Factors That Influence Intention to Adopt Mobile Shopping in Marketplace

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Abstract

The economic industry has been affected by digitalization which has grown rapidly. This growth opens up new opportunities in industrial processes including in transaction and shopping methods. One of the growing transactions is mobile shopping. This research offers novelty in the use of resonated action theory in the world of e-commerce, namely by including the variables of self-efficacy, trust, risk and costs. This test needs to be carried out because previous research has shown mixed results. This study aims to determine the factors that can influence the intention to adopt mobile shopping on the Tokopedia application with a scope in Surabaya. The intention to adopt mobile shopping variable examined in this research is influenced by: attitude toward mobile shopping, subjective norm, self-efficacy, trust, perceived risk, and perceived cost. This study used data sources from online questionnaires and had 273 data from respondents who met the criteria. This respondent data was processed through SPSS 24 and AMOS Graphics 22 software using Structural Equation Modeling (SEM) techniques. The results of data processing show that attitude toward mobile shopping, self-efficacy, trust, perceived cost are factors that influence intention to adopt mobile shopping on the Tokopedia application in Surabaya.
Keyword: Mobile Shopping, Theory of Reasoned Action, Intention.

1. INTRODUCTION

Technological developments in the fields of hardware, software and connectivity have an impact on the business world and also consumer behavior. One behavior that has emerged recently is shopping online via devices called mobile shopping. Mobile shopping is the ability to purchase goods via mobile devices (Nassuora, 2013). Mobile shopping in Indonesia has also experienced rapid development in recent years. According to data from Zhou (2022), the total hours spent by consumers using mobile shopping applications in Indonesia in 2021 (5.56 billion) were recorded to have increased by 1.52 times greater than in 2020 (3.65 billion) and by 4.67 times bigger than in 2018 (1.19 billion). With this development path, according to data from Kemp (2021), Indonesia will be the country with the highest percentage of e-commerce usage in the world with 88%. These two data prove that Indonesia is one of the highest

countries in terms of the magnitude of the impact of mobile shopping in the daily lives of its people.

The market in Indonesia related to mobile shopping includes various kinds of e-commerce, such as Zalora, JD ID, Blibli, Lazada, etc. Of all existing e-commerce, Tokopedia is one of the market leaders in the mobile shopping sector. According to iPrice data, at the beginning of 2023 Tokopedia had a total of 117 million visitors and was only left behind by Shopee which had a total of 158 million visitors. However, Tokopedia itself was also a leader in the e-commerce market, recorded through iPrice data at the beginning of 2021 Tokopedia as the e-commerce with the most total visitors, having a total site visitor of 135.1 million. Tokopedia's status as one of the leading marketplaces in Indonesia is not without reason, Tokopedia is an e-commerce that provides various features accompanied by good public relations moves. However, according to data from SimiliarWeb (2023), the number of visitors to the Tokopedia site has decreased, reaching a total of 117 million site visitors. This figure is in second place in e-commerce sites with the most total visitors and only less than the total number of Shopee visitors with a total site visitor of 158 million. This causes researchers to be interested in examining what factors influence consumers' intentions to use the Tokopedia application. This study also uses samples from the people of Surabaya due to the status of Surabaya as second largest city in Indonesia and also the second largest percentage of e-commerce users in Indonesia.

This research was conducted based on previous research by Phong et al. (2018). This study uses 7 variables, which are attitude toward mobile shopping, subjective norms, self-efficacy, trust, perceived risk, perceived cost, and intention to adopt mobile shopping. This study found that subjective norms positively influence the intention to adopt mobile shopping. However, research by Ghazali et al. (2018) showed different results, where subjective norms did not influence intention. Phong et al. (2018) also found that self-efficacy positively influences intention to adopt mobile shopping. However, research by Tarhini et al. (2019) has found different results, where self-efficacy did not influence intention to adopt mobile shopping. This difference results have led to the emergence of a research gap which will be examined in this research.

1.1. Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is a model that explains behavior based on the influence of attitudes, interests, and several other factors such as subjective norms

(Dharmmesta, 1992). TRA can describe behavior that is under individual control, where humans are rational beings who can process information and costs in a structured manner in order to make decisions (Ajzen and Fishbein, 1980). In the context of technology use, TRA is considered to have consistent robustness and simplicity in explaining the different behavior of each individual, including differences in behavior in the use of cellular services from time to time (Bagozzi, 2007; Benbasat and Barki, 2007; Mainardes et al, 2020; Kasuma et al, 2020). In this study the constructs used in TRA are attitude toward mobile shopping and subjective norms.

In this research, the TRA model was added with self-efficacy, trust, perceived risk and perceived cost. According to Celik (2016), self-efficacy is a consumer's consideration of the adequacy of knowledge, ability and desire to complete the consumer's online shopping tasks. In the context of mobile shopping, self-efficacy is a consumer's consideration of their ability to use mobile shopping effectively (Compeau and Higgins, 1995; Winarno et al, 2021). Wood and Bandura (1989) argue that self-efficacy is belief in one's own ability to mobilize the motivation, cognitive resources, and actions needed to fulfill a particular need.

According to Wei et al. (2009) trust in the context of mobile shopping is consumer trust in mobile shopping regarding potential risks in security and personal information held by consumers. According to Moorman et al. (1993) trust is a person's belief in relying on a partner in an exchange in which the person is trusted.

According to Phong et al. (2018), perceived risk in the context of mobile shopping is the perception of potential losses in pursuing the desired results in using mobile shopping. In the context of mobile shopping there will always be the potential for loss and uncertainty (Pavlou, 2003). Meanwhile perceived cost in the context of mobile shopping is the perception that using mobile shopping has high costs (Wei et al, 2009). Perceived cost is one of the reasons for the slow development of mobile shopping and is also considered one of the most important barriers in applications of mobile shopping (Anil et al., 2003; Wei et al., 2009).

1.2 Hypothesis Development

Attitude in the context of mobile shopping is a tendency to do or not to do mobile shopping activities (Ajzen, 1991). Attitude can be predicted by each individual's preferences when using a technology (Ajzen and Fishbein, 1980). Furthermore, attitude is also considered an important factor that influences intention in the Theory of Reasoned Action (TRA) (Phong et al., 2018). Attitude is also considered a determinant in studies related to consumer technology characteristics in the use of mobile shopping (Phong et al., 2018; Kasuma et al, 2018). Therefore, we state the first hypothesis as follows:

H1: *Attitude toward mobile shopping* has a positive influence *intention to adopt mobile shopping*

Subjective norms reflect an individual's perception of social pressures to perform or not to perform the behavior (Ajzen, 1991; Garg and Joshi, 2018). In the context of mobile shopping, subjective norm is defined as an individual's perception that most people who are important to that individual think that he or she should use or not use mobile shopping (Ajzen, 1991; Venkatesh and Davis, 2000). Consumers will recommend a product to others when consumers feel satisfied accompanied by credible opinions from the reference group so that they can influence consumer intentions (Yang, 2012). Therefore, the second hypothesis is stated as follows:

H2: *Subjective norm* has a positive influence *intention to adopt mobile shopping*

Self-efficacy refers to how consumers assess their own knowledge, skills, and willingness to carry out online shopping tasks (Celik, 2016). The determination of self-efficacy is influenced by one's performance, various experiences, verbal encouragement, and psychological state (Bandura, 1977). Self-efficacy plays a pivotal role in shaping intrinsic motivation towards behavior (Liébana-Cabanillas et al., 2014; Chiu & Cho, 2019). Hence, the following hypothesis is posited:

H3: Self-efficacy has a positive influence on the intention to adopt mobile shopping.

In the context of mobile shopping, trust pertains to the confidence consumers have in mobile shopping with regard to potential security risks and the personal information they provide. Trust is defined as an individual's inclination to rely on trust based on competence, moral values, and integrity (Gefen et al., 2003). Assessing the level of trust among users stands as a fundamental aspect in technology adoption research (Choi, 2017; Singh et al., 2018; Pandey and Chawla, 2018; Liu and Li, 2019). Bylok (2021), and Tandon et al. (2020) found that trust influences e-commerce purchase intentions among young people, especially past experience helps build trust in e-commerce. Consequently, the following hypothesis is postulated:

H4: Trust has a positive influence on the intention to adopt mobile shopping.

Perceived risk within the realm of mobile shopping pertains to the way individuals perceive potential drawbacks when pursuing desired outcomes through the utilization of mobile shopping (Phong et al., 2018). This perceived risk emerges as a direct consequence of online transactions, a facet inherent in mobile shopping, introducing an inherent potential for loss and uncertainty within the online environment (Pavlou, 2003). In cases where consumers apprehend potential risks, they exhibit a hesitancy towards participating in online

transactions (Al-Jabri and Sohail, 2012; Ibrahim et al., 2014; Slade et al., 2015; Xie et al, 2021). As a result, the subsequent hypothesis is articulated:

H5: Perceived risk has a negative influence on the intention to adopt mobile shopping.

Perceived cost in the context of mobile shopping refers to the perception of high expenses associated with the use of mobile shopping (Wei et al., 2009). Perceived cost is defined as the expenses consumers anticipate incurring when utilizing mobile shopping, which may encompass equipment costs, access fees, transaction charges, and so forth (Wu and Wang, 2005). Perceived cost is considered one of the reasons for the sluggish growth of mobile shopping and is also regarded as one of the most significant barriers to the adoption of mobile shopping applications (Anil et al., 2003; Wei et al., 2009). Therefore, the following hypothesis is posited:

H6. Perceived cost has a negative influence on the intention to adopt mobile shopping.

2. METHODS

This study is basic research, where this research is conducted with the aim of testing validity and advancing knowledge rather than solving a specific problem (Zikmund et al., 2009). Its main objective is to generate deeper insights into existing concepts and establish a solid groundwork for future research. The origin of all these measurements can be traced back to a previous study conducted by Phong et al. (2018), in which a 5-item measurement scale, encompassing both agreement and disagreement, was utilized. This scale has been adopted for the current research to gauge various aspects.

The target population is defined as individuals who have the intention to use the Tokopedia mobile shopping application on their mobile devices. The specified characteristics of respondents include those who lived in Surabaya and already possess the Tokopedia application on their mobile devices, expressed an intention to use the Tokopedia application within the past 6 months, have expressed an intention to use the Tokopedia application at least 2 times within the past 6 months, and have knowledge related to mobile shopping, minimum educational background of high school or its equivalent. These criteria were established to ensure that respondents would be able to comprehend the questionnaire content effectively and provide valid data. This study uses primary data or data obtained directly from respondents who previously met the specified characteristics.

The analysis technique used in this research is structural equation modeling (SEM) with a two-stage approach. The first stage is a measurement model to analyze the validity and reliability of the construct, followed by the second stage a structural model to test the hypothesis.

3. RESULTS AND DISCUSSION

The questionnaire was distributed online and 300 responses were obtained. Of all the filled out questionnaires, after being selected there were 273 questionnaires that could be processed further.

Descriptively, the profile of respondents can be outlined as follows: The majority of respondents held undergraduate degrees, with total 226 individuals (82.8%). This was followed by 38 respondents (13.9%) who had completed high school, and 9 respondents (3.3%) who had attained postgraduate (S2) qualifications. In terms of gender distribution, the respondents were almost evenly split, with 139 (51.9%) being male and 134 (49.1%) being female. Regarding age, most respondents fell within the 18-24 years category, making up 202 individuals (74%), while 47 respondents (17.2%) were over 34 years old, and 24 respondents (8.8%) were aged between 25 and 34 years. Occupation-wise, the largest group of respondents consisted of private employees, accounting for 107 individuals (39.2%), followed by students, numbering 104 (38.1%). Entrepreneurs constituted 47 individuals (17.2%), with housewives comprising a smaller group of 6 respondents (2.2%). Government employees made up 4 individuals (1.5%), while life planners and unemployed individuals each represented 3 respondents (1.1%) and 2 respondents (0.7%), respectively.

All measurement indicators have successfully passed validity and reliability tests. The data processing process proceeds with the development of a measurement model. Within the measurement model, it is evident that all indicators exhibit standardized estimates exceeding the established threshold (above 0.5). The measurement model demonstrates excellent goodness-of-fit, as indicated by CMIN/DF at 1.447, GFI at 0.901, RMSEA at 0.042, TLI at 0.942, and CFI at 0.951. Detailed results of the measurement model test are provided in the following tables.

Tabel 1
Goodness of Fit of the Measurement Model

No.	*Goodness of Fit*	Criteria	Hasil	Notes
1	CMIN/DF	≤ 3	1,477	*Good Fit*
2	GFI	0.80-1.00	0,901	*Good Fit*
3	RMSEA	≤ 0.08	0,042	*Good Fit*
4	TLI	0.80-1.00	0,942	*Good Fit*
5	CFI	0.80-1.00	0,951	*Good Fit*

Table 2
Standardized Loadings, **AVE and CR of Measurement Model**

Variable	Indicators	*Standardized Loadings* (λ)	AVE	CR	Notes
Attitude	ATT1	0,795	0,615	0,864	Valid and Reliable
	ATT2	0,749			Valid and Reliable
	ATT3	0,818			Valid and Reliable
	ATT4	0,774			Valid and Reliable
Subjective Norm	SN1	0,677	0,471	0,780	Valid and Reliable
	SN2	0,696			Valid and Reliable
	SN3	0,756			Valid and Reliable
	SN4	0,608			Valid and Reliable
Self Efficacy	SE1	0,725	0,492	0,744	Valid and Reliable
	SE2	0,700			Valid and Reliable
	SE3	0,679			Valid and Reliable
Trust	T1	0,802	0,562	0,788	Valid and Reliable
	T2	0,863			Valid and Reliable
	T3	0,545			Valid and Reliable
Perceived Risk	PR1	0,648	0,431	0,747	Valid and Reliable
	PR2	0,613			Valid and Reliable
	PR3	0,812			Valid and Reliable
	PR4	0,518			Valid and Reliable
Perceived Cost	PC1	0,908	0,741	0,896	Valid and Reliable
	PC2	0,863			Valid and Reliable
	PC3	0,809			Valid and Reliable
Intention to Adopt	I1	0,503	0,376	0,704	Valid and Reliable
	I2	0,694			Valid and Reliable
	I3	0,590			Valid and Reliable
	I4	0,650			Valid and Reliable

There are 4 variables that have an AVE value below 0.5, which are subjective norm, self-efficacy, perceived risk, and also intention to adopt mobile shopping. However, according to Verhoef et al. (2002) AVE with a value of 0.3 to 0.5 is still acceptable if the standardized loadings value is > 0.5 and the CR value is > 0.7. Thus, 4 variables that do not meet the AVE requirements are still acceptable.

We then proceed with a structural model in line with the proposed hypotheses. The Goodness of Fit test on the structural model shows that the model has a good fit value. All GFI, TLI and CFI values are above 0.9, while the RMSEA value is below 0.08. The model fit test results can be seen in the following table.

Tabel 3
Goodness of Fit of Structural Model

No.	Goodness of Fit	Criteria	Result	Notes
1	CMIN/DF	≤ 3	1,477	*Good Fit*
2	GFI	0.80-1.00	0,901	*Good Fit*
3	RMSEA	≤ 0.08	0,042	*Good Fit*
4	TLI	0.80-1.00	0,942	*Good Fit*
5	CFI	0.80-1.00	0,951	*Good Fit*

The hypothesis testing was performed using AMOS 2.4. We set two requirements for a hypothesis hypothesis testing. First, the critical ratio value must exceed the threshold of 1.96, and then, the test results must exhibit congruence with the anticipated direction posited by the hypothesis. Out of the 6 hypotheses that have been proposed, there are 2 hypotheses that are not supported.

The results of the H1 test are in accordance with previous research (Phong et al., 2018). Attitude has a significant effect on shopping intentions in the marketplace with a regression coefficient of 0.418. This shows that the more consumers like shopping on the marketplace, the more interested they will be in using it.

The second hypothesis is not supported because the regression coefficient is negative (-0.178) with a critical ratio of -2.064. This shows that the higher the subjective norm, the higher the subjective norm, the lower the intention to adopt mobile shopping, where this result is not in line with Phong et al, (2018). Differences in research contexts may impact research results. People in Indonesia tend to shop online because it saves time and energy, they can compare prices and also catch promotions (Lase, 2023). The existence of social pressure can actually make shopping uncomfortable and can reduce interest in shopping online. With the Tokopedia application itself which has been running for 12 years with its status as one of the pioneers and largest brands in the e-commerce sector, most of the people in Indonesia have use it. Because the majority of consumers already have usage experience, opinions and input from the environment around consumers are less effective and do not influence consumer intentions. These results are also supported by several previous studies (Ghazali et al., 2018; Dishaw and Strong, 1999).

The third hypothesis (H3) shows that self-efficacy influences the intention to adopt mobile shopping. H3 has a standardized estimate value of 0.195 with a critical ratio value of 2.093 and a p-value of 0.036 with a positive hypothesis direction. The third hypothesis is supported because the p-value and critical ratio meet the requirements for a supported hypothesis, namely P ≤ 0.05 and C.R ≥ 1.96 with the same hypothesis direction as previous research (positive). The results of H3 are in accordance with the results of previous research

(Phong et al., 2018). This result is supported by the fact that marketplaces compete to provide easy application access. This convenience creates confidence in consumers that they are able to run the application, thus their intention to adopt the application becomes stronger.

The fourth hypothesis (H4) shows the relationship between trust and intention to adopt mobile shopping. H4 has a standardized estimate value of 0.464 with a critical ratio value of 4.604 and a p-value of *** (P < 0.01) with a positive hypothesis direction. H4 is considered supported because the p-value and critical ratio meet the requirements for a supported hypothesis, namely P ≤ 0.05 and C.R ≥ 1.96 with the same direction of the hypothesis as previous research (positive). The results of H4 are in accordance with the results of previous research (Phong et al., 2018). A study shows that trust in online services is fragile. Research data shows that 63% of consumers will recommend trusted services (Microsoft, 2019).

The test results show that the fifth hypothesis (H5) which shows the influence of perceived risk on intention to adopt mobile shopping is not supported (standardized estimate: -0.34 with a critical ratio value of -0.435; p-value = 0.664). These results are not in accordance with previous research (Phong et al., 2018). Several previous studies have found that perceived risk positively influences consumer intentions (Al-Jabri and Sohail, 2012; Khalifa et al., 2012; Lu et al., 2011, Phong et al., 2018). However, because perceived risk is a construct that depends on local culture (Phong et al., 2018), it is not surprising that the people of Surabaya, especially the majority in the 18-24 year age group, feel that risk has no influence on their intention to use the Tokopedia application. These results are also supported by several previous studies (Kapoor et al., 2015; Tan et al., 2014). Risks will always exist and consumers will always be aware of them, not only in terms of mobile shopping but in all aspects. However, when consumers feel that the positive value obtained when using mobile shopping is higher than the negative value, consumers will tend to ignore the negative value. In the context of mobile shopping, risks are often coupled with costs. When the costs incurred in using mobile shopping are small, especially when compared to other competitors, consumers will tend to ignore the existing risks and continue to use the application. Perception of risk may also not have an influence on interest in adopting online shopping because application providers provide various security features such as one time passwords, 2-stage identification and also transaction security in collaboration with banks.

The test results show that the sixth hypothesis (H6) which shows the influence of perceived cost on intention to adopt mobile shopping is supported (standardized estimate of -0.3 with critical ratio: -2.233 and p-value: 0.026). The results of H6 are in accordance with the

results of the research previously (Phong et al., 2018). One of the reasons consumers choose to shop online is because there are lots of promotions and free shipping (Lase, 2023), thus the lower the costs, the higher the interest in adopting online shopping. The table below provides a summary of all hypothesis tests.

Tabel 4
Hypothesis Test Results

Hipothesis	Path	Std. Estimate	C.R	P	Notes
H1 (+)	ATT→I	0,418	3,010	0,003	Supported
H2 (+)	SN→I	-0,178	-2,064	0,039	Not Supported
H3 (+)	SE→I	0,195	2,093	0,036	Supported
H4 (+)	T→I	0,464	4,604	***	Supported
H5 (-)	PR→I	-0,034	-0,435	0,664	Not Supported
H6 (-)	PC→I	-0,300	-2,233	0,026	Supported

Keterangan: *** = signifikan dengan *p-value* < 0,001

The research model figure after hypothesis testing can be shown as follows.
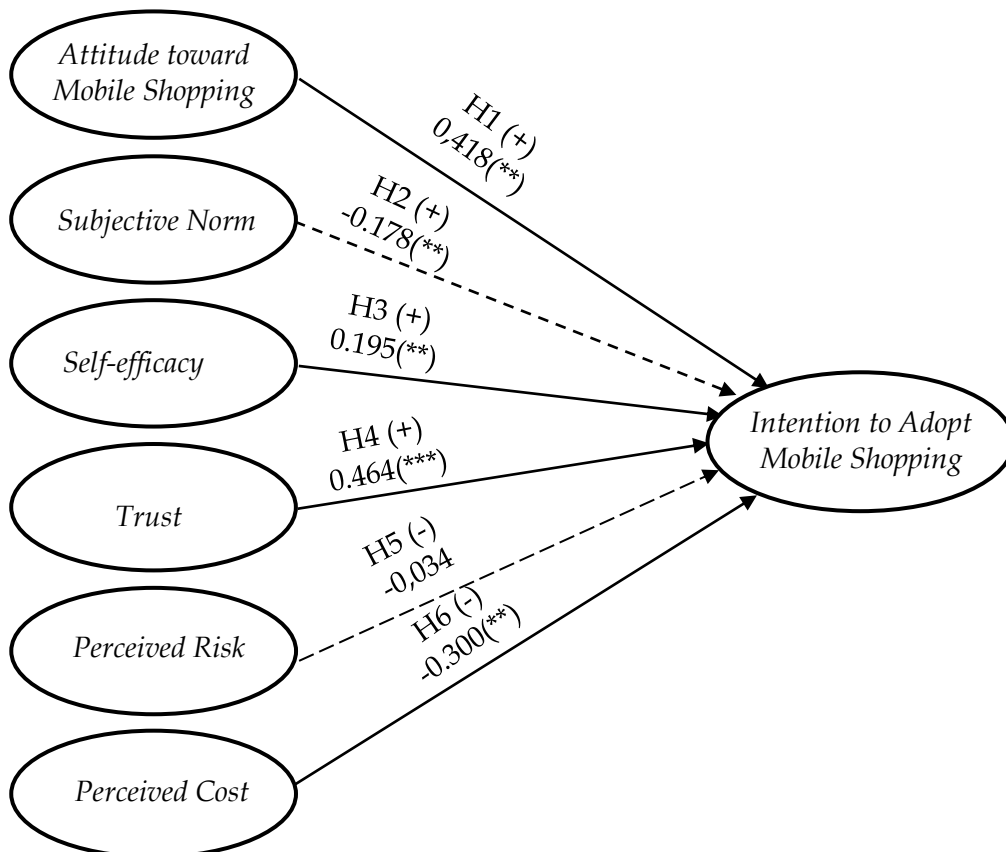
Figure 1. Hypothesis Test Result

4.   CONCLUSIONS AND IMPLICATIONS

In this section, conclusions, implications and suggestions for further research will be outlined. Of the 6 hypotheses proposed, there are two hypotheses that are not supported, with explanations as below.

4.1 Conclusions

The results of this study show that two hypothesis are not supported. Perceived risk (PR) does not influence the intention to adopt mobile shopping (I). Meanwhile, subjective norms (SN) has negative and significant influence on intention to adopt mobile shopping. However, attitude (ATT), self-efficacy (SE), trust (T), and perceived costs (PC) influence the intention to adopt mobile shopping. Trust has the greatest influence (0.464) on adoption intention. Culture, norms and research context play a role in determining differences in the results of this research from previous ones.

4.2 Implications

Various previous studies have found that subjective norms positively influence consumer intentions (Ovčjack et al., 2015; Sanakulov and Karjaluoto, 2015; Zhang et al., 2012, Phong et al., 2018). However, with the Tokopedia application itself which has been running for 12 years with its status as one of the pioneers and largest brands in the e-commerce sector, this can cause the majority of people not only in Surabaya but throughout Indonesia to use the Tokopedia application. Because the majority of consumers already have usage experience, opinions and input from the environment around consumers are less effective and do not influence consumer intentions. These results are also supported by several previous studies (Ghazali et al., 2018; Dishaw and Strong, 1999). Differences in research contexts also may cause research. People in Indonesia tend to shop online because it saves time and energy, they can compare prices and also catch promotions (Lase, 2023). The existence of social pressure can actually make shopping uncomfortable and can reduce interest in online shopping.

Several previous studies have found that perceived risk positively influences consumer intentions (Al-Jabri and Sohail, 2012; Khalifa et al., 2012; Lu et al., 2011, Phong et al., 2018). However, risks will always exist and consumers will always be aware of them, not only in terms of mobile shopping but in all aspects. However, when consumers feel that the positive value obtained when using mobile shopping is higher than the negative value, consumers will tend to ignore the negative value. In the context of mobile shopping, risks are often coupled with costs. When the costs incurred in using mobile shopping are small, especially when compared to other competitors, whether in access fees, transaction fees,

postage fees, etc. So consumers will tend to ignore the existing risks and continue to use the application. Perception of risk may also not have an influence on interest in adopting online shopping because application providers provide various security features such as one time passwords, 2-stage identification and also transaction security in collaboration with banks.

Attitude as one of the constructs of the Theory of Reasoned Action shows consistent results with several previous studies (Armitage and Conner, 2001; Kuo and Yen, 2009; Pavlou and Fygenson, 2006; Phong et al., 2018). With a fairly large influence (0.418), attitude is one of the factors that most influences consumer intentions. This consumer behavior can be caused by various things and tends to vary for each consumer.

This research also shows that self-efficacy influences consumer intentions, although it has a smaller influence (0.185). These results are consistent with various previous studies (Ovčjak et al., 2015; Sanakulov and Karjaluoto, 2015; Zhang et al., 2012; Phong et al., 2018). Consumer intent tends to be higher when consumers feel more able to use the application. This can be supported with a simpler application accompanied by a guide to using the application. This research also found that trust is the factor that most influences consumer intentions. Several previous studies also found trust as an important factor in the use of mobile services (Chong et al., 2012; Lu et al., 2011; Pavlou and Fygenson, 2006; Shaw, 2014; Srivastava et al., 2010, Phong et al. ., 2018). This trust is often directly related to security, where this security can include various things such as transaction security, personal data, and the conformity of the product provided with the existing description. This research also found that perceived cost influences adoption intentions, with an influence size of -0.3, this is consistent with various previous studies (Anil et al., 2003; Dai and Palvi, 2009; Wei et al., 2009; Phong et al., 2018). This research found that perceived cost is one of the most important factors in inhibiting consumer intentions. Respondents are known to be more likely to prioritize cheap prices when choosing online products compared to the risks involved.

4.3 Further research

This research included a minimum age of 18 years and over as a respondent to be one of the criteria for becoming a respondent for this research. This is based on the assumption that people who have not yet reached 18 years do not have the emotional, financial and intellectual capabilities to use the Tokopedia application responsibly. However, in the future, this criterion can be expanded because people aged 17 years and under have experienced mobile shopping as part of their lives from an early age, this is different from people aged 18 years and over, the majority of whom only experienced mobile shopping when they were teenagers or adults. Future research can also use this limitation as a consideration. Further

research objects can be expanded to include all mobile shopping and e-commerce. This can be based on the situation where mobile shopping applications are increasingly diverse and tend to be integrated with other applications. This study also found different results, especially regarding subjective norms and risk. Further research is needed to explain why these two variables do not influence adoption intentions.

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