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EXPLORING FACTORS AFFECTING TRUST IN USE OF E-BANKING AMONG INDONESIAN GEN-Y

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ABSTRACT

In line with technological developments, the interest of the community and customers in carrying out their financial transactions also changed. Customers prefer banking services electronically or digitally. Generation Y is the highest internet user group in Indonesia. With the potential number of smartphone users and internet users in Indonesia, several companies have begun to expand their business operations in the form of mobile to facilitate and adjust the needs of consumers with mobility, including in the banking industry. This study aims to determine what are the determinants that affect the Trust in the use of e-banking among Generation Y in Indonesia. The analysis technique used is SEM-PLS. In processing the data of e-banking users with age criteria of 21-40 years, researchers using WarpPLS 6.0 software. Based on the data obtained and processed, there are several factor in this research that is risk perceive significantly negative influence while social influences, task characteristic, and personal innovativeness has a significant positive effect. Furthermore, characteristic task is the biggest factor affecting the trust in using e-banking. This study has several limitations that can encourage further study. First, this research is still lacking in terms of the number of respondents and the distribution of questionnaires that represent per region in Indonesia. Second, this study model only explains trusts for using e-banking by 26%.

KEY WORDS

Trust, e-banking, public service, industry.

The number of bank offices according to Indonesian banking statistics (SPI) in August 2017 recorded decreased. The number of offices of commercial banks decreased by 134 units compared to August 2016 which was 32,769 units. Along with technological developments, the public interest or for customers in conducting financial transactions have also changed. Customers prefer banking services electronically or digital. According to OJK (2017), the number of e-banking customers (SMS banking, phone banking, mobile banking and internet banking) increased by 270%, from 13.6 million customers in 2012 to 50.4 million customers by 2016. Meanwhile, e-banking user transaction exposure increased 169%, from 150.8 million transactions in 2012 to 405.4 million transactions in 2016.

Generation Y is the highest group of internet users in Indonesia. Based on research data from (DailySocial.id, 2016), internet users in Indonesia today are 28.3% of people categorized as late adopters (40-59 years) and 69.3% are categorized as digital native or Y generation (21-40 year). Generation Y is a social generation driven by society to appreciate individual voice (Nielsen, 2016). The use of mobile phones is becoming a new paradigm by improving its applications from simply connectivity to lifestyle devices (Thakur & Srivastava, 2013). Given the potential number of smartphone users and internet users in Indonesia, several companies have begun to expand their mobile business operations to facilitate and customize consumer needs with mobility, including among the banking industry.

Previous research related to the use of *e-banking* used as the reference journal in this research is owned by Malaquias and Hwang (2016): An empirical study on trust in mobile banking: Computers in Human Behavior, Q1, 2016. Not many studies have empirically tested the factors affecting *trust* in the use of *e-banking*, and specifically no research has targeted the Generation Y segment in Indonesia, so this study intends to fill in the *existing gap literature*.

LITERATURE REVIEW

This study is intended to explore the use of e-Banking with respondents in Indonesia, especially among Generation Y. The model used in the research is obtained by considering several relevant factors that have been studied in previous research, among others: risk perception, task characteristic, personal innovativeness, and social influence.

Exploration of the determinants of factors that affect the Trust is one of the important things in the use of e-Banking. This is because the Trust itself is a catalyst in the relationship between buyers and sellers (Pavlou, 2003 ; Wang, Ngamsiriudom, & Hsieh, 2015). E-commerce, including e-Banking, has high levels of uncertainty and perceived risk, which is why trust becomes an important factor for people to use (Li & Yeh, 2010 ; Pavlou, 2003). Major efforts are needed for e-Banking service providers to increase their client's trust. This is because trust has a big influence for a customer to perform banking transactions via e-Banking or not (Sugiantoro & Isharijadi, 2015). In the relationship between customer and e-Banking, if the trust does not exist, then there will be no adoption that leads to the absence of use of this technology (Zhou, 2012).

Development of Hypotheses. The main obstacles in the use of e-banking in Brazil are risk perception (Cruz, Barretto Filgueiras Neto, Munoz-Gallego, & Laukkanen, 2010). Risk perception is also the most important factor in China (Laforet & Li, 2005) as well as that factor has a significant relationship with the intention to use e-banking in Iran (Mohammadi, 2015). The use of e-banking is also significantly influenced by this construction (Yiu, Grant, & Edgar, 2007). Risk perception is a significant factor affecting trust (Al-Gahtani, 2011) and influencing the adoption of mobile banking (Al-Jabri & Sohail, 2012; Ha et al., 2012; Mishra & Bisht, 2013). Because risk perception can have a negative effect on trust, the first variable we include in our model is risk. Risk perception involves concerns about: i) the use of personal information without the knowledge or permission of the owner (Akturan & Tezcan, 2012; Lee, 2009; Luarn & Lin, 2005); ii) money transference for third parties without the knowledge and permission (Act & Tezcan, 2012; Hanafizadeh, Behboudi, Koshksaray, & Tabar, 2014; Luarn & Lin, 2005); and iii) the vulnerability of mobile devices to hackers, Trojan horses and information interception (Zhou, 2011; 2012a; 2013). Banks need to guarantee high security transactions through MB, as well as they need to ensure reliability for their customers (Al-Jabri & Sohail, 2012; Ha et al., 2012).

Concerns about access to personal / financial information by unauthorized third parties lead customers to distrust online system security (Kim, Ferrin, & Rao, 2008). In the case of MB, a higher risk perception may lead people to avoid adoption, especially when we observe Sohail and Al-Jabri results (2014), suggesting that non-users perceive a higher risk level in MB compared to users of this technology. Al-Jabri and Sohail (2012) also found a negative effect of the perceived risk in mobile banking adoption. In addition, Al Gahtani (2011) and Liao et al. (2011) identifies that perceived risk has a negative effect on trust to conduct online transactions. In this way, we hypothesize that people who feel higher levels of risk in MB tend to feel less confident to adopt it.

H1. Risk Perception has a negative influence on Trust in the use of e-banking.

Formerly pointed out as a lost (or implicit) construction in the previous model (Goodhue & Thompson, 1995), fit task technology has gained popularity and acceptance among information systems research (Lee, Cheng, & Cheng, 2007). For example, Suh and Han (2002) and Hwang and Jeong (2014) suggest for future work to explore the impact of user task characteristics on user acceptance of technology. Recent papers have used this construction to understand MB adoption and user attitudes toward MB (Oliveira, Faria, Thomas, & Popovi c, 2014; Zhou et al., 2010).

An information technology will have a positive effect on individual performance when this technology is useful, and when it presents matches the task it supports (Goodhue & Thompson, 1995). This reason considers a perspective on how new technologies can contribute to optimizing specific jobs (Oliveira et al., 2014). In this way, the technology fit model of the task indicates that not only the characteristics embedded in the given system

will contribute to a higher evaluation by the user; the extent to which the system helps individuals in the needs of their duties also has a significant influence (Goodhue, 1995).

Characteristic of the task may affect the intention to use MB (Oliveira et al., 2014; Zhou et al., 2010) and trust. People who need to transfer money anytime and anywhere, who need to view their account balances and manage their accounts on time, tend to trust the technology to grow their activities. Somehow, they have to believe in technology to do their activities.

Oliveira et al. (2014) use characteristic tasks and characteristic technologies in their models, as antecedents of fit technology tasks. They observed that fit duty technology presented a positive effect on performance expectations on MB. Zhou et al. (2010) developed a study integrating model technology fit tasks with an integrated theory of acceptance and use of technology to explain MB adoption. Their results support the application of this approach to understanding MB adoption, once task characteristics have a positive effect on the dependent variable. In this study, we expect a positive relationship between task characteristics and trust in MB.

H2. *Task Characteristic* has a positive influence on trust in the use of *e-banking*.

Personal innovation in the domain of information technology represents individual characteristics that reflect a willingness to try new technologies (Agarwal & Karahanna, 2000). This build helps in the identification of individuals who may be adopting some new information technology earlier than others (Agarwal & Prasad, 1998). In the case of MB, personal innovation is a characteristic that contributes to the reduction of uncertainty (Montezemi & Saremi, 2015), and, thus, can show a positive effect on the perception of cellular technology as ease of use (Lu, Yao, & Yu, 2005) McKnight et al., 2002). In addition, personal innovation has a negative relationship with computer anxiety (Powell, 2013), a positive relationship with the implementation of information systems (Hwang, 2014) and a positive relationship with the adoption of internet banking (Yiu et al., 2007).

Although Zhou (2012b) did not find a positive relationship between trust and personal innovation, evidence from previous research indicates that personal innovation has a positive relationship with: disposition of trust (McKnight et al., 2002); intentions to adopt mobile credit cards (Tan, Ooi, Chong, & Hwe, 2014); and intentions to adopt MB (Chitungo & Munongo, 2013). Based on these arguments and evidence, we consider that in Brazil people who like to try new technology will be more willing to believe in MB than their peers.

H3. *Personal innovativeness* has a positive influence on trust in the use of *e-banking*.

Social influence represents the extent to which an individual feels that another important person, especially his or her friends and family, believes that he or she should use the new system (Baptista & Oliveira, 2015; Venkatesh et al., 2003). It is a relevant concept to explain the adoption of technology (Hwang, Al-Arabi, & Shin, 2015; Venkatesh & Morris, 2000) and has been used in the study of MB and online banking (Al-Somali, Gholami, & Clegg, 2009; Baptista & Oliveira, 2015; Chitungo & Munongo, 2013; Montezemi & Saremi, 2015; Oliveira et al., 2014; Shaikh & Karjaluoto, 2015; Zhou et al., 2010). Using the same arguments put forward by Venkatesh et al. (2003), we assume that people who use MB influence people around using MB as well, especially if they are the important reference for the latter.

Perhaps, there is some sort of transfer of confidence in this case, where people tend to believe in MB because other important people also believe in it. The same relevant way to explore social influences in e-commerce (Lu et al., 2005), is also relevant to explore these variables within the MB context. If someone is successful using MB, people who consider it important can try to use MB as well, and believe in this technology. In the same way as personal innovation, social influence contributes to the reduction of uncertainty (Montezemi & Saremi, 2015).

Goh and Sun (2014) observed that social norms had a significant effect on female users of Islamic MB, but did not have a significant effect for men. Tan et al. (2014) found a positive influence of social influence on the intention to adopt mobile credit cards. In contrast to Goh and Sun (2014), differences in pathway coefficients between men and women were not statistically significant in the study developed by Tan et al. (2014). The results of Yu

(2012) show that the main construct for explaining the intention to adopt MB in Taiwan is social influence (the relationship is positive). Thus, our fourth hypothesis is:

H4. *Social Influence* has a positive influence on trust in the use of *e-banking*.

METHODS OF RESEARCH

The research method using quantitative and data collection techniques is done by using *online survey*. The population target for this study is *e-banking* users. A total of 203 *e-banking* users domiciled in Indonesia participated in this study. But the respondents who meet the criteria in this study, namely the e-banking users with age between 21-40 years, were 173 respondents.

A total of 14 items of questionnaires were adopted from Malaquias and Hwang (2016). All items in table 1 have been modified and adapted to the conditions of users in Indonesia to facilitate the respondents in understanding the questions. Each item is measured using a Likert scale between 1 (strongly disagree) and 5 (agree). Age and gender are also included in the questionnaire as demographic questions.

All four determinants are *risk perception*, *task characteristic*, *personal innovativeness* and *social influence* acting as an independent variable. While *trust* acts as a dependent variable, the relationship of each variable is shown in the following research model:

Figure 1 – Research model

RESULTS AND DISCUSSION

Evaluation of Measurement Model (Outer). In testing the measurement model, where the correlation between latent variables and indicators tested according to latent variables, then tested the convergent validity, discriminant validity test, and reliability test. The convergent validity test is used to see the indication of the extent to which the assessment steps correlate with other steps that must be related. The convergent validity test is assessed for the measurement model based on the following criteria: (a) outer loadings for all items must exceed 0.70; (b) Average Variance Extracted (AVE) value exceeds 0.50. The measurement results can be seen in table 2.

Table 2 above shows that outer loadings for all items > 0.70 as recommended by (Sholihin & Ratmono, 2013). The SI3 item from Social Influence (SI) has been removed from the data due to low loading (<0.70). Finally, AVE values for all constructs are greater than 0.50 as recommended by (Solimun et al., 2017). Thus, the convergent validity test is achieved. To test reliability, the items used as a benchmark for reliability test parameters are Cronbach's alpha and composite reliability (Nugroho et al., 2017). The requirements for the reliability test are the composite reliability (CR)> 0.70 and Cronbach's alpha> 0.60 (Solimun et al., 2017). As shown in table 3, then the reliability test is reached.

Discriminant validity tests, as defined by Thong (2001, p.152) are quoted from (Tan et al., 2017) is "the extent to which items distinguish between variables". This can be assessed by "comparing the square root level of AVEs and the correlation between the two constructs" (Deng, Mo, & Liu, 2014). The results shown in Table 3, the discriminant validity

test have been achieved because the square root of AVEs exceeds the corresponding AVEs intercorrelation.

Table 1 – Demographic Profile of Respondents

Demographic factors	Amount	% Respondents
Gender		
Woman	121	59.6 %
Man	82	40.4%
Level of education		
SMA	6	3.0%
Diploma	10	4.9%
Bachelor	137	67.5%
Master	48	23.6%
Doctor / Ph.D.	2	1.0%
Age		
In bottom 20	1	0.5%
21-25 years old	32	15.8%
26-30 years old	38	18.7%
31-35 years old	91	44.8%
36-40 years old	12	5.9%
Above 40 years old	29	14.3%
Profession		
College student	31	15.3%
Work	156	76.8%
Housewife	13	6.4%
Pension	3	1.5%
Duration of <i>e-banking</i> Use		
<1 year	13	6.4%
1-3 years	60	29.6%
3-5 years	40	19.7%
> 5 years	90	44.3%

Table 2 – Convergent Validity and Reliability Test

Construct	Items	Outer Loadings	AVE	Composite Reliability	Cronbach's alpha
<i>Trust</i>	T R 1	0.852	0.794	0.920	0.870
	T R 2	0.927			
	T R 3	0.893			
<i>Risk Perceived</i>	R P 1	0.961	0.924	0.960	0.918
	R P 2	0.961			
<i>Social Influence</i>	S I 1	0.911	0.831	0.907	0.796
	S I 2	0.911			
	TC1	0.883			
<i>Task Characteristic</i>	TC2	0.934	0.814	0.929	0.885
	TC3	0.888			
	P1	0.824			
<i>Personal Innovativeness</i>	P 2	0.871	0.713	0.882	0.779
	P 3	0.838			

Note: SI3 has been removed due to low outer loadings (<0.70).

Table 3 – Discriminant Validity Test / Correlation Latent Variable

	TR	R P	TC	SI	PI
TR	0.891	-0.192	0.333	0.214	0.263
RP	-0.192	0.961	0.143	0.080	-0.051
TC	0.333	0.143	0.902	0.076	0.247
SI	0.214	0.080	0.076	0.911	0.305
PI	0.263	-0.051	0.247	0.305	0.844

Notes: the diagonal element (bold) is the square root of AVE for each construct. The off-diagonal factor indicates inter-correlation.

Analysis Structural Model (Inner). Figure 2 shows the result of testing hypotheses is. Results show that 26% of the variations TRUST in using e-Banking is explained by Risk

Perceived (RP), Task Characteristic (TC), Social Influence (SI) and Personal Innovativeness (PI) constructs.

It has been shown that this model applies in the context of usage e-banking. Trust to use e-banking was significantly positively influenced by TC ($\beta = 0.28$, $p < 0.01$); SI ($\beta = 0.19$, $p < 0.01$); and PI ($\beta = 0.14$, $p < 0.05$), where the strongest determinant factor is Task Characteristic (TC). Furthermore, Risk Perceived significantly negatively affects the Trust ($\beta = -0.23$, $p < 0.01$). Thus, H1, H2, H3 and H4 are supported.

Figure 2 – Results of PLS-SEM

Table 4 – Hypothesis Testing Results using PLS-SEM

Hypothesis	Path	Path Coefficient	P-Values	Significance
H1	RP → TR	-0.224	0.001	Supported
H2	TC → TR	0.296	<0.001	Supported
H3	PI → TR	0.155	0.019	Supported
H4	SI → TR	0.155	0.018	Supported

Based on the application of the model, empirical evidence related to risk perception, task characteristic, personal innovativeness, all of which have an effect on trust in using *e-banking* among Generation Y in Indonesia. But the biggest factor is influenced by *task characteristic* and then followed by *perceived risk*.

CONCLUSION

Based on empirical results, TC is the most significant factor in influencing trust, followed by risk perceived, personal innovativeness and social influences. This study has some limitations that may encourage further study. First, this study is still lacking in terms of the number of respondents and distributing questionnaires representing per region in Indonesia. Further studies may consider a wider and more equitable distribution to the territory of Indonesia. Secondly, this study model only explains the trust to use e-banking by 26 %. Thus, it is necessary to add other undetermined determinants such as attitudes toward advertising; image of related bank; domicile of respondents (rural / urban) and others. From a managerial point of view, this study provides practical guidance to increase the knowledge of the factors that make e-banking acceptable and used by the community. This study proves that task characteristic has the greatest influence to public trust in using e-banking. This can be a first step for banks to target customers with characteristics that require mobility in managing and using financial transactions. Thus, e-banking service providers are always able to provide the best and innovative services for consumers who have different values with competitors.

Appendix 1 – Questionnaire

Factor	Question	Strongly Disagree	Disagree	Doubt	Agree	Strongly Agree
		1	2	3	4	5
Personal Innovativeness	If I hear about new technology, I will find a way to gain experience with it					
	Among my colleagues, I am usually the first to try new technology					
	I love to experiment with new technology					
Social Influence	The person who influenced my behavior thought that I should use e-banking					
	The people who matter to me think that I should use e-banking					
	People I know use e-banking					
Task Characteristic	I need to transfer money anytime anywhere					
	I need to manage my account anytime anywhere					
	I need to get account information in real time					
Risk Perception	I'm worried if the hacker invaded my mobile device					
	I am worried if my device connection is tapped during the financial transaction process					
Trust	I believe that e-banking can be trusted					
	I believe that the services provided by e-banking are in accordance with the promised ones					
	I believe that e-banking keeps the interest of its users					

Source: Malaquias & Hwang, 2016.

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