

The Effect of Technology Anxiety and Social Influence in Multi-Benefits on Mobile Payment Services

Joyce A. Turangan^{1,*}, Andi Wijaya², Herman Ruslim³

¹Faculty of Economic and Business, Universitas Tarumanagara, Jakarta, Indonesia

²Faculty of Economic and Business, Universitas Tarumanagara, Jakarta, Indonesia

³Faculty of Economic and Business, Universitas Tarumanagara, Jakarta, Indonesia

*Corresponding author. Email: joycet@fe.untar.ac.id

ABSTRACT

This study examines whether the existing technology anxiety and social influence factors will affect the intention of the Indonesian people to continue using mobile payments. The population in this study consists of 140 respondents, the users of mobile payment applications. The research method used is an online survey with a mobile questionnaire and analyzed using the PLS-SEM technique and Smart PLS version 3.0 analysis tool. The conclusion is the technology anxiety, and social influence affect the intention of the Indonesian people to continue using mobile payments.

Keywords: *Mobile Payment, technology anxiety, social influence, multi-benefit, intention to use*

1. INTRODUCTION

In the era of globalization, the development of technology and information is running and growing rapidly. It is undeniable that these technologies have had a significant influence on human activities. Moreover, electronic media has become one of the mainstay media for communication and business. With the development of technology, people in Indonesia can easily use the internet. The internet has started to become an important thing for people in Indonesia. Furthermore, people can easily find out about the latest data and information quickly and also, they can use the internet to carry out their daily lives or activities.

The ever-growing use of the internet has made all industries involved in the wave of development. The development of technology and information is so fast, the distribution of internet service systems and the strong influence of smartphones make Indonesia one of the countries that can develop online-based applications. One of them is in the field of using mobile payments.

The m-payment service has become the preferred consumer payment option resulting in a significant increase in the volume of financial

transactions [1]. Many outlets have made non-cash payments, such as restaurants, beverage outlets, cinemas, parking lots, etc. They use transactions using non-cash money or also called electronic money or mobile payments, transactions made in non-cash or also known as cashless. Non-cash money is a transaction carried out without using currency (paper money and coins) but using electronic media, mobile banking media, credit cards, and debit cards. It indicates a shift from looking at mobile devices for browsing and accessing internet-based systems to mobile wallets that support applications that replace checks, cash, or cards as forms of payment [2]. Payments using non-cash are growing rapidly due to technological developments and the times that continue to progress. The use of non-cash can also avoid counterfeiting currency (paper money and coins). Therefore, in using and using non-cash cash, things like the above are needed, especially for cashless using mobile transactions. A stable internet network is needed. Through non-cash payments will increase sales of a company that provides non-cash payments. However, it still has the risk of account security or non-cash payment instruments. Mobile payment applications are currently used for several types of payments [3]. There are several categories of major sources of loss using mobile payments: external theft,

internal theft, administrative errors, internal errors, and fraud occurring between companies.

Behind the rise of mobile payment users, not a few parties are disadvantaged, especially active users. It is because the more technology develops, the higher the risk we can get. We can see cases of burglary of funds from mobile payment users and theft of personal data (privacy) and information security that often occurs; this indicates that the security level of the mobile payment is not optimal. It has become technology anxiety for people to start using mobile payment itself. There are factors related to trust, security, and the risks that exist when using mobile payments. They also say consumers make difficult decisions when accepting new technology for various reasons. When paying with a smartphone device, it is considered useful and convenient because consumers can make payments elsewhere, but it results in a higher risk of identity protection.

Based on this risk condition, mobile payment, which was originally considered easy, comfortable, prestigious, and had economic value, turns out to have a risk impact in the form of anxiety and fear of security, which impacts consumer confidence. Bank Indonesia states that there are several risks in using mobile payments, money laundering, fraud (fraud customers), compliance (non-compliance of service providers to established rules), credit/liquidity, reputation (based on the services provided can be shaping public opinion), and technology. Another thing is the rampant mode of fraud that often occurs, both from food delivery, fraud using OTP codes, and other cases. Because of the events that often occur, few people feel anxious about using this technology, so they are more comfortable using conventional methods in conducting transactions. The research model in this study is as follows:

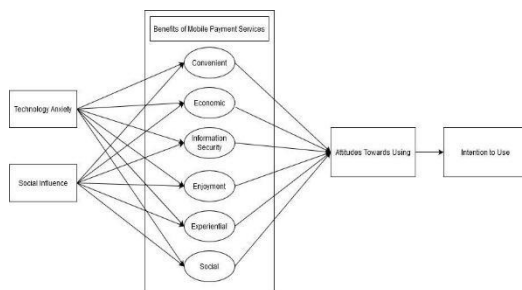


Figure 1 Research Model

2. LITERATURE REVIEW

Convenience can reduce non-monetary costs of time, energy, and effort when buying or using goods and services [4]. Convenience can be felt when consumers can get something without difficulties, such as easily accessible products and services, reduced energy and time, and reduced stress levels [5].

Utilitarianism results from the expected performance, which is achieved using mobile payment services, including economic benefits that show value for money itself [6]. This statement is supported by the statement that monetary value plays an important role in the use of all cellular services. Adding incentives such as gifts, discounts, and points that can be exchanged for other products or services, can strengthen attitudes towards using mobile payment services at the early adoption stage [7].

Moreover, information security define as the technically related but has evolved to keep pace with changes in computers and networks [8]. It defines and conceptualizes the usefulness of information obtained, perceived as information security, which is the subjective probability that personal and payment information will not be seen, stored, or transmitted during the transaction process. These benefits will assist consumers in developing attitudes and intentions to use mobile payment services among consumers concerned for privacy and security [9].

Enjoyment has been applied in the study of technology acceptance to express pleasure and joy in using a system [10]. Enjoyment considered as the most important driver of mobile payment adoption, also revealed that perceived enjoyment is the strongest indicator of user intention of mobile information services. It is due to its practical and intrinsic benefits [3].

The value of experience is different from the value of instrumental (utilitarian); the value of perceived experience assesses consumer perceptions based on interactions that involve direct use or appreciation of goods and services [11] [12]. The increasing of shopping pleasure by offering new and unexpected services can surprise and stimulate new mobile payment users and encourage existing users to change their current way of paying for smartphone purchases [6].

Social value is conceptualized when consumers gain status and self-esteem from using smartphones to make transactions or purchases. *Status enhancement* is the advantage gained by using symbolic features in communicating the sign of position or membership to others. The study found that social benefits are as important

as convenience and risk in directing intention to use mobile payment services in a store [13]. Moreover, Attitudes describe a person's knowledge, experience, beliefs, opinions about products and services, feelings and evaluations of certain objects, and the desire to perform or reject certain behaviors. Attitudes are considered as important determinants of intention to use mobile payment services. Consumers adopt mobile payments by mentally evaluating and managing perceptions of utilitarian, hedonic, and social values. It is necessary to form attitudes towards mobile payment services and then place great importance on each dimension to benefit them the most before making an adoption decision [14]. Lastly, intention to use is the consumer's desire to make purchases in the future, and consumer beliefs and attitudes are realized in real shopping activities [15], it is most influenced by consumer attitudes, followed by other factors such as perceived behavioral control and subjective norms [16], and buying interest is the stage taken by consumers before planning to buy a product [17].

3. RESEARCH METHODS

The population in this study were users of mobile payments with a sampling technique using non-probability sampling with the type of convenience sampling totaling 140 respondents. The data collection method used in this study was a questionnaire.

Questionnaires are distributed by distributing digital forms to respondents who meet predetermined criteria. In this study, the respondent's data collected is analyzed using Partial Least Square (PLS), one of the data analysis methods using Structural Equation Modeling (SEM). PLS-SEM follows two

separate assessment steps: the measurement model (outer model) and the structural model (inner model). The first step is related to the specification of formative and reflective measurement models. If the measurement model test is adequate, then the second step of structural model testing can be further analyzed to contact the relationship between variables. For measuring the outer model, a validity test is used by checking convergent validity (AVE value) and discriminant validity (cross-loading). Meanwhile, internal consistency testing (composite reliability) and indicator reliability (loading factor) were carried out for the reliability test.

For the structural model test, the coefficient of determination (R2) and predictive relevance (Q2) were tested. Meanwhile, for testing the research hypothesis, path analysis (path coefficients), effect size (f2), and significance tests (t-test and p-value) tests were carried out.

4. RESEARCH RESULTS AND DISCUSSION

Of all 57% of respondents from this study consisted of male respondents, and 59% were under 30 years old. Based on the results of testing the coefficient of determination (R2), it is explained that the R-Square value for the behavioral intentions variable is 0.545. It shows that the variables in this study can explain 54.5% of the dependent variables in this study. The results of the predictive relevance test (Q2) concluded that 0.422 is greater than 0 (> 0), so it can be concluded that the construct relationships of the variables studied are considered relevant in measuring the research model that has previously been formed.

Table 1. Path Coefficients Test Result

	<i>Original Sample</i>	<i>T Statistics</i>	<i>P Value</i>
Attitudes → Intention to Use	0.739	12.873	0
Convenient → Attitudes	0.035	1.048	0.295
Economic Benefit → Attitudes	0.091	1.994	0.047
Enjoyment → Attitudes	0.04	1.106	0.269
Experiential → Attitudes	0.001	0.024	0.981
Information Security → Attitudes	0.604	11.898	0
Social Benefit → Attitudes	0.269	6.28	0
Social Influence → Convenient	0.638	5.87	0
Social Influence → Economic Benefit	0.375	2.413	0.016

Social Influence □ Enjoyment	-0.01	0.032	0.974
Social Influence □ Experiential	0.449	2.375	0.018
Social Influence □ Information Security	0.456	2.319	0.021
Social Influence □ Social Benefit	0.842	12.532	0
Technology Anxiety □ Convenient	-0.175	1.617	0.106
Technology Anxiety □ Economic Benefit	-0.486	2.923	0.004
Technology Anxiety □ Enjoyment	-0.887	2.799	0.005
Technology Anxiety □ Experiential	-0.398	2.133	0.033
Technology Anxiety □ Information Security	-0.384	1.914	0.056
Technology Anxiety □ Social Benefit	-0.099	1.508	0.132

Based on the effect size test results, it is found that information security has the largest influence on the attitude mediating variable while the weakest influence is on the experiential variable, which is 0. Furthermore, based on the Goodness of Fit (GoF) test conducted, it can also be concluded that the model in this study has a relatively large level of match that is equal to 0.647.

Based on the hypothesis testing that the researcher has done, the researcher can conclude that technology anxiety has a negative and significant effect on economic benefits, enjoyment benefits, and experiential benefits. It shows that respondents' discomfort with technology has the opposite effect on respondents' economic benefits, convenience, and experience in making mobile payments. It can also be interpreted that respondent who use mobile payment technology no longer have problems using payment technology devices which are the main facilities needed to make these payments. The results of this test are under the previous result which states the same thing [18]. Furthermore, it is different from the negative or opposite effect on the convenience, information security, and social benefit variables. Although technology anxiety negatively affects these three variables, the effect is not significant in testing. This insignificance shows that the respondents' concerns about technology do not affect the respondents' comfort, security, and social sense. It is reasonable considering that the questionnaire results on the inconvenience variable from respondents on technology showed that most respondents stated that they no longer had concerns over the use of technology. Thus, it was against the convenience, security, and social involvement of mobile payment users.

Furthermore, the social influence variable has a positive and significant effect on the convenience, economic benefit, information security, experiential, and social benefit variables. It shows that the assumption that technology will increase the user's status greatly

affects the convenience or when consumers can get something without difficulties, such as products and services that are easily accessible, energy and time reduction, and reduced stress levels. Social influence also influences economic benefits, namely the expected performance achieved by using mobile payment services. With the social influence obtained by respondents, the sense of security over personal information held by respondents increases and is followed by a desire from respondents to change their current way of life. It is and paying for purchases in a digital way that the respondents feel can elevate their social status in the end. Meanwhile, social influence does not significantly affect enjoyment variables or expressions and joy in using mobile payment systems. It can be more predictable because the enjoyment of using a system does not come from the influence of idols or external factors from the respondent but rather from the respondent's experience in using the payment application.

For the mediating variable attitudes toward using mobile payment, it was concluded that the variables that had a positive and significant influence were economic benefits, information security, and social benefits variables. While the variables convenient, enjoyment, and experiential do not have a positive and significant influence on the attitude's variable. Attitudes describe a person's knowledge, experience, beliefs, and opinions about products and services, feelings, and one's evaluation of the use of mobile payments. Respondents obtained. Attitudes as a mediating variable turned out to be only a valid variable to mediate social influences through social benefits to using mobile payments. It is predicted because a person's attitude tends to cause an intention to act because of the influencer's influence or if the respondent obtains social benefits [18].

5. CONCLUSION

Based on the results discussed previously, the results of this study can be concluded that: (1) Convenience benefits do not have a positive influence on attitudes toward mobile payment services adoption, (2) Economic benefits have a positive influence on attitudes toward mobile payment services adoption, (3) Information security benefits have a positive influence on attitudes toward mobile payment services adoption, (4) Enjoyment benefits do not have a positive influence on attitudes toward mobile payment services adoption, (5) Experiential benefits do not have a positive influence on attitudes toward mobile payment services adoption, (6) Social benefits have a positive influence on attitudes toward mobile payment services adoption, (7) Attitudes toward mobile payment services have a positive influence on intention to use, (8) Technology anxiety does not have a negative influence on convenience benefits, (9) Technology anxiety have a negative influence on economic benefits, (10) Technology anxiety does not have a negative effect on information security benefits, (11) Technology anxiety has a negative effect on enjoyment benefit, (12) Technology anxiety has a negative influence on experiential benefits, (13) Technology anxiety does not have a negative effect on social benefits, (14) social influence has a positive influence on convenience benefits, (15) social influence has a positive influence on economic benefits, (16) social influence has a positive influence on information security benefits, (17) social influence does not have a positive effect on enjoyment benefit, (18) Social influence has a positive influence on experiential benefit, (19) Social influence has a positive influence on social benefit.

REFERENCES

- [1] Zhang MY, Dodgson M. High-tech entrepreneurship in Asia: Innovation, industry and institutional dynamics in mobile payments. Edward Elgar Publishing; 2014 May 14.
- [2] Contini D, Crowe M, Merritt C, Oliver R, Mott S. Mobile payments in the United States: mapping out the road ahead. Federal Reserve Bank of Atlanta and Federal Reserve Bank of Boston White Paper, March. 2011 Mar 25.
- [3] Kim J, Ahn K, Chung N. Examining the factors affecting perceived enjoyment and usage intention of ubiquitous tour information services: A service quality perspective. *Asia Pacific Journal of Tourism Research*. 2013 Sep 1;18(6):598-617.
- [4] Chang YW, Polonsky MJ. The influence of multiple types of service convenience on behavioral intentions: The mediating role of consumer satisfaction in a Taiwanese leisure setting. *International journal of hospitality management*. 2012 Mar 1;31(1):107-18..
- [5] Rahman A, Khan PI. Effect of service convenience on service loyalty: Moderating role of consumer characteristics. *South Asian Journal of Management*. 2014 Jul 1;21(3):7-30.
- [6] De Kerviler G, Demoulin NT, Zidda P. Adoption of in-store mobile payment: Are perceived risk and convenience the only drivers?. *Journal of Retailing and Consumer Services*. 2016 Jul 1;31:334-44.
- [7] Pihlström M, Brush GJ. Comparing the perceived value of information and entertainment mobile services. *Psychology & Marketing*. 2008 Aug;25(8):732-55.
- [8] Von Solms R, Van Niekerk J. From information security to cyber security. *computers & security*. 2013 Oct 1;38:97-102.
- [9] Bailey AA, Pentina I, Mishra AS, Mimoun MS. Mobile payments adoption by US consumers: an extended TAM. *International Journal of Retail & Distribution Management*. 2017 Jun 12.
- [10] Venkatesh V, Thong JY, Xu X. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly*. 2012 Mar 1:157-78.
- [11] Fiore AM, Kim J. An integrative framework capturing experiential and utilitarian shopping experience. *International Journal of Retail & Distribution Management*. 2007 May 22.
- [12] Wu CH, Liang RD. Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants. *International Journal of Hospitality Management*. 2009 Dec 1;28(4):586-93.
- [13] Agrebi S, Jallais J. Explain the intention to use smartphones for mobile shopping. *Journal of retailing and consumer services*. 2015 Jan 1;22:16-23.
- [14] Alonso-Rivas, Javier; Grande-Esteban, Ildefonso. 2004. *Consumer Behavior*. 5th edition.
- [15] Bonn MA, Kim WG, Kang S, Cho M. Purchasing wine online: The effects of social influence, perceived usefulness, perceived ease of use, and wine involvement. *Journal of*

Hospitality Marketing & Management. 2016 Oct 2;25(7):841-69.

[16] Yang K, Forney JC. The moderating role of consumer technology anxiety in mobile shopping adoption: differential effects of facilitating conditions and social influences. *Journal of Electronic Commerce Research*. 2013 Nov 1;14(4):334.

[17] Keller KL, Kotler P. Branding in B2B firms. In *Handbook of business-to-business marketing* 2012 Feb 29. Edward Elgar Publishing.

[18] Park J, Ahn J, Thavisay T, Ren T. Examining the role of anxiety and social influence in multi-benefits of mobile payment service. *Journal of Retailing and Consumer Services*. 2019 Mar 1;47:140-9.