Analysis of the factors affecting the intention of using mobile payments among millennials with the unified theory of acceptance and use of technology II

A.E.S. Sinaga & D.A. Chalid

Master of Management, University of Indonesia, Jakarta, Indonesia

ABSTRACT: Mobile payments are financial services that minimize payments through conventional ways and use technology to meet payment and transaction needs. However, the services provided have not been carried out comprehensively because there are factors that affect the user's intention to adopt technology in terms of transactions. This study aims to understand the determinants of users' intentions in using mobile payments, specifically among millennials. This research was conducted using the user acceptance approach, the unified theory of acceptance and use of technology II (UTAUT2). A survey was conducted with 310 respondents who were given a questionnaire regarding the factors of research findings, namely, the perceived ease of use, perceived usefulness, social influence, trust, promotional offers, and perceived risk, which affect behavior intention to use mobile payments. This research is expected to help both users and mobile payment providers to develop features according to the factors that have been studied.

1 INTRODUCTION

The development of the internet has encouraged many industries, from businesses to financial service providers such as banks, to switch to digitalization with the emergence of financial technology or fintech. Fintech is currently in development and has become a challenge for previous conventional financial institutions; fintech provides services that are fast, direct, and cheaper in real time. Based on data compiled by EY in 2019, there was 75% use of fintech for money transfer and digital payments worldwide. In 2015, the use of fintech as a payment method was 18%, and in 2017, it increased by 50%; in 2019, 75% of fintech users in the world were using fintech services for mobile payments and transfers. However, the intention of users in using the mobile payment service is not clear, and the sustainability of features used in fintech is yet to be found. The use of these services has many determining factors that encourage consumers to use digital payment services and other features provided by fintech companies.

This research provides further information to determine the factors that support technology adoption in the financial service industry. It also helps in determining the user's intention to use financial technology services, especially in mobile payments and transactions, through the user's acceptance approach related to system or technology and consumer behavior. This paper discusses the background, literature review, research methods, results, and conclusions.

2 LITERATURE REVIEW

Financial technology or fintech is a technology that eliminates or reduces the costs of financial intermediaries (Das 2019). The significant change and use of fintech are in mobile payments, where consumers carry out transactions with payment processing. Current fintech companies that

serve mobile payments collaborate with telecommunication providers or are directly related to the telephone network associated with these telephone users. In addition, they also collaborate with certain supermarkets and stores that provide cash replenishment in e-wallets, which can also be served through some convenience stores and some banks that offer online transactions in collaboration with these digital payment providers (Napitupulu et al. 2017). There is a combination of approaches called the unified theory of acceptance and use of technology II or UTAUT2 (Venkatesh et al. 2003). The UTAUT2 theory has four determinants of user behavior intentions: perceived usefulness, perceived ease of use, social influence, and facilitating conditions.

In the social cognitive theory, self-efficacy is the key to behavior initiation and behavior defense (Bandura 1977). Self-efficacy is central to making a goal and determining a target. Personal innovativeness (Kim et al. 2010) refers to a person's tendency to try a new information system. Perceived usefulness is defined as the possibility of user subjectivity to the belief in the usefulness of a system and to improve user performance, for example, in mobile payments. Perceived ease of use refers to the likelihood that the user has expectations on the target system which do not require much effort (Davis 1989). Social influence is the extent to which users believe that something can have a significant impact on other people, which leads to a belief that someone must use a technology. Trust is an element of user behavior intentions, where it is the belief that the mobile payment service provider will provide services meeting the user expectations (Shin 2009). Promotional offers are actions in offering lower prices in a short period of time to increase the effectiveness of product sales to cost-sensitive users or consumers (Sunny & George 2018). The risk in adopting a technology also affects consumer intentions where perceived risk (Li & Huang 2009) is a construct of a situation where there is the possibility of loss and unexpected consequences.

H1 and H2: There is a positive effect of self-efficacy and personal innovativeness on perceived ease of use on user behavior intentions in using mobile payments.

H3, H4, H5, H6, and H7: There is a positive effect of perceived ease of use, perceived usefulness, social influence, trust, and promotional offer on user behavior intentions in using mobile payments.

H8: There is a negative effect of perceived risk on user behavior intentions in using mobile payments.

3 RESEARCH METHODS

3.1 *Data collection and analysis*

The data were collected through a survey of fintech users, who provided answers to questions based on the specified variable indicators. The assessment for each question from the questionnaire used a Likert scale. The sampling technique used was convenience sampling. This study's population was all the fintech users who have used mobile payment services. The limitation is that the respondents, namely, millennials, were born between 1980 and 2000, that is, they were in the age range of 20 to 40. Before conducting the research, research testing was conducted through questionnaire's validity and reliability testing. The number of research samples (Hair et al. 2009) representing research was a minimum of five times the research indicators or a maximum of ten times the research indicators.

In this study, the distribution of questionnaires consists of 31 indicators, making the minimum required research respondents 155 and a maximum of 310. The data processed in descriptive statistical analysis with data processing techniques used the Statistical Package for Social Science (SPSS). The data validity test shows that the investigated data have the same data as the object under study. As for the validity test, some criteria must be suitable, namely, if $r \geq 0.30$, then the questionnaire items are valid. In addition, research also requires reliable data, that is, the data, when used to measure the same research object several times, should provide the same data results. A variable construct is said to be reliable if it gives a Cronbach Alpha value of >0.6 (Ghozali 2013). In this study, data analysis used the partial least squares (PLS) approach. PLS is a component or variant based on the structural equation modeling (SEM) equation.

4 RESULTS AND DISCUSSION

After collecting and processing data using SmartPLS to test the questionnaire's validity and reliability and to test the hypotheses, the research was conducted. Overall, most of the respondents were 20–24 years old (81.3%), and most of respondents were based in Jakarta (133 people or 42.9%).

Table 1. Hypotheses test.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P-Values
Perceived Ease of Use → Behavior Intention to Use	0.163	0.164	0.069	2.357	0.019
Perceived Risk → Behavior Intention to Use	0.120	0.125	0.038	3.106	0.002
Perceived Usefulness → Behavior Intention to Use	0.284	0.286	0.058	4.927	0.000
Personal Innovativeness → Perceived Ease of Use	0.416	0.418	0.045	9.249	0.000
Promotional Offers → Behavior Intention to Use	0.172	0.168	0.067	2.568	0.011
Self Efficacy → Perceived Ease of Use	0.347	0.347	0.045	7.760	0.000
Social Influence → Behavior Intention to Use	0.132	0.134	0.044	3.007	0.003
Trust → Behavior Intention to Use	0.210	0.205	0.046	4.568	0.000

Table 1 shows the hypotheses testing, which is a test of each independent variable affecting the dependent variable. This test was also carried out using SmartPLS to find out whether the hypotheses were acceptable. The hypotheses testing, which shows the results of all variables, shows an influence on behavior's intention to use mobile payments. The self-efficacy relationship shows that the higher the belief that users can use technology, the higher the influence on perceived ease of use will be because they have confidence that the technology can be used easily. Personal innovativeness has a positive relationship with a person's decision to do online shopping, a decision on a technological innovation's adoption behavior. Being innovative plays a significant role in increasing confidence in the ease of use and influencing the intention to use mobile payment behavior in fintech.

The mobile payment is used by consumers for shopping transactions and for sending money digitally in real time. The use of mobile payment provides convenience and speed to users. The perceived usefulness variable shows that user confidence in using a specific system will improve its performance or help it become more productive so that someone will intend to use the technology. The effect of social influence shows that someone who gives a positive opinion about technology will influence other users to use it. Trust also has a significant effect; many users feel uncertain when using mobile applications, so fintech companies help users believe that the services provided can be used for transactions according to user expectations. Promotional offers are factors where many companies offer promotions as sales incentives when launching a product to potential users, for example, promotional offers such as cashback and discounts. Furthermore, they also cooperate with other merchants related to mobile payments, such as restaurants, shopping places, etc. The variable perceived risk has an inversely proportional relationship. If the risk of using mobile payments grows higher, it will reduce behavior intention because it does not provide a sense of security in user transactions.

5 CONCLUSIONS

The purpose of this study is to determine factors that influence behavior's intention to use mobile payments. This research focuses on the millennial generation because of the fact that the majority of the users of mobile payments are from the millennial generation. The UTAUT2 model uses several independent variables, namely, self-efficacy, personal innovativeness, perceived ease of use, perceived usefulness, social influence, trust, promotional offers, and perceived risk. Meanwhile, the dependent variable is behavior intention to use. Based on data collection and processing, it was found that each independent variable becomes a factor that influences the user's intention to use mobile payments.

There are limitations to this study. First, the cross-sectional data collection only represents a particular place. This research was conducted in Jabodetabek (Greater Jakarta) only, so other regions may show different results. Second, the study is also limited to the millennial generation because most users are from the millennial generation. It is suggested that further research studies use different variables with different sample categories. Despite these limitations, we are confident that this study has covered the intention factors of using mobile payments among millennials.

REFERENCES

- Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*. <https://doi.org/10.1037/0033-295X.84.2.191>
- Das, S. R. 2019. The future of fintech. *Financial Management*. <https://doi.org/10.1111/fima.12297>
- Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*. <https://doi.org/10.2307/249008>
- Ghozali, I. 2013. Aplikasi Analisis Multivariate Dengan Program IBM dan SPSS. In *Aplikasi Analisis Multivariate dengan Program IBM SPSS 19*.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. 2009. Multivariate Data Analysis. In *New Jersey*.
- Kim, C., Mirusmonov, M., & Lee, I. 2010. An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2009.10.013>
- Li, Y.-H., & Huang, J.-W. 2009. Applying Theory of Perceived Risk and Technology Acceptance Model in the Online Shopping Channel. *World Academy of Science, Engineering and Technology*.
- Napitupulu, S., Rubini, A., Khasanah, K., & Rachmawati, A. 2017. Kajian Perlindungan Konsumen Sektor Jasa Keuangan: Perlindungan Konsumen Pada Fintech (Studies on Consumer Protection in the Financial Services Sector: Consumer Protection at Fintech). In *Otoritas Jasa Keuangan*.
- Shin, D. H. 2009. Towards an understanding of the consumer acceptance of mobile wallet. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2009.06.001>
- Sunny, P., & George, A. 2018. Determinants of Behavioral Intention To Use Mobile Wallets—a Conceptual Model. *Journal of Management (JOM)*, 5(5).
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*. <https://doi.org/10.2307/30036540>