The Impact of Perceived Technology Security, Perceived Risk, and Trust on Consumer Intention to Use and Recommend BCA Mobile

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Abstract: *With a significant growth of telecommunication networks over the past decade and the use of mobile phones that outnumber the population in Indonesia, unlike the more advanced regional countries such as Singapore and Malaysia where online and mobile banking are seen as the main methods to interact with banks, market analysis shows that while there are benefits offered by mobile phones in transactions and accessing financial information, the use of mobile banking is not as large as expected. BCA's efforts in directing customer transactions on the internet and mobile banking networks have shown good results in the last few years, it can be seen from the number of BCA Mobile app downloaders on the Play Store has reached 10 million. In early 2017 BCA added a new feature to BCA Mobile application, which is a 'Tarik Tunai Tanpa Kartu' (cash withdrawal without card) feature that is now accessible in many BCA ATMs spread across Indonesia. Various awards have been received by BCA, one of them is TOP Brand Survey on e-channel category for five years in a row. This study aim to determine the impact of perceived technology security, perceived risk, and trust on consumer intention to use and recommend BCA Mobile in Indonesia. Data collection was done by cluster sampling method to get 417 respondents spread in Indonesia. Structural Equation Model (SEM) using SmartPLS software version 3.2.7 is used as the analysis technique. The results show that perceived security technology have negative impact, and trust is a major factor in the interest of users in using BCA Mobile services.*

Keywords: Mobile Banking, Perceived Risk, Perceived Technology Security, SEM, TAM, Trust, Behavior Intention

1. Introduction

Information technology can be used by companies to achieve competitive advantage (Kadir and Triwahyuni, 2003). In the banking sector, with the development of technology, various conven-iences are offered, for example the existence of electronic banking services. One of the various e-banking services products in ease of access for customers with banks is mo-bile banking. Goswami and Raghavendra (2009) explains, mobile banking application is part of internet banking that is currently available as a new interface between banks and customers. But unlike internet banking, mobile banking ser-vices have advantages because it is relatively easy to get connectivity. This makes it easier for customers to conduct financial transactions that save a lot of time (Wulandari, 2017). According to a report by Juniper Report (2013), it is estimated that by 2017 more than 1 billion people will use mobile banking (Veera, 2015). This indicates that there is a significant growth opportunity for mobile banking users. Currently there are many private banks and government banks that provide various types of digital banking facilities.

Being more than half a century, Indonesia's largest private bank (Audinovic, 2013), Bank Central Asia (BCA) is always striving to provide the best services and solutions for customers through product and service innovations that meet customer needs. Currently, BCA has the strongest banking franchise transaction in the Indonesian banking world (DBS Group Research, 2015), BCA serves over 16 mil-lion customer accounts and processes millions of transactions each day supported by 1,211 branches, 17,207 ATMs and 424 thousand EDCs as well as transactions through services internet banking and mobile banking that can be accessed 24 hours. In ensuring the quality of its services, BCA provides the best service to customers, meets the evolving needs of its customers, and always takes the lead in leveraging the latest technological developments. Innovations continue to be developed by the banking industry to facilitate customers in making transactions, especially with the rapidly growing mobile phone technology. Some of the electronic banking products and services offered by BCA are KlikBCA which is an internet banking platform which can also be accessed via mobile phone and desktop applications, m-BCA which is a mobile banking platform on mobile phone and Info BCA that provides various information required by customers such as BCA product/ promotion program as well as branch location and ATM BCA. KlikBCA, m-BCA and Info BCA can be accessed through mobile platform or application called BCA Mobile. In early 2017 BCA added a new feature to BCA Mobile application, which is a 'Tarik Tunai Tanpa Kartu' (Cash Withdrawal Without Card) feature that is now accessible in many BCA ATMs spread across Indonesia. Various awards have been received by BCA, one of them is TOP Brand Survey on e-channel category. BCA got TOP Brand title in e-channel category for 5 consecutive years. The year-on-year growth of internet and mobile banking transactions according to BCA's Annual Report 2016 is 25.1%. BCA's efforts in directing customer transactions on the internet and mobile banking networks have shown good results in recent years from the number of BCA Mobile app downloaders on the Play Store platform on android has reached 10 million down-loaders. However, although BCA Mobile application down-loaders are very numerous and transactions through BCA Mobile are growing annually, but the number of transactions are still far from the number of transactions via ATM. With the number of BCA Mobile downloaders circulating in Indonesia, the number of BCA

Mobile transactions can be more than they are today.

There are many different factors that might have an impact on the consumer intention to use BCA Mobile. Thus, it is necessary to identify and understand the effects of the determinants on the use of BCA Mobile. Several studies have been conducted on the adoption rate of mobile banking services. One of the most commonly used models is the Technology Acceptance Model (TAM) model (Fadhillah, 2017). The study using the TAM model is to explain the acceptance of information technology and prove that individual acceptance is based on perceived usefulness (PE) and perceived ease of use (PEOU) (Gu et al, 2009). Other studies have found that the trust dimension affects the level of online banking penetration (McKnight, 2002). There is also a partially significant influence on trust variables on the desire to adopt electronic banking services (Fadhillah, 2017). The rate of adoption or rejection of a technology is affected by trust and perceived risk (Luo et al, 2010). This research includes intention to recommend as a second key dependent variable. This construct is of great interest to stakeholders such as merchants, issuers, acquires, NFC device owners, and mobile application developers, because users are evermore increasingly contributing with their opinions about products, services or technologies to social networks, websites, and forums (Oliveira et al., 2016).

Referring to the phenomena of BCA Mobile and emperical study on mobile banking, this study identified the impact of perceived technology security, perceived risk, and trust on consumer intention to use and recommend BCA Mobile

2. Literature Review

2.1 Mobile Payment System (MPS)

The emergence of mobile technology not only extends rapidly, but has many advantages, one of which for service providers is able to reach customers wherever they are. The use of mobile devices in banking can be considered as an attempt by investors and service providers to stay in touch with customers. Mobile Payment System (MPS) is a payment system that is done using mobile phone. According to Daştan and Gürler (2016), when comparing MPS with other payment systems, the most important feature of MPS is to bring mobility. MPS users can make payments without having to depend by time and place. MPS will take over the traditional payment system and will also become a payment system in the future (Daştan & Gürler, 2016).

2.2 Mobile Banking

Mobile banking or so-called m-banking is a facility or banking services using mobile communication tools such as mobile phones with facilities such as balance checks, payment transactions, funds transfer between accounts and other banks, bank transfer, savings interest, deposit, , bill payments, and foreign exchange rates by means of mobile devices. There are two forms of mobile banking, namely SMS-banking accessed by sending a written message and WAP banking form of mobile internet service accessed via GPRS (internet) connection (Kafidhin, 2013). According to Alalwan et al (2017), as one of the innovative technologies, mobile banking is a great example of mobile technology breakthroughs in the banking sector, enabling customers to generate financial transactions independently (ie balance questions, fund transfers, bill payments) through devices mobile, smartphone, or Personal Digital Assistants (PDA) at the time and place the customer chooses.

2.3 Adoption Models

2.3.1 Technology Acceptance Model (TAM)
The Technology Acceptance Model (TAM) developed by Fred Davis (1989) was adopted from several models built to analyze and understand the factors influencing the acceptability of new technologies (Rahmatsyah, 2011). The model of Theory of Reasoned Action (TRA), first discovered by Ajzen in 1975, suggests that the central assertion of this theory is that users will adopt computer-related technologies only if they feel positive benefits. The next model is Theory of Planned Behavior (TPB), discovered by Ajzen in 1985, this model is very similar to TRA but the TPB model has an additional construct that makes it different from TRA. Developed on the basis of two theories, according to Sjachrizal (2017), TAM becomes a model that has a primary focus on adopting new technologies by individuals, organizations, communities, corporations, or in the broader context is more advanced economic growth (Calantone et al 2006). According to Juhri (2017), the Model Technology Acceptance Model (TAM) developed by Davis (1989) is one of the most widely used models in Information Systems (SI) research because it is simpler and easier to apply (Candraditya, 2013).

Perceived Usefulness and Perceived Ease of Use are placed as individual determinants of interest in using a system (Hanafizadeh et al., 2013). It can then be used to test why users accept or reject information technology and how acceptance is affected by system characteristics (Davis, 1993). Perceived Usefulness (PU) is the performance and future benefit derived from the subjective use of technology (Cheng et al., 2015). This understanding is in line with Khafidhin (2013), Perceived Usefulness is the utility or benefit defined by Davis as a level or state in which a person believes that using a particular system will improve his performance (Davis, 1989). While Perceived Ease of Use (PEOU) is a convenience defined as a level where one is convinced that using a certain system does not require any effort (free of effort) (Davis, 1989). Meanwhile, according to Cheng et al (2015) is the extent to which users see and feel the ease of use of technology (Yosita, 2017). And the last is Behavioral Intention to Use, acording Juhri (2017), behavioral intention to Use is a desire (interest) a person to perform a particular behavior. The results of previous research indicate that behavioral interest is a good predictor of technology acceptance from system users.

2.3.2 Perceived Technology Security
Perceived Technology Security analyzes the potential for uncertainty in using technology. The issue of information security is defined as the buyer's perception of the sellers' inability and unwillingness to protect monetary information

(Salisbury, Pearson, & Miller, 2001). Users will be more inclined to intend using mobile banking if they have a perception that the mobile banking services provided by the bank have been designed and have a secure system of criminal acts (Riyandra P, 2015). The issue of information security makes buyers skeptical (George, 2002), has been seen as a major impediment to e-commerce adoption (Hoffman, Novak, & Peralta, 1999; Rose, Khoo, & Straub, 1999), and a major barrier to the adoption and use of mobile payments broadly (Chang, 2014).

2.3.3 Perceived Risk

Perceived risk is the customer's perception of the uncertainty of results relating to the search and selection of information about the product or service before making a purchase decision (Kesharwani and Bisht, 2012). Then this variable can also be defined as a major obstacle perceived by customers to use electronic services or e-services (Featherman and Pavlou, 2003). If the customer finds the difference between the purchasing experience and the purchasing objective then the perceived level of risk will be higher so that the customer can reduce and even stop consumption of the product or service (Kesharwani and Bisht, 2012).

2.3.4 Trust

Trust is the belief of a certain party to another in conducting a transaction relationship based on a belief that the person will fulfill all its obligations well as expected (Ainurrofiq, 2007: 32). While Krech (1962, in Sarwono, 1997) states that belief is a picture of attitude to accept a statement or establishment without showing a pro or contra attitude.

Trust is easier to grow between people who share the same interests and goals, making it easier to change individual beliefs rather than changing a group's beliefs. Trust is an aspect formed in cognition (Azwar, 2007). Attitude itself is a passive behavior that is not visible, but still will affect the active behavior of the visible (Sarwono, 1997). With trust, an individual will be willing to take risks that may occur in relation to others (Mayer, 1995).

3. Research Model

The research model is shown in **Figure 1**. The model combines TAM with perceived technology security, perceived risk, trust, and intention to recommend constructs, for better understanding consumer intention of the BCA Mobile.

From TAM model we used perceived ease of use (PEOU) and perceived usefulness (PU) as a dimentions of behavioral intention to use. PEOU has been considered as an important determinant in the adoption of information technologies (Wang et al., 2006). PU is the extent to which someone believes that using an information system will enchance his or her performance (Davis et al., 1989) (Vasileiadis, 2014).
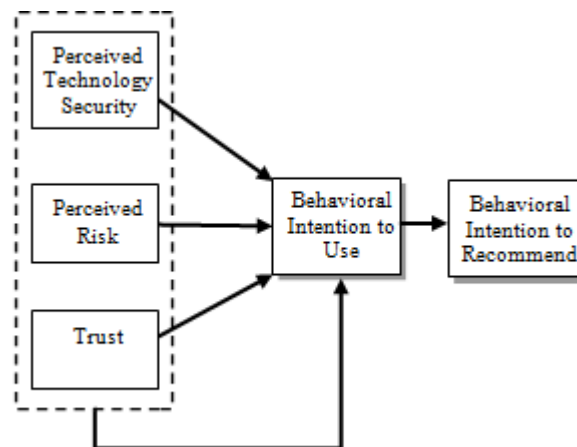

Figure 1: Research Model

3.1 Perceived Technology Security (PTS)

According to Oliveira et al. (2015), feeling secure in conducting financial transactions with mobile technology is important to minimize concerns regarding the use of technology to make mobile payment (Salisbury et al., 2001).

H1. Perceived Technology Security (PTS) has a positive and significant impact on Behavioral Intention to Use (BI) BCA Mobile.

3.2 Perceived Risk (PR)

There are plenty of studies supporting the integration of perceived risk in TAM (Vasileiadis, 2014). Perceived risk is a matter of considerable reason why someone has an intention to purchase online (Morad, 2015).

H2. Perceived Risk (PR) has a significant positive impact on Behavioral Intention to Use (BI) BCA Mobile.

3.3 Trust (TR)

The decision of the consumer to use a system is the result of a personal evaluation of the trustworthiness of the system (Vasileiadis, 2014). Some studies suggest that trust is more important than security (Tsiakis and Sthephanides, 2005).

H3. Trust (TR) has a positive and significant impact on Behavioral Intention to Use (BI) BCA Mobile.

H4. The merger of Perceived Technology Security (PTS), Perceived Risk (PR), and Trust (TR) has a positive and significant impact on Behavioral Intention to Use (BI) BCA Mobile.

3.4 Behavioral Intention To Recommend (REC)

Various opinions are expressed about behavioral intention, one of them according to Namkung and Jang (2007), behavioral intention to recommend is the behavior of consumer who are loyal to the company so willing to recommend to others for getting good service from the company. According to Kotler (2016) in Purwianti & Tio (2017) said that behavioral intention is a condition where the

customer has the intention or loyal attitude to the brand, product and company and willingly tell its superiority to other parties. Meanwhile, Schiffman et al. (2008) in Purwianti & Tio (2017) explains that behavioral intention determines the possibility of consumers will perform certain actions in the future. Such as a positive word of mouth action. Word of mouth is one of the best promotional steps because it does not require marketing costs but effective, because it can cause a significant effect on a product or service.

H5. Behavioral Intention to Use (BI) has a positive and significant impact on Behavioral Intention to Recommend (REC) BCA Mobile.

4. Methods

4.1 Data Collection Tool

To test the hypothesis that has been made, this study uses a questionnaire as a data collection tool. According to Indrawati (2017), in making the questionnaire as a data collection tool, it is endeavored that the questionnaire meet the criteria of reliability, both in terms of stability and consistency; and validity, both content validity and construct validity. For that in the preparation of the questionnaire there are 4 stages performed, namely content validity, face validity, readability, and test pilot.
The first step that can be done is to search for items that will be used to measure variables from previous studies (Indrawati, 2017). Content validity or the validity of the content is the validity that is estimated through testing of the feasibility or relevance of the contents. Or in other words, according to Hendryadi (2014), content validity is a function of how well the dimensions and elements of a concept have been described (now, 2006: 43).

The second step is to discuss the items to be used with relevant research experts and / or with practitioners (Indrawati, 2017). However, some sources say that face validity is the least significant type of validity because it is based merely on a brief assessment of the contents. In this research face validity is done with practitioners in the field of Information Technology (IT), who is an IT Infrastructure Architecture Assistant Manager at Bank Mandiri, Jakarta. Based on the input from the practitioner, a change of questionnaire items was made.

The third step is the steps taken to ensure that the items of questions do not cause difficulties for prospective respondents. The results of the implementation of this test found that the respondents fluently fill out the questionnaire and found no difficulty during the questionnaire.

After the readability test is successfully executed with satisfactory results, then the initial survey is conducted in the form of test pilots, to ensure that the questionnaire meets the validity of the construct. The pilot test in this study involved 40 respondents taken as initial data. The pilot test is performed to retrieve preliminary data which will later be used for testing related Validity and Reliabillity of survey

tools developed (Indrawati, 2017). The validity test of the question items in the questionnaire is tested using the Pearson Product Moment correlation formula using Statistical Package for Social Science (SPSS) software. Meanwhile, reliability of the questionnaire is tested with Alpha Cronbach value. The result of validity and reliability test showed that all indicator or question is valid and reliable.
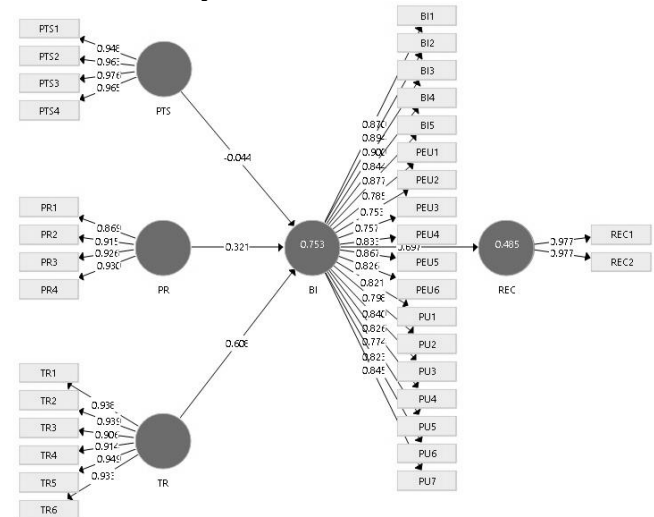
5. Data Analysis and Result

Figure 2: PLS Algorithm

Structural Equation Model (SEM) is a multivariate analysis technique that combines factor analysis and path analysis, allowing researchers to simultaneously test and estimate the relationship between exogenous and endogenous variables with many factors (Ghozali and Latan, 2012 in Ulfah, 2016). According to Fornell and Bookstein 1982 in Arozi (2017), there are two types of widely known SEM types: Covariance-Based Structural Equation Modeling (CB-SEM) and Partial Least Square Path Modeling (PLS-SEM) or often called variance Component-Based Structural Equation Modeling.

Table 1: The Results of Measurement Model and Factor Loading

Construct	Item	AVE	Composite Reliability	Cronbach's Alpha	Loading
Perceived Usefulness (PU)	PU1				0,821
	PU2				0,798
	PU3				0,840
	PU4			0,978	0,826
	PU5				0,774
	PU6				0,823
	PU7				0,845
Perceived Ease of Use (PEU)	PEU1	0,690	0,967		0,785
	PEU2				0,753
	PEU3				0,757
	PEU4			0,951	0,833
	PEU5				0,867
	PEU6				0,826
Behavioral Intention to Use (BI)	BI1				0,870
	BI2				0,894
	BI3			0,970	0,900
	BI4				0,844
	BI5				0,877

Construct	Item	CA	CR		FL
Trust (TR)	TR1	0,865	9,975	0,941	0,938
	TR2				0,939
	TR3				0,906
	TR4				0,914
	TR5				0,949
	TR6				0,933
Perceived Risk (PR)	PR1	0,829	0,951	0,977	0,869
	PR2				0,915
	PR3				0,926
	PR4				0,930
Perceived Technology Security (PTS)	PTS1	0,927	0,981	0,978	0,948
	PTS2				0,963
	PTS3				0,976
	PTS4				0,965
Behavioral Intention to Recommend (REC)	REC1	0,955	0,977		0,977
	REC2				0,977

Data analysis technique in this research using Partial Least Square -Structural Equation Model (PLS-SEM) approach, because it has its own advantages such as data should not have normal distribution and sample size should not be large (Ghozali, 2014). The main purpose of using SEM with PLS is to maximize the variant of endogenous latent variables described. This is in contrast to a Covarian-based SEM that aims to reproduce a theory-based covariance matrix without focusing on the variants described (Sarwono & Narimawati, 2015). This is reinforced by Munaf (2016), PLS is the most commonly used modeling tool (McDonald, 1996: 240 in the journal by Jorg Hanseler et al., 2016: 3) and is referred to as the Silver Bullet.

5.1 Measurement Model

The Measurement Model (outer model), is a measure to test the indicator of the latent variable, or measure how far the indicator can explain its latent variables. In the PLS framework, one manifest variable can only be associated with one latent variable. The test is done through a test of convergent validity, discriminant validity or with Average Variance Extracted (AVE) and reliability.

The results of the measure model can be seen in Table 1, where the AVE value of each variable is above 0.50. In addition to AVE, convergent validity can also be seen from factor loading (FL) values. If FL is above 0.70 then the questionnaire meets the requirements. Based on Table 1 it can be seen that all questionnaire items used in this study have a factor loading above 0.70. Thus it can be ascertained that the research questionnaire satisfies the requirements of convergent validity or it can be concluded that the construct has good convergent validity. In this research, the result showed that the value of correlation between each variable with the items is greater than the value of correlation with other constructs. This indicates a good discriminant validity because it meets the criteria.

.And the last one is reliability that can be seen in Table 1 shows that both Cronbach's Alpha (CA) and Composite Reliability (CR) values are above 0.7. Thus, in addition to meeting the criteria of convergent and discriminant validity, the questionnaire in this study also meets the reliability criteria.

5.2 Structural Model

Structural model (inner model), is a measure to test the influence of one latent variable with other latent variables. Inner model testing is done by looking at the path value to determine whether the effect is significant or not, seen from the t-statistics. In addition, also seen from the percentage of variants described using the value of R square (R^2).

In this research, the value of R^2 for BI is 0,753 that means that the percentage of BI can be explained by Perceived Technology Security (PTS), Perceived Risk (PR), and Trust (TR) of 75.3%. While the value of R^2 for Behavioral Intention to Recommend (REC) is 0,485, that means that the percentage of REC can be explained by Behavioral Intention to Use (BI) of 48,5%.

Table 2: Path Coefficient

Construct	Sample Mean	Standard Deviation	T Statistics	T Table
BI → REC	0,696	0,025	27,591	1,96
PR → BI	0,322	0,066	4,883	1,96
PTS → BI	-0,045	0,046	0,961	1,96
TR → BI	0,609	0,056	10,931	1,96
PTS, PR, and TR → BI	0,652	0,013	67,206	1,96

In this study we used alpha value 5%, so the value of T-Table obtained is 1.96, where hypotesis is accepted when the T-statistic value is greater than T-Table (1.96). Table 2 showed that PTS has negative and not significant impact to BI, because the T-statistic value is below T-Table (0,961> 1,96), so H1 is rejected. PR and TR each of them has positive and significant impact to BI, because the T-statistic value is higher than T-Table (PR : 4,883> 1,96, TR : 10,931>1,96), so H2 and H3 are accepted. Meanwhile, the merger of PTS, PR, and TR has positive and significant impact to BI (T-statistic is higher than T-Table, 0,0652>1,96), along with BI that has the T-statistic value higher than T-Table (27,591> 1,96), so that H4 and H5 are accepted.

6. Discussion

This study uses five variables, namely Perceived Technology Security (PTS), Perceived Risk (PR), Trust (TR), Behavioral Intention to Use (BI) and Behavioral Intention to Recommend (REC) with 34 question items on the questionnaire. Based on the results of hypothesis testing above, it can be seen that only perceived technology security that has a negative and not significant impact on Behavioral Intention to Use. To find out more about these outputs, we will explain each of these below.

6.1 The Impact of Perceived Technology Security (PTS) on Behavioral Intention to Use (BI)

Hypothesis 1 states that perceived technology security has a positive and significant impact on behavioral intention to use, but based on test result and data processing, it is found that perceived technology security variable has negative and not significant effect toward behavioral intention to use BCA

Mobile. This is in line with the results of research conducted by Luvanda, Kimani, & Kimwele (2014) in their research on mobile banking, stating that, *"... most end users are more concerned with convenient, fast, reliable, and easy to use services. In fact most of them are of the view that mobile banking is a secure mode of transaction"*. The sentence was reinforced by Deepak Mathur (2017), who conducted research on the same field, stating, *"The study reveals that the people are not aware of the security concerns while making e-payments"*. According to Cheng et al. (2006, in Oliveira et al., 2015), perceived technology security analyzes the potential for uncertainty in the use of technology, hence the higher the feeling of uncertainty perceived by users of the technology's security, the lower the user's desire to use the technology offered, in this case is BCA Mobile. In this study behavioral intention to use is aimed at experienced users, then although there are users that concerned about the security of BCA Mobile but based on their experience the users has never felt any problems with the security of BCA Mobile, thus security is no longer a concern for BCA Mobile users.

6.2 The Impact of Perceived Risk (PR) on Behavioral Intention to Use (BI)

Hypothesis 2 states that perceived risk positively and significantly influence the behavioral intention to use, based on the results of test and data processing found that the perceived risk positively and significantly impact the behavioral intention to use BCA Mobile. This is in line with the results of technology adoption studies that have been conducted previously by Cunningham et al. (2015), Curran and Meuter (2005), and Evon Tan Jasmine Leby Lau (2016) (Indrawati, 2017). Perceived Risk has an impact in the adoption of mobile banking also in line with research conducted by Wu and Wang (2005) as said by Khraim, AL Shoubaki, & Khraim (2011) in their research which also examines the factors that influence consumers in adopting services mobile banking. According to Kim et al. (2008) in Khraim et al. (2011) consumers or users will often be faced with various levels of risk and uncertainty in using mobile technology. However, that gradually increasing the confidence of users and increasing user awareness in mobile banking services.

6.3 Trust Influence (TR) on Behavioral Intention to Use (BI)

Hypothesis 3 states that trust has a positive and significant impact on behavioral intention to use, based on test results and data processing found that trust have positive and significant impact on behavioral intention to use BCA Mobile. Trust is the variable that have the highest T-Static value (10,931) compared with perceived technology security variable (0,961) and perceived risk (4,883). Thus, trust is a factor that has the greatest influence on behavioral intention to use in this research. This is in line with the results obtained by Nayak, Nath, & Goel (2014) which states that trust is an important point in the adoption of mobile banking. Yosita (2016) who conducted a research in the field of e-banking also argued that the biggest factor in influencing the interest of respondents to use the service is the level of trust

in the service provider. It can be said that user interest will be higher when users feel or already have confidence in the banking and services offered. Therefore, it is necessary for businesses or service providers to improve the quality of services from various aspects in order to continue to increase user trust until customer loyalty is established.

6.4 Influence of Perceived Technology Security (PTS), Perceived Risk (PR), and Trust (TR) to Behavioral Intention to Use (BI)

Hypothesis 4 states that perceived technology security, perceived risk, and trust have a positive and significant effect on behavioral intention to use, based on test result and data processing found that the merger of three variables have positive and significant effect toward behavioral intention to use BCA Mobile, with T-Statistic value of 64,532. This indicates that merging these three variables can increase user interest in using mobile banking services, in this case is BCA Mobile.

6.5 Behavioral Intention to Use (BI) Influence on Behavioral Intention to Recommend (REC)

Hypothesis 5 states that behavioral intention to use has a positive and significant effect on behavioral intention to recommend, based on test result and data processing found that behavioral intention to use has positive and significant effect to behavioral intention to recommend BCA Mobile, with T-Statistic value 27,591. This is in line with the study of Oliveira et al. (2015) which shows that behavioral intention to use has a positive effect and gained significant value on behavioral intention to recommend, which in their research journal also revealed that their study was the first study to discuss this variable on mobile payment field (Dahlberg et al., 2015).

In this study there is perceived ease of use and perceived usefulness that acts as a dimension of behavioral intention to use. Based on the results and explanations mentioned earlier, it can be said that the higher the user's interest in using mobile banking services perceived by the ease of using the services, the perceived benefits, and the experience of using mobile banking services, the higher the user's desire to recommend the service to other people.

7. Conclusion

Perceived technology security, perceived risk, and trust are used in this research to identify an impact on consumer intention to use and recommend BCA Mobile. Turned out that perceived technology security has negative and not significant impact, while perceived risk and trust respectively have positive and significant effect.

The first variable to be measured is perceived technology security, the result is negative and not significant on user interest in using BCA Mobile, with T-Statistic value 0,961 (<1,96). In this study behavioral intention to use is aimed at experienced users, then although there are users that concerned about the security of BCA Mobile, but based on

their experience the user has never felt any problems with the security of BCA Mobile, security is no longer a concern for BCA Mobile users. However, there is still a need for improvement and / or improvement of quality especially related to the information security of customers using BCA Mobile services.

Another factor that affects users' interest in using BCA Mobile services is perceived risk, with a T-Statistic score of 4.883 (> 1.96), indicating that this variable has a positive and significant impact, the higher the perceived risk it will increase user awareness about risks that exist, then give tmen awareness to be more careful in using BCA Mobile services.

The most influence consumer intention on mobile banking service, in this case is BCA Mobile, is trust, with T-Statistic value 10,931 (> 1,96). This indicates that the interest of BCA Mobile users will increase when users feel or have confidence to the banking and / or services offered.

Furthermore, the merger of the three variables has a positive and significant impact on user interest in using mobile banking services. It may be there is a negative result by individual influence, but overall in spite of the risks, given the user's perceived safety and trust, can greatly affect the user's interest (T-Statistics score of 67.206> 1.96) in using BCA Mobile. It can also be seen from R^2 value of 7,26 for behavioral intention to use variable to the merger of three variables, indicating that the variables used influence 72,6% of behavioral intention to use, while the remaining 27,4% is influenced by other variable.

Finally, this study measures the influence of user interest in recommending BCA Mobile services to others. The model in this study showed 48.5% of its influence on the interest. This is one of the contributions that is often overlooked in research on technology adoption. Positive and significant influences are found in the tendency of users to recommend BCA Mobile services to others.

Table 3: Appendix. Questionnaire

Constructs	Items	Source
Perceived Technology Security	PTS1 - I would feel secure sending sensitive information across BCA Mobile.	(Cheng et al., 2006)
	PTS2 – BCA Mobile is a secure means through which to send sensitive information.	
	PTS3 - I would feel totally safe providing sensitive information about myself over BCA Mobile.	
	PTS4 - Overall BCA Mobile is a safe place to send sensitive information	
Perceived Risk	PR1 – I find it unlikely that there will be a problem with BCA Mobile.	(Featherman dan Pavlou, 2003)
	PR2 – I feel I have no problem on using BCA Mobile.	
	PR3 –I feel safe to do financial activities through BCA Mobile.	
	PR4 – I feel no harm when doing financial activities thorugh BCA Mobile.	
Trust	TR1 - I believe that BCA Mobile is	(Gefen et al,

Constructs	Items	Source
	trustworthy.	2003)
	TR 2 – I trust in BCA Mobile.	
	TR3 I do not doubt the honesty of BCA Mobile.	
	TR4 - I feel assured that legal and technological structures adequately protect me from problems on BCA Mobile.	
	TR5 - Even if not monitored, I would trust BCA Mobile to do the job right.	
	TR6 - BCA Mobile has the ability to fulfil its task.	
Perceived Ease Of Use	PEU1: Learning to use BCA Mobile would be easy for me.	(Vasileiadis, 2014), (Khafidhin, 2013)
	PEU2 – I feel easy for me to control the features in BCA Mobile as I see fit (making payments, transfer between account or to other Bank).	
	PEU3 – Features in BCA Mobile are easy to understand.	
	PEU4 – I feel flexible using BCA Mobile as it is easily accessible on all smartphones.	
	PEU5 – I can easily become an expert in using BCA Mobile.	
	PEU6 - Overall, I would find mobile payment systems to be easy to use.	
Perceived Usefulness	PU1 - Using BCA Mobile would enhance my effectiveness in making payments.	(Vasileiadis, 2014), (Khafidhin, 2013)
	PU2 - Using BCA Mobile would make it easier for me to manage and make payments.	
	PU3 – Using BCA Mobile speeds up my activities in making payments.	
	PU4 - Using BCA Mobile would improve my performance in making payments.	
	PU5 – Using BCA Mobile increase my productivity in making payments.	
	PU6 – In general, using BCA Mobile makes it easier for me to do banking activities.	
	PU7 – Overall, using BCA Mobile helps me in banking activities.	
Behavioral Intention To Use	BI1 - I intend to use mobile payment in the next months.	(B_elanger & Carter, 2008; Venkatesh et al., 2012)
	BI2 - I predict I would use mobile payment in the next months.	
	BI3 - I plan to use mobile payment in the next months.	
	BI4 - I will try to use mobile payment in my daily life.	
	BI5 - Interacting with my financial account over mobile payment is something that I would do.	
	BI16 - I would not hesitate to provide personal information to mobile payment service.	
Behavioral Intention To Recommend	REC1 - I will recommend to my friends to subscribe to the mobile payment service, if it is available.	(Oliviera, 2017)
	REC2 - If I have a good experience with mobile payment I will recommend friends to subscribe to the service.	

References

[1] Afifah, F. (2017). Analisis Penggunaan Mobile Banking dengan Mengadopsi Technology Acceptance Model (TAM) (Studi Kasus pada Bank Central Asia di Jakarta).

[2] Alalwana, A. A., Dwivedib, Y. K., & Ranab, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust.

[3] Anjarsari, I. (2016). Analisis Faktor Yang Mempengaruhi Adopsi Instagram Oleh Online Shoppers Di Kota Bandung.

[4] Arrozi, A. H. (2017). Analisis Faktor-Faktor yang Mempengaruhi Adopsi MyIndiHome pada pelanggan IndiHome.

[5] Audinovic, V. (2013, Juli 23). *Profil Bank Central Asia*. Available at Merdeka.com: https://profil.merdeka.com/indonesia/b/bank-central-asia/. Accessed on September 2017.

[6] Carla, Y. (2013). Analisis Faktor-Faktor Yang Mempengaruhi Fee Audit Dari Segi Client ATTRIBUTE (Studi pada perusahaan yang listing di Bursa Efek Singapura pada tahun 2011-2012). 57.

[7] Cheng, S., Chen, S., & Yen, D. (2015). Continuance Intention of E-Portofolio System : A Confirmatory and Multigroup Invariance Analysis of Technology Acceptance Model.

[8] Cooper, D. R., & P. S., S. (2011). *Business Research Methods.* New York: McGraw-Hill Irwin.

[9] Dachlan, U. (2014). *Panduan Lengkap Structural Equation Modeling.* Semarang: Lentera Ilmu.

[10] Daştan, İ., & Gürler, C. (2016). Factors Affecting the Adoption of Mobile Payment Systems: An Empirical Analysis. *Emerging Markets Journal*.

[11] DBS Group Research. (2015, April 14). *ASEAN Banks - DBS Bank.* Available at DBS: https://www.dbs.com.sg/. Accessed on September 2017.

[12] Fadhillah, M. I. (2017). Analisis Minat Adopsi Layanan Tcash Menggunakan Pendekatan Dengan Item Technology Acceptance Model (TAM) Di Kota Bandung.

[13] Ghozali, H. (2014). *Structural Equation Modeling Metode Alternatif dengan Partial Least Square (PLS).* Semarang: Badan Penerbit Universitas Diponegoro.

[14] Group, M. M. (2017, Juni 30). *Internet Usage in Asia*. Available at Internet World Stats : Usage and Population Statistics: http://www.internetworldstats.com/stats3.htm. Accessed on October 2017.

[15] Hendyadi. (2014). Content Validity (Validitas Isi). *Teorionline Personal Paper*, 1-2.

[16] Indrawati. (2015). *Metode Penelitian Manajemen dan Bisnis : Konvergensi Teknologi Komunikasi dan Informatika.* Bandung: Reflika Aditama.

[17] Indrawati. (2017). *Perilaku Konsumen Individu Dalam Mengadopsi Layanan Berbasis Teknologi Informasi & Komunikasi.* Bandung: PT Refika Aditama.

[18] Juhri, K. (2017). Pengaruh Trust, Perceived Usefulness, Dan Perceived Ease Of Use Terhadap Behavioural Intention To Use Dengan Attitude Toward Using Sebagai Mediator Pada Pengguna T-Cash Di Bandung.

[19] Karen Furst, e. (2002). Internet Banking: Development and Prospects,. *Quarterly Journal, Vol. 19*, 30.

[20] Kemp, S. (2017, Januari 25). *Digital in 2017 : Global Overview.* Available at We Are Social: https://wearesocial.com/sg/blog/2017/01/digital-in-2017-global-overview. Accessed on October 2017.

[21] Khafidhin, R. (2013). Identifikasi Faktor-faktor Penggunaan Layanan CIMB Mobile Banking oleh Nasabah di Kota Bandung.

[22] Khraim, H. S., AL Shoubaki, Y. E., & Khraim, A. S. (2011). Factors Affecting Jordanian Consumers' Adoption of Mobile Banking Services. *International Journal of Business and Social Science*.

[23] Kotler, P., & Keller, K. L. (2016). *Marketing Management* (15th ed.). Pearson Education, Inc.

[24] Law, K. (2007). Impact of Perceived Security on Consumer Trust in Online Banking.

[25] Luvanda, A., Kimani, D., & Kimwele, D. (2014). Lack of Awareness by End Users on Security Issues Affecting Mobile Banking: A Case Study of Kenyan Moble Phone End Users. *Journal of Information Engineering and Applications*, 27.

[26] Manaf, N. R. (2016). Analisis Faktor-Faktor Kunci Yang Menjadi Determinan Adopsi Teknologi Produk Tcash Tap Menggunakan Model Modified Unified Theory Of Acceptance And Use Of Technology 2 Di Wilayah DkI Jakarta.

[27] marcopolis.net. (2016, June 12). *Indonesia Report*. Available at http://www.marcopolis.net/top-banks-in-indonesia.htm. Accessed on October 2017.

[28] Mathur, D. (2017). Survey of Awareness about Security in E-Payment System. *International Journal Of Mechanical Engineering And Information Technology*.

[29] Moyer, J., & Hughes, B. (2012). ICTs : Do They Contribute to Increased Carbon Emissions. Technological Forecasting and Social Change.

[30] Nadya. (2016). Peran Digital Marketing Dalam Eksistensi Bisnis Kuliner Seblak Jeletet Murni. *Jurnal Riset Manajemen dan Bisnis*.

[31] Namkung, Y., & Jang, S. (2007). Does food quality really matter in restaurant?: its impact on customer satisfaction and behavioral intentions. *Journal of Hospitality and Tourism Research*.

[32] Nayak, N., Nath, V., & Goel, N. (2014). A Study of Adoption Behaviour of Mobile Banking Services by Indan Consumers. *International Journal of Research in Engineering & Technology*.

[33] Novianti, A. W. (2017). Faktor Penentu Minat Penggunaan Instagram Untuk Pembelian Online Menggunakan Technology Acceptance Model (TAM).

[34] Oliveira, T., Thomas, M., Baptista, G., & Camp, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology.

[35] Pratama, A., & Al-Shaikh, M. (2012). Relation and Growth of Internet Penetration Rate with Human Development Level from 2000 to 2010.

[36] PT Bank Central Asia (Persero). (2016). *Annual Report 2016.*

[37] Purwianti, L., & Tio, K. (2017). Faktor-faktor yang Mempengaruhi Behavioral Intention. *Jurnal Manajemen Maranatha*.

[38] Ramadhan, B. (2016, Januari 21). *Data Terbaru, Ternyata Jumlah Ponsel di Indonesia Melebihi Jumlah Populasi*. Available at Good News From Indonesia: https://www.goodnewsfromindonesia.id/2016/01/21/dat a-terbaru-ternyata-jumlah-ponsel-di-indonesia-melebihi-jumlah-populasi. Accessed on October 2017.

[39] Ramadhan, B. (2016, April 30). *Populasi pengguna Internet Indonesia hampir mencapai angka 90 juta*. Available at Good News From Indonesia: https://www.goodnewsfromindonesia.id/2015/04/30/po pulasi-pengguna-internet-indonesia-hampir-mencapai-angka-90-juta. Accessed on October 2017.

[40] Sarwono, J., & Narimawati, U. (2015). *Membuat Skripsi, Tesis, dan Disertasi dengan Partial Least Square SEM (PLS SEM).* Yogyakarta: ANDI.

[41] Sekaran, U. (2011). *Metodologi Penelitian untuk Bisnis.* Jakarta: Salemba Empat.

[42] Sjachrizal, M. R. (2017). Analisis Pengaruh Konsep Adopsi Teknologi E-Money Terhadap Tingkat Pemakaian T-Cash Sebagai Alat Pembayaran Elektronik Menggunakan Technology Acceptance Model.

[43] Sugiyono. (2012). *Metode Penelitian Kuantitatif dan Kualitatif dan R&D.* Bandung: Alfabeta.

[44] Sugiyono. (2014). *Metode Penelitian Bisnis.* Bandung: Alfabeta.

[45] Supriyanto, B. (2016). Faktor Faktor Yang Mempengaruhi Adopsi E-Money Telkomsel (Telkomsel Cash).

[46] Vasileiadis, A. (2014). Security Concerns And Trust In The Adoption Of M-Commerce.

[47] Wang, Y.S. *et al.* 2006. Predicting consumer intention to use mobile service. *Information Systems Journal*, 16(1): 157-179.

[48] Widhiarso, W. (2010, Agustus 19). *Jumlah Sampel dalam Pemodelan Persamaan Struktural (SEM)*. Available at Wahyu Widhiarso Fakultas Psikologi UGM: http://widhiarso.staff.ugm.ac.id/wp/jumlah-sampel-dalam-pemodelan-persamaan-struktural-sem/. Accessed on January 3rd 2018.

[49] Wijoseno, J. (2017). Faktor-Faktor Persepsi Yang Mempengaruhi Kepercayaan Konsumen Dan Dampaknya Terhadap Minat Beli Online Pada Situs Jual Beli Blanja.Com.

[50] Wulandari, N. P. (2017). Identifikas Faktor Utama Penggunaan Mobile Banking Di Bandung.

[51] Yosita, M. (2016). Analisis Pengaruh Dimensi Kepercayaan (Multi Dimensional Trust) dan Risiko yang Dirasakan (Perceived Risk) dengan Model Modifikasi UTAUT-Luo Terhadap Penggunaan Layanan Internet Banking di Indonesia.

[52] Yusuf, A. M. (2014). *Metode Penelitian: Kuantitatif, Kualitatif, dan Penelitian Gabungan.* Jakarta: KENCANA.