Report BNI 2018), BNI also is one of the institution entrusted by Sam Ratulangi University to cooperate in provide ease of payment for students. The data from sharingvision.com said in 2015 BNI only had 21% of their mobile banking users. Meanwhile, as we know BNI are one of the biggest company in Indonesia. Therefore, researcher interest to examines factors that are influencing consumer acceptance of mobile banking at Sam Ratulangi University students (Case Study: Bank Negara Indonesia).

Research Objectives

To identify the effect of:
1. Perceived usefulness, ease of use and risk on Unsrat student's behavioral intention of BNI mobile banking.
2. Perceived usefulness on Unsrat student's behavioral intention of BNI mobile banking.
3. Perceived ease of use on Unsrat student's behavioral intention of BNI mobile banking.
4. Perceived risk on Unsrat student's behavioral intention of BNI mobile banking.

THEORETICAL REVIEW

Marketing

Marketing is defined as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (American Marketing Association, 2008). Marketing is the social process by which individuals and organizations obtain the needs and demand through creating and exchanging value with others (Kotler and Armstrong, 2001;5).

Behavioral Intention

An intention is therefore defined as a factor that leads to an activity. Behavior intention can be grouped into two categories (Smith, Bolton and Wagner, 1999); economic behavior intentions such as repeat purchase behavior (Anderson and Mittal, 2000), willingness to pay more and switching behavior (Zeithaml and Parasuraman, 1996), and social behavior intentions such as complaint behavior and word of mouth communication (Szymanski and Heanrd, 2001).

Mobile Banking

Mobile banking (M-Banking) is one of the most important strategic changes to occur in retail banking in more than a decade. Changes in technological interfaces have made it possible for the financial industry to delight its customers with instant solutions to their problems through the use of self-service technologies. Mobile banking users can perform almost the same transactions of internet banking by using a mobile device (mobile phone, smartphone, or tablet) (Shaikh and Karjaluoto, 2015).

Technology Acceptance Model

Technology Acceptance Model has been developed by Davis(1989). In TAM model, there are two factors perceived usefulness and perceived ease of use is relevant in computer use behaviors. Davis defines perceived usefulness as the prospective user's subjective probability that using a specific application system will enhance his or her job or life performance. Perceive ease of use (EOU) can be defined as the degree to which the prospective user expects the target system to be free of effort.

A.Massie., J.Lapian., M.V.J.Tielung....

Perceived Usefulness

Perceived Usefulness is one of the independent constructs in the Technology Acceptance Model. It is the degree to which a person believes that using a particular system would enhance his/her job performance (Davis, 1989).

Perceived Ease of Use

The degree to which an individual believes that using a particular information technology system would be free of effort. An application perceived to be easier to use than another is more likely to be accepted by users (Davis, 1989).

Perceived Risk

Perceived risk is the uncertainty about the outcome of the use of the innovation (Gerrard and Cunningham, 2003). In fact, perception of risk among individuals has been proved in technology adoption literature as an important element in acquiring new technology or services (Laforet and Li, 2005).

Previous Research

Hellstrand. A and Breckwoldt. M (2016). This study sought to investigate the slow rate of mobile banking acceptance in Germany. The findings of this study imply that Perceived usefulness, perceived ease of use, personal innovativeness, social norms and relative advantages were found to have a positive effect on the usage, whilst perceived costs and perceived risk lead to a negative effect.

Mostafa. A (2017) This study aimed to investigate factors influencing the acceptance of mobile banking in Libya. The project findings showed that factors like Perceived ease of use, perceived usefulness, and Facilitating conditions have significant impacts on consumer's behavioral intentions for the acceptance and usage of mobile banking technology in Libya.

Jeong and Yoon (2012) This study explores factors influencing adoption of mobile banking. Results indicate that all factors except for perceived financial cost have a significant impact on behavioral intention towards mobile banking usage.

Conceptual Framework
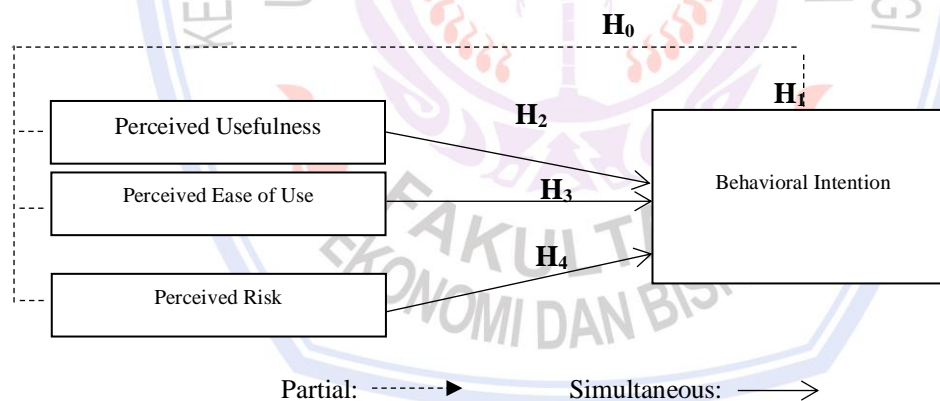
Source: Data Processed 2019
Figure 1. Conceptual Framework

Research Hypothesis

H0 : Perceived usefulness, perceived ease of use and perceived risk influence Unsrat student's behavioral intention of BNI mobile banking.

H1 : Perceived usefulness, perceived ease of use and perceived risk influence Unsrat student's behavioral intention of BNI mobile banking.

H2 : Perceived usefulness influence Unsrat student's behavioral intention of BNI mobile banking.

H3 : Perceived ease of use influence Unsrat student's behavioral intention of BNI mobile banking.

H4 : Perceived risk influence Unsrat student's behavioral intention toward BNI mobile banking.

RESEARCH METHOD

Research Approach

This study aims to examine factors that are influencing consumer acceptance of BNI mobile banking at Sam Ratulangi University students. The variables includes in this research are perceived usefulness, perceived ease of use and perceived risk.

Population, Sample, and Sampling Technique

The population in this research are customers of BNI mobile banking users. The sample method used in this research is non-probability sampling method. Then the questionnaires will be distrubuted to 100 respondents which are Sam Ratulangi university students who has ever used BNI mobile banking.

Operational Definition of Research Variables

Table 1.Operational Definitions and Indicators

Variables Name	Operational Definitions	Indicators
Perceived Usefulness(X1)	People tend to use or not use an application to the extent they believe it will help them perform their job better.	1. Accomplish task quickly 2. Accomplish task easily
Perceived Ease of Use (X2)	Users believe that a given application is useful, they may, at the same time, believe that the system is too hard to use and that the performance benefits of usage are out-weighed by the effort of using the application.	1. Easy to use 2. Understandable 3. Flexible
Perceived Risk (X3)	Perceived Risk is the uncertainty a consumer has when buying items or using something.	1. Physical Risk 2. Psychological Risk 3. Time Risk
Behavioral Intention (Y)	Assessment about the purpose in order to perform or complete some or particular behavior.	1. Intention to reuse 2. Recommendation

Source: Articles and Journals, 2019

Data Analysis Method
Validity and Reliability

Validity test was conducted to analyze of whether all questions used for variables in the questionnaire were valid or not. The variable could be classified as a good variable when the values are above 0.3 (Sekaran and Bougie, 2010).Reliability test is established by testing for both consistency and stability of the answer of questions. Consistency indicates how well the items measuring a concept hang together as a set.Alpha Cronbach is reliable coefficients that can indicate how good items in asset have positive correlation one another (Sekaran, 2010).And the Cronbach Alpha value is said to be reliable or acceptable if the value of Cronbach Alpha> 0.60 (Hair et.al, 2010).

Multiple Linear Regression Analysis

Multiple linear regression analysis is a technique to observed value more than one X to estimate or predict corresponding Y value. The formula of linear regression (multiple linear regressions) in general as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + B_3 X_3 + \varepsilon$$

Description:
Y = Behavioral Intention
X_1 = Perceived Usefulness
X_2 = Perceived Ease of Use
X_3 = Perceived Risk
α = Constant
β_1, β_2 & β_3 = The regression coefficient of each variable
ε = Error

RESULT AND DISCUSSION

Result
Result of Validity and Reliability Test
Table 2. Validity Test Result

		Perceived_ Usefulness	Perceived_Ease _of_Use	Perceived_Ris k	Behavioral _Intention	Total
Perceived_Use fulness	Pearson Correlation	1	.418[**]	.364[**]	.412[**]	.675[**]
	Sig. (2-tailed)		.000	.000	.000	.000
	N	100	100	100	100	100
Perceived_Eas e_of_Use	Pearson Correlation	.418[**]	1	.620[**]	.594[**]	.825[**]
	Sig. (2-tailed)	.000		.000	.000	.000
	N	100	100	100	100	100
Perceived_Ris k	Pearson Correlation	.364[**]	.620[**]	1	.592[**]	.808[**]
	Sig. (2-tailed)	.000	.000		.000	.000
	N	100	100	100	100	100
Behavioral_Int ention	Pearson Correlation	.412[**]	.594[**]	.592[**]	1	.851[**]
	Sig. (2-tailed)	.000	.000	.000		.000
	N	100	100	100	100	100
Total	Pearson Correlation	.675[**]	.825[**]	.808[**]	.851[**]	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	100	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).
Source: SPSS Output, 2019

Table 2.Shows that the correlation index is higher than 0.3 and below the significance level of 5%. Therefore, the data is considered valid.

Reliability Test
Table 3. Reliability Test Result

Cronbach's Alpha	N of Items
.812	5

Source: SPSS Output, 2019

Table 3. Shows that Alpha Cronbach is 0.812 which is above the acceptance limit of 0.6; therefore, the research instrument is reliable.

Multiple Linear Regression Analysis
Table 4. Multiple Linear Regression Output

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.526	2.023		-1.249	.215
	Perceived Usefulness	.209	.113	.155	1.853	.067
	Perceived Ease of Use	.417	.130	.320	3.216	.002
	Perceived Risk	.443	.128	.337	3.469	.001

a. Dependent Variable: Behavioral Intention
Source: SPSS Output, 2019

From the result in the table above, the model define as:

Y= (-2,526) + 0,209 X1 + 0,417 X2 + 0,443 X3 + e

The multiple linear regression equation can be interpreted as follows:
1. Constant value of -2,526 means that in this condition all the independent variables should not bellows or equals to zero.
2. X_1' s coefficient value of 0,209 means that if there is one unit increase in perceived usefulness (X_1) then the behavioral intention (Y) will improve and increase by 0,209.
3. X_2' s coefficient value of 0,417 means that if there is one unit increase in perceived ease of use (X_2) then the behavioral intention (Y) will improve and increase by 0,417
4. X_3' s coefficient value of 0,443 means that if there is one unit increase in perceived risk (X_3) then the behavioral intention (Y) will improve and increase by 0,443.

Coefficient of Correlation R and Coefficient of Determination R2
Table 5. Table R and R2
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.674[a]	.454	.437	2.110

a. Predictors: (Constant), Perceived Risk, Perceived Usefulness, Perceived Ease of Use

Source: SPSS Output 2019

Table 5 shows the coefficient correlation (R) is 0,674, it means there is a significant relationship between independent variables with dependent variable. In other words, Perceived Usefulness, Perceived Ease of Use and Perceived Risk have strong relationship with Behavioral Intention.

Hypothesis Testing
Table 6. Simultaneous Test (F-Test Output)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	355.701	3	118.567	26.639	.000[b]
	Residual	427.289	96	4.451		
	Total	782.990	99			

a. Dependent Variable: Behavioral_Intention

b. Predictors: (Constant), Perceived_Risk, Perceived_Usefulness, Perceived_Ease_of_Use

Source: SPSS Output , 2019

Table 6 shows the value of F_{count} is 26.639. The value of F_{table} is found on the F Distribution Table by determining the degree of freedom 1 (numerator) is 5 and degree of freedom 2 (denumerator) is 95 with level of significance is 0.05 (α = 0.05) and the level of confidence is 95% then F_{table} is 2.70.

Table 7. Partial Test (T-Test Output)

Variable	t_{count}	t_{table}	Sig.	Description
Perceived Usefulness (x1)	1.853	1.664	0.067	Accepted
Perceived Ease of Use (x2)	3.216	1.664	0.002	Accepted
Perceived Risk (x3)	3.469	1.664	0.001	Accepted

Source: SPSS Output, 2019

1. The value of t-count of X_1 is 1.853 with the level significant of 0.067. Since the value of t_{count} = 1.853 > t_{table}= 1.664meaning that H_2 is accepted.
2. The value of t-count of X_2 is 3.216 with the level significant of 0.002. Since the value of t_{count} = 3.216 > t_{table}= 1.664meaning that H_3 is accepted.
3. The value of t-count of X_3 is 3.469 with the level significant of 0.001. Since the value of t_{count} = 3.469 > t_{table}= 1.664meaning that H_4 is accepted.

Discussion

This research aims to get an information about the factor that significantly influence the consumer acceptance of BNI Mobile Banking at University of Sam Ratulangi students. In this case the factors that influenced the consumer acceptance of BNI Mobile Banking are perceived usefulness, perceived ease of use and perceived risk. The result above showed that overall instruments used significantly and positively influenced the consumer acceptance of BNI Mobile Banking. The previous research by Nofitasari D. L. (2017) is also support the result of this research. She's stated that perceived usefulness has significant positive relationship of consumer acceptance of mobile banking. Perceived usefulness in this study is defined as people tend to use or not use an application to the extent they believe it will help them to perform their job better.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Results of this research on the influence of perceived usefulness, perceived ease of use and perceived risk of consumer acceptance of BNI mobile banking can be inferred as follows :

1. The independent variable which are perceived usefulness, perceived ease of use and perceived risk simultaneously effect behavioral intention of consumer acceptance of BNI mobile banking at Sam Ratulangi students as the dependent variable.
2. Perceived usefulness as one of independent variables has positive and significant relationship of Unsrat student's behavioral intention toward acceptance of BNI Mobile Banking partially.
3. Perceived ease of use as one of independent variables has positive and significant relationship of Unsrat student's behavioral intention toward acceptance of BNI Mobile Banking partially.
4. Perceived risk as one of independent variables has positive and significant relationship of Unsrat student's behavioral intention toward acceptance of BNI Mobile Banking partially.

Recommendations

As discussed above, the findings of this research showed that all the factors that include in this study has a positive and significant relationship of Unsrat student's behavioral intention toward acceptance of BNI mobile banking. From the result of this research, revealed that perceived risk showed to be a critical factor on the intention to use mobile banking. Perceived risk has a t_{count} of 3.469 which is the highest number of significant more than perceived ease of use 3.126 and lastly perceived usefulness 1.853. It means the developers should focus on these factors when developing a mobile banking service. The developers and managers need to ensure consumers that BNI mobile banking services are secure, to reduce the risk for the consumers. Potential users should be lectured through advertisement that mobile banking is not a risky service, by promoting information of security and trust. Additional strategies to reduce the risk-taking of consumers could be implemented, for example money back guarantees. In addition, value-added services are seen as a great advantage in mobile banking.

Another recommendation that can be given by the author of this research for the future study is advised to expand other supporting factors that can affect the consumer acceptance of BNI mobile banking. To conduct socialization about BNI mobile banking so that its increased the use of BNI mobile banking application, minimizing the risk of using BNI mobile banking so that customers have more trust and use BNI mobile banking. And for additional recommendation is, for further study is expected to add another independent variable to be able to know and explain the variable to consumer acceptance of BNI mobile banking other than perceived usefulness, perceived Ease of use and perceived risk.

The importance of the study for the decision makers at BNI mobile banking application is to know the customer feedback about the service quality provided to them, to explore their views on areas that need improvement and development of these services, and to make the performance bank level of its customers' expectations. This will open the way for other future studies designed to identify the services quality to other variables associated with customers, such as loyalty to the bank.

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