

The Effect of Mobile Payment on Convenience and Willingness to Pay

Andi Wijaya^{1*}, Joyce A. Turangan¹, Herman Ruslim¹

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

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

ABSTRACT

The increase in mobile payments is so rapid that it can change the payment culture in cash transactions into electronic money. Speed and convenience in transactions, expected performance and effort expected from mobile payments, conditions of mobile payment facilities, and the surrounding environment and behavior or culture are driven by variables that have an impact and influence on increasing the use of mobile payments.

This study aims to determine the effect of mobile payments on convenience and willingness to pay. The method study is distributing questionnaires directly in the field. The data collected is based on primary data and secondary data from related parties. The data will be analyzed and processed using Smart PLS 3. The analyzed data will be described according to the conditions in the field. The results showed that mobile payment is a significant predictor of comfort and willingness to pay.

Keywords: Mobile Payment, Convenience, Willingness to Pay

1. INTRODUCTION

The existence of disruptive and shifting in the domestic retail industry is the cause in which e-commerce has a significant effect on offline business. The emergence of many online companies has led to increased competition, and business competition is currently taking place not only among the same business sector, but also across sectors where every business sector that exists is now interconnected and influences each other due to the industrial revolution 4.0. The phenomenon of the occurrence of obstacles or problems that arise in the form of a decrease in sales and even the closing of several outlets in the Indonesian retail industry is suspected to be due to the shifting of consumer behavior in shopping from offline stores to online stores due to the development of the era which technology is developing very rapidly and has become daily food for consumers. Indonesian society. This forces retailers in Indonesia to innovate with the times or they will be eliminated from the Indonesian market and close their outlets. Convenience is also an important point where in the

modern era like now, consumers are very spoiled by technological advances. This factor can affect how often and how much transactions are made by consumers.

For mobile payments and M-Banking, each bank provider certainly has a different menu and usage method; for example, some use a menu that comes from a SimCard provided by a cellular operator called the SIM Toolkit menu, then some use an application. Java, which can be found directly on the menu of our mobile phones, also uses a code via SMS that is sent to a certain number (often referred to as SMS Banking). These methods are very practical as an alternative to transactions completed through ATM machines or even through tellers at Bank branch offices. Apart from M-Banking, which is generally managed by the banking system, Bank Indonesia has also allowed cellular operators to provide card-based payment systems, particularly for micropayments.

The payment system is referred to as Electronic Wallet (E-Wallet), or for mobile phones, it is also called Mobile Wallet (abbreviated M-Wallet). GSM cellular operators that already have this kind of service include Indosat with the name Dompotku

and Telkomsel with T-cash, while the XL operator is in the process and is planned to be called XL Tunai. Besides that, there is also an M-Wallet from Flexi, which is then managed by another Telkom subsidiary, namely Finnet, called Mcash. Initially, the technology used in M-Wallet was based on SMS technology, but Telkomsel and Tcash are currently planning products based on Flash technology (RFID or Wireless), namely contactless technology such as that used in Flash BCA and e-Toll Mandiri. With this technology, all transactions are made easier because we attach our cell phone to make a transaction, and our credit (pulse wallet) will be debited automatically for the value of the transaction we made. Private fin-tech companies are also developing the same technology by issuing application-based digital wallets as we now know them, namely Go-pay, Dana, and OVO. Technological developments that occur today have resulted in transactions through non-cash experiencing rapid development. It includes mobile payments/m-payments [1]. Progressive developments in mobile communication technology have led to developing m-payment services that meet both individuals and organizations [2]. M-payment has been driven by smartphone adoption among consumers, where consumers use their mobile devices to pay for goods and services [3]. Many outlets have made non-cash payments, such as restaurants, beverage outlets, cinemas, parking lots, and others. They use transactions using non-cash money or also called electronic money or Mobile Payment, 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 represents 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 [4]. Payments using non-cash are growing rapidly due to technological developments and the times that continue to progress. The use of non-cash money can also prevent counterfeiting of 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. The m-payment application is currently used for several types of payments [5]. Mobile payments are categorized into four main sources of

losses using mobile payments: external theft, internal theft, administrative errors, internal errors, and fraud occurring between companies [6]. Mobile payment is still relatively new for people in Indonesia, but the rapid development has spurred people to adapt and adopt existing technological developments. However, on the other hand, mobile payment is considered a solution to boost sales because mobile payment in Indonesia is intensively offering promos in the form of instant cashback to trigger consumers to shop and spend more money than usual. Mobile users may not be interested in the benefits derived from using mobile payments. It can be explained where mobile users focus more on activities such as calling, playing games, sending SMS, social networking, which do not involve any monetary transactions [7].

Promotions are being intensively carried out by various companies driving and developing non-cash payment applications such as GoPay, OVO, DANA, and others. Various promotions were carried out to attract people to use mobile payments. Not only that, promotions are carried out so that many people put or invest their money in GoPay OVO accounts, DANA, and others. People continue to use mobile payments continuously, not only because there are promotions. The driving company and developer of GoPay has a vision and mission to continue to develop mobile payment to grow and become a habit for people to make payments using mobile payments. GoPay, which often does GoPay Day with cashback up to 50% on certain days, makes it more attractive for people to use GoPay as a payment system than cash. GoPay balance top-up that can be done easily and can be done anywhere.

Based on these reviews, the authors formulate several hypotheses in this research, namely:

- H1: There is a positive effect on the use of mobile payment methods to the convenience of paying.
- H2: There is a positive influence on the convenience of paying using mobile payment on consumers' willingness to pay.
- H3: Convenience in paying mediates the use of payment methods mobile payment to a willingness to pay.

2. LITERATURE REVIEW

A. Mobile Payment

M-payment refers to the use of mobile devices to transfer funds from one party (payer) to another electronically, either directly or through intermediaries [8]. Mobile payment or abbreviated

as M-Payment, is a payment method that uses a mobile phone or cell phone as a means [9]. At the same time, it also refers as a transfer of funds in exchange for goods or services, where the mobile phone is involved both in the initiation and confirmation of payment [10]. Mobile payment is also the activities of individuals or businesses that use mobile internet-enabled electronic devices to carry out any economic transactions [11]. Moreover, Quadruple Helix Synergy mobile application: e-Business and Fintech as the Driving Force for Local Economic Growth 528 as software designed to run on mobile devices. It is reinforced by the statement in the journal *Antecedents Of The Adoption Of The New Mobile Payment Systems* that mobile payment refers to making payments using mobile devices including wireless devices (e.g., mobile phones and Blackberry devices, Android, and others), Personal Digital Assistants (PDA), devices Radio Frequency (RF) and Near-Field Communication (NFC) based devices [12]. The m-payment application covers all goods, services, and invoices authorized or initiated in the payment process with mobile telecommunications devices [13] from various industries (e.g., information technology, finance, retail, and media), for end-users [14]. Mobile payment and mobile banking are the same, collectively referring to an application that allows people using their mobile phones to access and use bank accounts, transfer funds, and make payments at stores [15]. Furthermore, mobile payment and mobile banking are two different branches of mobile financial services, some of their characteristics overlap, for example, direct money transfers from account to account and sources of funds for mobile device payments [16].

B. Convenience

The meaning of E-Transaction Convenience

represents the level of convenience experienced by customers who use electronic services for their business transactions, especially representing the security of money in money transactions and electronic channels for quick access. Based on the journal "The effect of credit card versus mobile payment on convenience and consumers' willingness to pay," [17] consumers feel comfortable in transacting based on the size of the business required to make transactions [18]. For example, a consumer may not want to carry cash [19], and it is easier to swipe a credit card than to look for coins [20]. Convenience is an integral part of the marketing of goods and services and needs a deeper examination through both cases [21].

C. Willingness to Pay

Literally, willingness to pay means the willingness of consumers to make purchase transactions. According to the journal "The effect of credit card versus mobile payment on convenience and consumer's willingness to pay," consumers shopped more when using credit cards than cash [17]. They use the term "pain of paying" to describe consumer feelings in transactions, where there is a negative correlation between the pain of paying and willing to pay, which means the smaller the pain of paying, the greater the willingness to pay of consumers.

3. RESEARCH METHODS

The population in this study is PT X, with a sampling technique using non-probability sampling with the type of convenience sampling totaling 100 respondents. The operational definitions of the research variables are as follows:

Table 1 Variable Operational Table

No	Variable	State ment	Measurement technique
1.	Payment Form	1. I often use mobile payments (OVO, GoPay, ShopeePay, m BCA, and others) in my transactions. 2. I prefer to use mobile payment compared to other payment methods.	Interval
2.	Convenience	1. I feel comfortable when using mobile payment (OVO, GoPay, ShopeePay, mBCA, etc.)	Interval
		2. In my opinion, payment using mobile payment is not difficult	Interval

3.	Willingness to Pay	<ol style="list-style-type: none"> 1. I will try to pay off my shopping transactions using mobile payment. 2. My transaction is not delayed if payment is made by using mobile payments. 	Interval
----	--------------------	--	----------

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), which is 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 conducted.

4. RESEARCH RESULTS AND DISCUSSION

Respondents from this study 78% of respondents aged 17-24 years and male sex as much as 42% of respondents. 76% of respondents are students.

Based on the results of testing the coefficient of determination (R²), it is explained that the R-Square value for the convenience variable is 0.541, mediating willingness to pay and the R-Square value for the willingness to pay variable is 0.394. It shows that the variables in this study can explain 39.4% of the convenience variables. The results of the predictive relevance test (Q²) shown in table 4.13 above show that it is 0.384 for convenience and 0.275 for willingness to pay. For both, the value of predictive relevance (Q²) 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 been previously established.

Table 2 Path Coefficients Test Results

Variabel	Path Coefficient	T Statistics	P Values
Convenience → Willingness to pay	0.227	2.195	0.029
Payment Form → Convenience	0.736	10.568	0.000
Payment Form → Willingness to pay	0.609	7.118	0.000

Based on the results of the bootstrapping test in table 2, it can be concluded that the payment form is the variable that has the largest coefficient value and has a positive direction in predicting convenience and willingness to pay compared to other variables.

For the effect size test (f²), it can be seen that the payment form as a strong predictor of convenience is 1.181. Meanwhile, the payment form variable has the biggest influence on willingness to pay, and the weakest influence is convenience.

Table 3 Effect size test results (f²)

<i>Variabel</i>	<i>Convenience</i>	<i>Payment Form</i>	<i>Willingness to Pay</i>
<i>Convenience</i>			0.039
<i>Payment Form</i>	1.181		0.148
<i>Willingness to Pay</i>			

Based on the results of the effect size test shown in Table 3 above, it can be concluded that it can be seen that the payment form as a strong predictor of Convenience is 1.181. Meanwhile, the payment form variable has the biggest influence on willingness to pay, and the weakest influence is on Convenience.

Furthermore, based on the Goodness of Fit (GoF) testing conducted, it can also be concluded that the model in this study has a relatively large level of fit, which is 0.5817.

Based on hypothesis testing, it can be seen that the Payment Form has an effect of 0.736 or 73.6% on Convenience (H1) which means that if there is an increase in Convenience, 73.6% of the reason for the increase comes from the Payment Form. The results of this study are also supported by the previous study that stated where there is a positive influence between the payment form and Convenience [17]. Furthermore, Convenience has an effect of 0.227 or 22.7% on Willingness to Pay (H2), which means that if there is an increase in Willingness To Pay, then 22.7% of the reasons for the increase come from Convenience. This result also the same as the previous study that stated where there is a positive influence between Convenience and willingness to pay [17]. Payment Form has an effect of 0.609 or 6.09% on Willingness to Pay, which means that if there is an increase in Willingness to Pay, then 6.09%, the increase comes from the Payment Form. After bootstrapping, it is known that the t-statistic value is at 0.609, which indicates that the results are not significant, so it can be concluded that Convenience mediates the payment form with a willingness to pay. So, it can be concluded that H3 is not rejected. The results of this study are also supported the previous research that conclude, where there is an influence between payment form on willingness to pay and mediated by Convenience [17].

5. CONCLUSION

Based on the results that have been discussed previously, the results of this study can be concluded: (1) There is a positive effect of using the mobile payment method on the convenience of paying. (2) There is a positive influence on the convenience of paying using mobile payment on consumers' willingness to pay. (3) Convenience in paying mediates the use of mobile payment methods on willingness to pay.

REFERENCES

- [1] Nielsen, *Mobile money: from shopping to banking to payments, how mobile is transforming commerce around the world*. Nielsen, p.May 2, 2016. Available at: www.nielsen.com/be/en/insights/reports/2016/mobile-money.html/.
- [2] Phonthanukitithaworn C, Sellitto C, Fong MW. An investigation of mobile payment (m-payment) services in Thailand. *Asia-Pacific Journal of Business Administration*. 2016 Apr 4.
- [3] Ramadan R, Aita J. A model of mobile payment usage among Arab consumers. *International Journal of Bank Marketing*. 2018 Oct 1.
- [4] 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.
- [5] Kim C, Mirusmonov M, Lee I. An empirical examination of factors influencing the intention to use mobile payment. *Computers in human behavior*. 2010 May 1;26(3):310-22.
- [6] Chapman P, Templar S. Scoping the contextual issues that influence shrinkage measurement. *International journal of retail & distribution management*. 2006 Nov 1.
- [7] Chong AY. Understanding mobile commerce continuance intentions: an empirical analysis of Chinese consumers. *Journal of Computer Information Systems*. 2013 Jun 1;53(4):22-30.
- [8] Zhang MY, Dodgson M. *High-tech entrepreneurship in Asia: Innovation, industry and institutional dynamics in mobile payments*. Edward Elgar Publishing; 2014 May 14.
- [9] Irianto, A. *Mengenal Mobile Payment, Cara Pembayaran Masa Depan*. (2011, Juni 1). Retrieved Februari 25, 2019, from Plimbi: <http://www.plimbi.com/review/1063/mobile-payment>

- [10] Au YA, Kauffman RJ. The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic commerce research and applications*. 2008 Jun 1;7(2):141-64.
- [11] Liébana-Cabanillas F, Sánchez-Fernández J, Muñoz-Leiva F. Antecedents of the adoption of the new mobile payment systems: The moderating effect of age. *Computers in Human Behavior*. 2014 Jun 1;35:464-78.
- [12] Chen LD. A theoretical model of consumer acceptance of mpayment. *AMCIS 2006 Proceedings*. 2006 Dec 31:247..
- [13] Silberer G, Wohlfahrt J, Wilhelm T, editors. *Mobile commerce*. Springer-Verlag; 2002.
- [14] Dahlberg T, Mallat N, Ondrus J, Zmijewska A. Past, present and future of mobile payments research: A literature review. *Electronic commerce research and applications*. 2008 Jun 1;7(2):165-81.
- [15] Donner J, Tellez CA. Mobile banking and economic development: Linking adoption, impact, and use. *Asian journal of communication*. 2008 Dec 1;18(4):318-32.
- [16] Slade EL, Williams MD, Dwivedi YK. Mobile payment adoption: Classification and review of the extant literature. *The Marketing Review*. 2013 Aug 30;13(2):167-90.
- [17] Boden J, Maier E, Wilken R. The effect of credit card versus mobile payment on convenience and consumers' willingness to pay. *Journal of Retailing and Consumer Services*. 2020 Jan 1;52:101910.
- [18] Teo AC, Tan GW, Ooi KB, Hew TS, Yew KT. The effects of convenience and speed in m-payment. *Industrial Management & Data Systems*. 2015 Mar 9.
- [19] Hirschman EC. Differences in consumer purchase behavior by credit card payment system. *Journal of Consumer Research*. 1979 Jun 1;6(1):58-66.
- [20] Carow KA, Staten ME. Debit, credit, or cash: survey evidence on gasoline purchases. *Journal of economics and business*. 1999 Sep 1;51(5):409-21.
- [21] Berry LL, Seiders K, Grewal D. Understanding service convenience. *Journal of marketing*. 2002 Jul;66(3):1-7.