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The Use of Modified Unified Theory of Acceptance and Use of Technology 2 Model to Analyze Factors Influencing Continuance Intention of E-Payment Adoption (A Case Study of Go-Pay from Indonesia)

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Abstract: ***Indonesia online business continues to grow rapidly starting from 2011. In the early 2017, the value of online transactions in Indonesia during the year 2016 reached US $ 4.89 billion. The growth of online transactions encourages the development of technology for electronic payment systems. One of the e-payment services that is popular in Indonesia is Go-Pay. Go-Pay is a virtual wallet service for payments of transactions inside Go-Jek application. Go-Pay is also one of the fifth largest e-money in Indonesia. The average of Go-Jek users who use Go-Pay estimated more than 1.5 times compared to users who pay using cash. Go-Pay has achieved more than 50% of transactions in Go-Jek services. It is said to be one of Go-Pay success indicators in promoting non-cash and cashless society transactions. Since the success of Go-Pay, it is important to analyze factors influencing continuance intention of Go-Pay users in adopting Go-Pay in order to increase the future Go-Pay service positions. This study intends to propose a measurement tool based on the Modified Unified Theory of Acceptance and Use of Technology 2 Model from Venkatesh et. al., (2012). Trust variable has been added as a new factor to this modified UTAUT2 model. The measurement tool has been tested by using 40 respondents. The pilot test reveals that the measurement model fulfils the requirements of validity and reliability. Therefore, this proposed measurement material is ready to be used in further study.***

Keywords: e-payment, Modified UTAUT2, continuance intention, Go-Pay, adoption, Indonesia

1. Introduction

Indonesia online business continues to grow rapidly starting from 2011. In the early 2017, Indonesian Ministry of Communications and Information released data that the value of online transactions in Indonesia during the year 2016 reached US $ 4.89 billion. This amount is higher compared to the total transactions in 2015 which is US $ 3.56 billion [1].

The growth of online transactions encourages the development of technology for the payment system. Moreover, Bank Indonesia has a program to encourage the usage of non-cash payment system instruments in the economy namely GNNT *(Gerakan Nasional Non Tunai)* or National Non-Cash Movement. Therefore, it will form a community that uses non-cash (Cashless Society) particularly in conducting transactions on economic activities [2]. According to the Economic Report Indonesia from Bank Indonesia, the use of non-cash payment instruments continues to increase, reflected in the increase in non-cash payment system index from 249 in 2015 to 288 in 2016, the largest increase in non-cash payment index occurs in the use of electronic money [3].

One of the electronic money services that is popular in Indonesia is called Go-Pay. Go-Pay is a virtual wallet service for payments of transactions inside the Go-Jek application [4]. Go-Jek itself is a leading on-demand mobile platform and application in Indonesia that provides a full ranges of services from transportations, food delivery, payment, logistics, and other various services [5].

Go-Pay claimed as the fastest and the best growth among other Go-Jek services [6]. Moreover, Go-Pay become one of the largest e-wallet in Indonesia when viewed from the number of uses, transaction numbers and number of users [7]. According to JakPat survey research agency in December 2016, the percentage use of GoPay in Indonesia has reached 27.1 percent, is ranked fourth. The first rank is Mandiri e-Money (43.8%), BCA Flazz (39.1%), T-cash (29.1%). For the fifth rank is Rekening Ponsel and Line Pay (15,6%) [8].

The average amount of Go-Jek users who are using Go-Pay estimated more than 1.5 times compared to the cash users. If the growth described in a graphic, it seems like a Hockey Stick increasing sharply in a short time [9]. Regarding the number of Go-Pay users, Crystal (The Go-Jek Big Data Analyst) said that there are more than half Go-Jek users who use Go-Pay [10]. After Go-Pay launched for 8 months, Go-Pay has achieved more than 50% of transactions in Go-Jek. It is said to be one proof of Go-Pay's success in promoting non-cash and cashless society transactions [11]. The fast growth of Go-Pay is proven by the rewards that given by Bank Indonesia as the Most Active Financial Technology Company Supporting National Non-Cash Movement (GNNT) Inclusion and Financial Education as well as General Empowerment [12]. This award is given to economic actors and national figures who in recent time have contributed and best-performance to guard and promote the Indonesian economy [13]. Furthermore, in the near future Go-Pay payment service is not only for Go-Jek payment transactions. Go-Pay will be the platform for payment of various e-commerce shopping transactions [14].

Since the successful of Go-Pay, not covering the possibility in upgrading the future Go-Pay service positions. Go-Pay will be able to gain a higher position in Indonesia especially in the electronic payment services. Go-Jek needs to always

improving the quality of services. Therefore, the growth of the business can be maintained. Go-Jek needs to realize what factors influencing users in using Go-Pay continuously. Thus, Go-Jek will understand more what user's preferences are to keep continuously adopt Go-Pay. As a result, the company could improve the services, add more innovations, and become a good example for other businesses.

Based on The Unified Theory of Acceptance and Use of Technology (UTAUT) 2 Model from Venkatesh, et. al., (2012) [15], this study proposes a new modified model to analyze factors influencing continuance intention of Go-Pay adoption in Indonesia. The proposed model of this study has not been tested yet. Therefore, the objective of this research is to propose measurement tools to test the model.

2. Literature Review

Unified Theory of Acceptance and Use of Technology (UTAUT) 2 Model

To achieve the objective of this study, the authors conducted literature review of previous studies, theories and models related to user adoption towards technology-based service. UTAUT2 Model is suitable as a base of theoretical framework of this study. In this study, the authors modified the theory of UTAUT 2 Model by Venkatesh et al., (2012) based on the need of the research. This study uses UTAUT 2 Model because this model is the latest theory in technology acceptance also based on the eight technology acceptance theories; Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Combined TAM-TPB (C-TAM-TPB), Model of Personal Computer Utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) [15]. Compared to UTAUT, the extensions proposed in UTAUT2 Model result in improvement in the variance explain in the behavioral intention (56 percent to 74 percent) and technology use (40 percent to 52 percent). UTAUT Model is related to the use of technology in the organizational contexts, while UTAUT 2 Model is the technology acceptance theory in the consumer context [15], which is suitable with the study of the authors want to conduct, which is Go-Pay continuance intention adoption in Indonesia. Lastly, many previous researchers used UTAUT 2 Model. For instance, Indrawati & Haryoto (2015) studied about a prediction of prospective users' intention in adopting TV Streaming [16]. Alalwan et. al., (2017) studied about factors influencing adoption of mobile banking by Jordanian bank customers [17]. Xu (2014) also applied UTAUT2 model in a study of online games users. [18].

This research framework modified the UTAUT2 Model based on the need of the study. This study adapts Behavioral Intention with Continuance Intention since the study wants to analyze factors influencing Go-Pay users in continuously adopt Go-Pay. However, this study does not include Use Behavior variables since this study wants to identify only the continuance intention of Go-Pay users. Moreover, the respondent of this study are the users who already use Go-Pay for more than three months and the study aims to find out whether the existing customer wants to continue using Go-Pay. The study of Xu (2014) about users' continued use of online games also use UTAUT2 Model to identify the key determinants of social network game (SNG) players' continuance intention [18].

This study uses a Modified UTAUT2 Model by adding Trust variable. Trust is predicted affect the continuance intention of Go-Pay users in adopting Go-Pay. McKnight et, al. [19] believes that Trust is important because it helps consumers over- come perceptions of uncertainty, risk and engage in "trust-related behaviors" with Web-based vendors, such as sharing personal information or making purchases. There are some studies that have been proven that trust factor influences the adoption of mobile payment acceptance, such as Exploring Key Factors on Technology Acceptance of Mobile Payment Users in Indonesia conducted by Manaf & Ariyanti (2016) [20]. Qasim & Abu-Shanab (2016) studied about mobile payment acceptance [21] More, a study of factors influencing adoption of mobile banking by Jordanian bank customers shows the important of trust factor [17]. The study result of Padashetty et. al., (2013) stated that trust is one of the factors which has an important role in facilitating adoption of mobile payment solution [22].

The UTAUT 2 Model has three moderating variables which is Age, Gender and Experience. However, the authors only apply two moderating variables, Age and Gender. This is because this study is a cross sectional study while if using moderating variable Experience, authors must take periodical data sampling method that authors do not execute in this study. Experience variable needs a longitudinal study, which is a research method in which data is gathered for the same subjects repeatedly over a period of time. Therefore, the authors did not include experience as a moderating variable. The modified UTAUT 2 Model of this study consists of 8 independent variables, 2 moderating variables, and 1 dependent variable as can be seen in Figure 1.

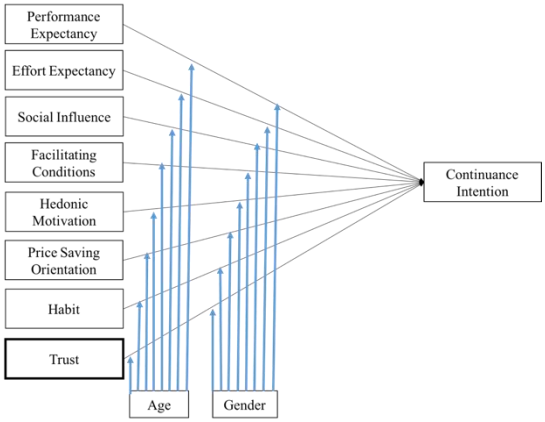

Figure 1: Conceptual Model adopted from UTAUT2 Model (Venkatesh et., al 2012)

This study adapts the Price Value variable with Price Saving Orientation. As mentioned in the Escobar-Rodríguez et. al (2014) [23], previous studies have incorporated the variable "price saving" for those technologies, such as purchasing through a website, whose use does not represent a monetary cost for the consumer and, in turn, its use enables a lower price to be obtained (Jensen, 2012) [23]. In this study the Go-Pay usage does not entail a cost for the consumer but could result in saving money. Thus, this study does not imply

any cost to the consumer but instead could mean a price saving. Therefore, the model proposed in this study includes Price Saving Orientation rather than the Price Value construct of the original UTAUT2 Model.

This study defines each original variable adapted and based on Venkatesh et al., (2003 and 2012) [24, 15]. The definition of each variable describes as follows: Performance Expectancy is defined as the degree to which a person believes that using Go-Pay would provide benefits in conducting payments of Go-Jek services. Effort Expectancy defined as the degree of ease associated with the use of the Go-Pay. Next, Social Influence is the extent to which members of social networks, such as family, friends, influence one another's behavior while using Go-Pay. Facilitating Conditions is defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support the system. Hedonic Motivation is defined as the degree of fun or pleasure derived from using Go-Pay including Go-Pay features such as Discount, Vouchers, and Go-Point. Adapted from Jensen (2012) in Escobar-Rodríguez et. al (2014) [23], Price Saving Orientation is defined as benefit (such as price reduction) in using Go-Pay. Habit is defined as the extent to which people tend to use Go-Pay automatically because of learning. Adapted from (Kolsaker & Payne, 2002) [25], Trust is defined as the level of consumers can rely on the integrity of the Go-Pay promises in offering the services. Continuance Intention definition is adapted from the Behavioral Intention definition. Thus, Continuance intention is defined as the degree to which a person has formulated plans to continuously perform some specified future behavior.

3. Measurement Material

To test the proposed model of this study, measurement material that valid and reliable is needed. In this research, first the authors conducted a content validity. Content validity means the authors checked the questionnaire items from the previous studies and adopt the items for creating questionnaire items based on the need of the research. The authors also made some modifications to make adjustments for the research. According to the Indrawati (2017:194), the researcher adopts and modifies the items from the previous studies which have been published either in international or national journals that has accreditations to get questionnaire items that fulfil the content validity criteria [26]. Therefore, in this research, the content validity has been done by adopting and modifying the items from the previous studies; Venkatesh, et.al., (2012) [15], Venkatesh, et al. (2003) [24], Escobar-Rodríguez et. al (2014) [23], Kolsaker & Payne (2002) [25]. The items could measure the perception level of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Saving Orientation, Habit, Trust, and Continuance Intention from the respondent of Go-Pay in Indonesia. Next, to test the items that have been adopted and modified, the authors met four experts in the field of marketing and digital technology. The experts gave suggestions for the questionnaire improvements in order to be more readable.

After getting approvals from the experts, the next step of validity test is to make sure that the questionnaire items do not make any confusions for the respondents. Therefore, the authors conducted a readability test to the respondents and the result is respondents could understand the questionnaire well and do not find any confusions while filling out the questionnaire. The items of each variable are presented in Table 1.

Table 1: Questionnaire Items

Item Code	Items of Performance Expectancy
PE1	I find Go-Pay useful in my daily life.
PE2	I can save time when I use Go-Pay in the payment process.
PE3	Using Go-Pay helps me accomplish payments more quickly.
PE4	Using Go-Pay increases my productivity.
Item Code	Items of Effort Expectancy
EE1	Learning how to use Go-Pay is easy for me.
EE2	It does not take long time to learn to use Go-Pay.
EE3	I find Go-Pay easy to use.
EE4	It is easy for me to become skilful at using Go-Pay.
Item Code	Items of Social Influence
SI1	People who are important to me think that I should use Go-Pay
SI2	People who influence my behavior think that I should use Go-Pay
SI3	People whose opinions that I value prefer that I use Go-Pay
SI4	Most of people around me are using Go-Pay
Item Code	Items of Facilitating Condition
FC1	I have the resources necessary to use Go-Pay.
FC2	I have the knowledge necessary to use Go-Pay.
FC3	Go-Pay is compatible with other technologies I use.
FC4	I can get help from others when I have difficulties using Go-Pay.
Item Code	Items of Hedonic Motivation
HM1	It is fun for me to use Go-Pay
HM2	Features in Go-Pay (Go-Point Token) entertain me.
HM3	Features in Go-Pay (Discounts) entertain me.
HM4	Features in Go-Pay (Vouchers) entertain me.
HM5	Go-Pay is enjoyable.
HM6	I feel excited in using Go-Pay

Item Code	Items of Price Saving Orientation
PSO1	I can save money by using Go-Pay
PSO2	I like to search for cheap deals in Go-Pay services
PSO3	Go-Pay offers better value of money
PSO4	Go-Pay offers valuable promotions for me
Item Code	Items of Habit
H1	Using Go-Pay has become a habit for me.
H2	Using Go-Pay is something that I do without thinking.
H3	Using Go-Pay is a part of my daily routine.
H4	I am addicted to using Go-Pay
Item Code	Items of Trust
T1	I believe that Go-Pay is trustworthy.
T2	I trust in Go-Pay.
T3	I do not doubt the honesty of Go-Pay.
T4	Even if not monitored, I would trust Go-Pay to do the job right.
Item Code	Items of Continuance Intention
CI1	I intend to continue using Go-Pay
CI2	I will keep using Go-Pay as regularly as I do now
CI3	My intention is to continue using Go-Pay than use any alternative means.
CI4	I will strongly recommend that others use Go-Pay

4. Method and Result

The authors conducted a first survey in the form of pilot study to guarantee that the questionnaire items fulfil the validity constructs. This pilot test has 40 respondents for the preliminary data. The data will be used for the validity and reliability test. The authors processed the data by using IBM SPSS 23. In conducting a validity test using "Corrected Item – Total Correlation" (CITC) method. According to Friedenberg and Kaplan in Indrawati (2015: 149), suggested that correlation coefficient is > 0.3 to be valid [27]. From the results of validity test to 40 respondents, the results obtained as presented in Table 2 that the overall test item is valid with CITC above 0.3. According to Indrawati (2015:155), to test the reliability of the items, Cronbach-Alpha technique is the most widely used. The instruments can be stated have a good reliability if the Cronbach- Alpha > 0.70. (Hair et. al., 2010; Kaplan and Saccuzzo 1993: 126; Nunnally & Bernstein, 1994; Pedhazur&Pedhazur, 1991) in Indrawati (2015:155) [27]. The result of pilot test presented in Table 2.

Table 2: Pilot Test Result

Item Codes	CITC	CA	Item Codes	CITC	CA	Item Codes	CITC	CA
PE1	0.512	0.750	HM1	0.865	0.890	T1	0.896	0.954
PE2	0.773		HM2	0.771		T2	0.910	
PE3	0.611		HM3	0.649		T3	0.924	
PE4	0.423		HM4	0.609		T4	0.844	
EE1	0.769	0.883	HM5	0.672		CI1	0.686	0.854
EE2	0.787		HM6	0.754		CI2	0.708	
EE3	0.675		PSO1	0.646	0.921	CI3	0.811	
EE4	0.788		PSO2	0.899		CI4	0.609	
SI1	0.819	0.873	PSO3	0.939				
SI2	0.826		PSO4	0.824				
SI3	0.79		H1	0.856	0.906			
SI4	0.495		H2	0.771				
FC1	0.607	0.716	H3	0.739				
FC2	0.456		H4	0.846				
FC3	0.689							
FC4	0.369							

As shown in Table 2, the results of the pilot study in this study revealed that all the 38 items and 9 variables of this measurement model fulfil the requirements of validity and reliability.

5. Conclusion

The measurement material proposed in this study has been tested by using 40 respondents who are Go-Pay users for at least 3 months. They already use and repeat the use of Go-Pay. The pilot test reveals that the measurement material which consists of 9 constructs and 38 items proposed in this study are valid and reliable. Therefore, this proposed measurement material is ready to be used in further study.

References

[1] Solechah, I.N. (2017, March 9th). *Pengguna Internet di awal Tahun 2017 meningkat 51%*. Hero Soft Media. [online]. Available on: https://herosoftmedia.co.id/pengguna-internet-di-awal-tahun-2017-meningkat-51/ [September 10th, 2017].
[2] Martowardojo, A.D.W. (2014). *Memaksimalkan transaksi Non tunai.* Gerai Info Bank Indonesia [Online],50. Available on: http://www.bi.go.id/id/publikasi/gerai-info/Default.aspx [September 10th, 2017].
[3] Bank Indonesia. (2016). *Bank Indonesia Laporan Perekonomian Indonesia 2016*. Jakarta: BI.
[4] Go-Jek Indonesia. (2017). *Go-Pay.* [online]. Available on: https://www.go-jek.com/go-pay/ [September 25th, 2017].
[5] Go-Jek Indonesia. (2017). *Tentang Kami.* [online]. Available on: https://www.gojek.com. [September 25th, 2017].
[6] Yusra, Y. (2017, September 26th). *Sebentar Lagi Go-Pay Jadi Alat Pembayaran Digital di Luar Ekosistem Go-Jek.* Daily Social id. [online]. Available on: https://dailysocial.id/post/sebentar-lagi-go-pay-jadi-alat-pembayaran-digital-di-luar-ekosistem-go-jek [October, 2nd 2017].
[7] Jati, A.S. (2016, August 31st). Go-Pay Balap Go-Jek. Detikinet. [online]. Available on: https://inet.detik.com/cyberlife/d-3287543/go-pay-

balap-go-jek [October, 2nd 2017].
[8] IndoTelko. (2017, January 22nd). *GoPay mulai diperhitungkan sebagai alat transaksi digital.* IndoTelko. [online]. Available on: http://www.indotelko.com/kanal?c=bid&it=gopay-digital [October, 2nd 2017].
[9] Info Komputer. (2016, November 17th). *Jumlah Pengguna Go-Pay Meningkat, Go-Pay Ingin Tingkatkan Inklusi Keuangan*. Info Komputer. [online]. Available on: https://infokomputer.grid.id/2016/11/berita/berita-reguler/jumlah-pengguna-go-pay-meningkat-go-jek-ingin-tingkatkan-inklusi-keuangan/ [September, 20th 2017].
[10] Kumparan. (2017, September 15th). *Lebih dari 50 Persen Pengguna Go-Jek Bayar Pakai Go-Pay*. Kumparan. [online]. Available on: https://kumparan.com/muhammad-fikrie/lebih-dari-50-persen-pengguna-go-jek-bayar-pakai-go-pay [2017, September 27th].
[11] Yasa, A. (2017, July 18th). *Go-Pay Catat Porsi Transaksi Lebih dari 50%.* Industri. [online]. Available on:http://industri.bisnis.com/read/20170718/105/672693/go-pay-catat-porsi-transaksi-lebih-dari-50 [October, 2nd 2017].
[12] Pratama, A.H. (2017, July 18th). *Kalahkan Tokopedia dan Bukalapak, GO-JEK Raih Penghargaan Startup Fintech dari BI.* Tech In Asia. [online]. Available on: https://id.techinasia.com/gojek-raih-penghargaan-bank-indonesia [September, 27th 2017].
[13] Hetharia, M. (2017, July 19th). *Teraktif, BI Apresiasi Transaksi GO-PAY.* Mediakawanua.com. [online]. Available on: https://mediakawanua.com/2017/07/19/teraktif-transaksi-go-pay-diganjar-penghargaan-bi/ [October, 2nd 2017].
[14] Wahyudi, A. (2017, September 26th). *Tiga Bulan Lagi Go-Pay Jadi Alat Pembayaran E-commerce di Luar Gojek.* Kata Data. [online]. Available on:http://katadata.co.id/berita/2017/09/26/tiga-bulan-lagi-go-pay-jadi-alat-pembayaran-e-commerce-di-luar-gojek [October, 2nd 2017].
[15] Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending The Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, *36*(1), 157–178.
[16] Indrawati, & Haryoto, K.S (2015, August). The Use of Modified Theory of Acceptance and Use of Technology 2 to Predict Prospective Users' Intention in Adopting TV Streaming. In *International Conference on Computing and Informatics, ICOCI, 2015* 5th International Conference *on* (pp. 1-10).
[17] Alalwan, A. A., Dwivedi, Y. K., &Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, *37*(3), 99-110.
[18] Xu, X. (2014). Understanding users' continued use of online games: An application of UTAUT2 in social network games. *MMEDIA 2014*.
[19] McKnight, D.H., Choudhury, V., and Kacmar C. (2002). Developing and Validating Trust Measures for e-Commerce: An Integrative Typology. *Information Systems Research*, 13(3):334-359.
[20] Manaf, N.R., &Ariyanti, M. (2016, November). Exploring Key Factors On Technology Acceptance of Mobile Payment Users in Indonesia Using Modified Unified Theory of Acceptance and Use of Technology (UTAUT) Model Use Case: ABC Easy Tap. In *The IIER International Conference, on* (pp. 1-5).
[21] Qasim, H., & Abu-Shanab, E. (2016). Drivers of mobile payment acceptance: The impact of network externalities. *Information Systems Frontiers*, *18*(5), 1021-1034.
[22] Padashetty, S., & Kishore, K. S. (2013). An Empirical Study on Consumer Adoption of Mobile Payments in Bangalore City-A Case Study. *Researchers World*, *4*(1), 83.
[23] Escobar-Rodríguez, T., &Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management*, *43*, 70-88.
[24] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425-478.
[25] Kolsaker, A., & Payne, C. (2002). Engendering trust in e-commerce: a study of gender-based concerns. *Marketing Intelligence & Planning, 20(4)*, 206-214.
[26] Indrawati, P. (2017). Perilaku Konsumen Individu, Bandung: PT Refika Aditama.
[27] Indrawati, P. (2015). Metode Penelitian Manajemen dan Bisnis, Konvergensi Teknologi Komunikasi dan Bisnis. Bandung: PT Refika Aditama.