Financial Management System (QRIS) based on UTAUT Model Approach in Jabodetabek

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ABSTRACT

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Keywords: QRIS payment UTAUT e-money The focus of this research is the use of e-money information technology by adapting the UTAUT model to determine the effect of performance expectations, business expectations, social influences and facilitation conditions to public interest in using Server Base Payment System: Quick Response Code Indonesian Standard (QRIS) in Jabodetabek. This study uses a quantitative descriptive method. The population of this study was Jakarta, Bogor, Depok, Tangerang, Bekasi (Jabodetabek) citizen and the sample of fespondent are 125 by using targeted sampling method. Data analysis by lisrel. The results of this study informed that behavioral intersest was not affect with positive and significant by performance expectations and social influence but was affect with positive and significant by effort expectation. Jabodetabek citizens usage behavior in QRIS payment tools was affect with positive and significant by facilities conditions and behavioral interest.

I. Introduction

According to the rockefeller foundation the world economy conditions during Covid-19 pandemic: "developed countries are overwhelmed by the global pandemic that has infected more than 20 percent of the world's population and killed about seven 8 million people per month, most of them are young and healthy adults. Covid 19 pandemic had also big impact on international economy, people and goods mobility, tourism industries, global supply chains[1].

On March 2, 2020, Indonesian government declared the COVID-19 pandemic for the first time. The government has decided to implement Large-Scale Social Restrictions (PSBB) and has started advocating social distancing and staying at home. Government emphasized the importance of avoiding physical contact by keeping a distance, washing hands regularly, getting checked immediately if you feel unwell and always wearing a mask. Government on March 18, 2020, also appealed to the public to maximize the use of cashless/cashless payment instruments in buying and selling transactions[2]. The public has been forced to implement a digital payment system that has been approved by the government through Bank Indonesia Regulation Number 11/12/PBI/2009 concerning electronic money as one of the supporters of the Bank Indonesia (BI) agenda to release the Cashless Society in Indonesia. A cashless society is an unavoidable trend, it can happen because of constant revolution and evolution, also in the payment system. The government must be ready to prepare infrastructure for the creation of a cashless society[3].

The influence of technological developments has an impact on the daily lives of people who are currently all digital. Rapid growth in the digital era can help obtain information and make it easier for humans to complete their work effectively and efficiently with the various features of electronic services offered, such as digital financial services. According to Peake digital financial services are mobile technology in web networks and agent networks which refer to the combination of providing financial services and payments. The banking services sector in Indonesia has now developed various digital services that are used by the wider community. The development of technology in the banking sector makes it easier for today's society to carry out financial transactions, even to make payments[4]. now everything is digital like electronic money and electronic wallet. Both are Fintech Payments which are legal payment instruments under the supervision of OJK. Fintech payment is an innovation in the financial sector that has been given a touch of modern technology. According to Yoyo Sudaryo and Nunung Ayu Sofiati, fintech can also be interpreted as technological development by utilizing information technology to improve services in the financial industry. The fintech industry in Indonesia is growing along with the support of the increasing number of internet and smartphone users in Indonesia[5].

cashless society is an example of the application of Rogers's theory of diffusion of innovation. This theory tries to explain that over time an idea or product gains momentum to spread (spread) through a certain social system[6]. What is meant by adoption here is to do something different from the previous one. Likewise with the current cashless payment system, starting from ATM/debit cards, credit cards, electronic money transfers and the latest developments in electronic money or digital money[7].

The state of the Covid-19 pandemic has become a milestone for the government through BI to reactivate the National Non-Cash Movement (GNNT) which was launched on 14 August 2014. GNNT is a means to realize the 2025 Indonesian Payment System Blueprint (BSPI). BSPI is a guideline for the political direction of the system. BI payments in the digital economy and finance era[8]. To accelerate performance, government incentives are needed to provide innovative payment solutions[9]. Based on Bank Indonesia Regulations, electronic pockets are an electronic service in storing payments data instruments using cards and/or electronic money containing funds in payment transactions. Provisions regarding electronic wallets have been regulated by Bank Indonesia in regulation no. 18/40/PBI/2016 together with Bank Indonesia Circular Letter No. 18/41/DKSP which contains the Implementation of Payment Transaction Processing[10].

QRIS or called Quick Response Code Indonesian Standard is a system developed and designed by the payment system industry in collaboration with Bank Indonesia which aims to make it easier for the public to make financial transactions safely. QRIS itself is a barcode-based digital payment tool that can be accessed in various e-wallets and even e-wallets that have a QRIS barcode. Electronic wallet itself is an electronic wallet that has the same function as electronic money or what is commonly referred to as electronic money[11].

Based on Law No. 7 of 2011 concerning Currency, it is stipulated that money is a legal tender in rupiah currency in the form of paper or metal that contains an element of guarantee and is permanent. With the development of time, systems and payment instruments other than cash have also developed. Apart from cash, there are several legal means of payment in Indonesia, including electronic money. Electronic money is in the form of a physical card with a chip whose use is enough to touch the machine reader. Its use is also quite fast because it does not require a pin or password, and this card can be used by anyone. Server-based electronic money used via smartphones for transactions. Users simply scan the barcode on the user's smartphone on the reader machine then enter the transaction nominal[12].

Until now, many bank and non-bank financial institutions have started issuing electronic money. According to data published by Bank Indonesia to date, there are 38 electronic money issuing companies, which are dominated by banks and communication companies. The following is a list of electronic money issuers registered with Bank Indonesia. In connection with the phenomenon of the problem, the researcher suspects that it is necessary to further examine the causal relationship between the facts of the phenomenon of the problem so that the researcher is interested in conducting further research as outlined in the title "Financial Technology: Public Interest in Server Base Payment System (QRIS) UTAUT Model Approach in Jabodetabek.

II.

The research metode use in this study is descriptive quantitative method. Research's tools were used to measure these variables to analyze numerical data using statistical methods. The research results are then processed and analyzed to draw conclusions. If the research being conducted is research that emphasizes numerical data analysis, then this research method will reveal the relationship between the variables studied so that conclusions can be drawn that clarify the description of the object under study.

The type of quantitative descriptive research used in this study is designed to provide information about how the variables of "performance expectations, business expectations, social influences, and conducive conditions affect interest in using electronic money". This research was conducted in the Greater Jakarta area. The Greater Jakarta area was chosen as the research location, because here there is potential for the development of the use of electronic money. Then it is supported by an increase in agents/dealers every year so that the increase in merchants who have adopted the emoney payment system will also increase the number of e-money users in the Jabodetabek area. The population in this study were all municipalities in the Greater Jakarta area.

The sample is part of the number and characteristics of the population. In addition, if the analysis of multivariate data research uses the structural equation model method, which is generally the Maximum Likehood Estimation (MLE), the number of samples in the survey ranges from 100-200 samples. To get a more precise determination, the number of samples can be determined by assigning 5-10 samples for each parameter (indicator) of each variable being examined. "The number of samples required in this study is five times that of most measurement indicators on one of the variables (Hair et al., 2011)". Therefore, the minimum number of samples required in this study is 23 indicators x 5 = 120 samples. However, in this study 152 samples were taken. To see the objective conditions on the research object, the researcher determines the operationalization of the research variables that are arranged to facilitate the steps in capturing and collecting data obtained from the respondents in accordance with the theories, concepts, propositions and assumptions of the research variables. set.

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III. Prepare Your Paper Before Styling

The number of e-questionnaires with the Google Form application distributed was 150 copies. And the number of filled out questionnaires is 125 copies. so that 125 questionnaires can be used for further processing. Meanwhile, the complete profile of the respondents in this study can be seen in Table 1.

	Table 1. Profile of Respondent	ts	
	Total	% of all respondents	
Gender:			
Man	65	51,6%	
woman	60	48,4%	
Age:			
15-20 years	9	0,8%	
21-30 years old	62	49,2%	
31-40 years old	23	18%	
41-50 years old	32	25,4%	
>50 years	9	6,6%	
Level of education:			
Elementary-Junior High	0	0%	
SMA/SMK	29	22,9%	
Diploma	4	2,5%	
S1	70	56,6%	
S2	21	17,2%	
S 3	1	0.8%	

Source: processed by the author

One of the assumptions that must be met in analyzing structural equation modeling (SEM) is the normality of the data which consists of univariate normality and multivariate normality. According to Hair (1998) quoted by Ghozali and Fuad (2005:36), the data is said to be normal if the data shows

No	Variabel	Indikator -	Skewness and Kurtosis		
INO			Chi-Square	P-Value	note
1	Performance Expectations (EK-X1)	EK1	6.278	0.053	Normal
		EK2	3.319	0.190	Normal
		EK3	5.547	0.100	Normal
		EK4	2.573	0.276	Normal
2	Effort Expectations (EB-X2)	EB1	6.079	0.068	Normal
		EB2	6.102	0.067	Normal
		EB3	8.212	0.066	Normal
		EB4	9.763	0.068	Normal
3	Social Influence (PS-X3)	PS1	1.395	0.498	Normal
		PS2	1.580	0.454	Normal
		PS3	1.996	0.369	Normal
		PS4	4.012	0.135	Normal
4	Facilitating Conditions (KM-X4)	KM1	8.370	0.065	Normal
		KM2	9.364	0.109	Normal
		KM3	9.131	0.061	Normal
		KM4	4.358	0.113	Normal
5	Behavioral intention (MP-Y1)	MP1	7.577	0.168	Normal
		MP2	8.606	0.109	Normal
		MP3	6.921	0.137	Normal
6	Usage behavior (PP-Y2)	PP1	8.422	0.110	Normal
		PP2	7.586	0.219	Normal
		PP3	8.209	0.157	Normal
		PP4	7.757	0.065	Normal

a normal distribution. One way to determine the normality of the data can be based on the value of skewness and kurtosis as follows:

The univariate normality test above shows that the data is normally distributed because the significance level of skewness and kurtosis i > 0.05.

The validity test was performed to ensure that the questionnaire used in the study was understood by all respondents, and the reliability test was carried out to ensure that the questionnaire used in the study guarantees a fairly consistent response from the respondents. This is done so that the research hypothesis testing can achieve its objectives, so that the data used to test the hypothesis must be tested for validity and reliability[13]. Validity and reliability tests are based on LISREL estimates, namely H. loading factor with a significance level and R2 value which is an indicator of the magnitude of the observed variable contribution to the latent variable[14].

Indirect testing uses two parameters, construct reliability and extracted variance. The full calculation can be seen in Appendix 4, and a summary of the final results can be found in Table 2 below (rounded to 2 decimal places):

Table 2 Reliability						
Variabal Latan	Parameter					
Variaber Laten	Variance Extracted	Contruct Reliability				
Performance Expectations (EK-X1)	0.8	0.6				
Effort Expectations (EB-X2)	0.9	0.7				
Social Influence (PS-X3)	0.8	0.6				
Facilitating Conditions (KM-X4)	0.9	0.6				
Behavioral intention (MP-Y1)	0.9	0.8				
Usage behavior (PP-Y2)	0.8	0.6				

This research model adopted a model which shows that Performance Expectations (EK-X1), Effort Expectations (EB-X2), Social Influence (PS-X3), Facilitating Conditions (KM-X4), Behavioral intention (PM-Y1) and Usage behavior (PP-Y2). The model described in the form of visualization is shown in Figure 1.



Fig. 1.Structural equation model; conceptual model testing based on model fit test. The various indicators used to test the fit model are as follows:.

Model Fit Criteria	Value	Terms	Note:
Minimum Fit Function Chi-Square	522.76 (P = 0.0)	P>0.05	Model Tidak Fit
"Root Mean Square Error of Approximation (RMSEA)"	0.10	Nilai < 1.00	Model Fit
"Expected Cross-Validation Index" "(ECVI)"	5.02		
"ECVI for Saturated Model"	4.45	ECVI < saturated dan	Model Tidak <i>Fit</i>
		< indenpendence	Woder Haak I ii
"ECVI for Independence Model"	56.14		
"Independence AIC"	6961.61	Model AIC <	
"Model AIC"	622.13	saturated dan <	Model Tidak Fit
"Saturated AIC"	552.00	indenpendence	
"Independence CAIC"	7049.66	Model CAIC <	
"Model CAIC"	855.65	saturated dan <	Model Fit
"Saturated CAIC"	1608.61	indenpendence	
"Goodness of Fit Index (GFI)"	0.74	Nilai < 1.00	Model Fit
"Adjusted Goodness of Fit Index" (AGFI)	0.67	Nilai < 1.00	Model Fit
"Parsimony Goodness of Fit Index" (PGFI)	0.58	Nilai < 1.00	Model Fit
"Normed Fit Index (NFI)"	0.92	Nilai < 1.00	Model Fit

Table 3 Evaluation of Model Fit Criteria

Source: LISREL data processing

Based on the results of the model fit test study, up to 3 measurements of the 9 measurements of the fit model used indicate the model does not fit, but up to 6 measurements show the fit. Based on the comparison of these tests, it can be explained that the overall research model is declared fit[15].

The structural equation is the equation between the research variables, namely the influence of Performance Expectations (EK-X1), Effort Expectations (EB-X2), Social Influence (PS-X3), Facilitating Conditions (KM-X4), Behavioral intention (PM-Y1) and Usage behavior (PP-Y2). This test was performed to determine the significance of the calculation results by modeling structural

equations with the Lisrel program. Significance testing criteria with a cut of value 1.96. If lambda (α) has t_{test} > 1.96, then the value of lambda (α) is significant. The results of testing the research hypothesis are shown in Figure 2.



Fig. 2.LISREL data processing

From Figure 2, it can be explained that the results of the test all support the following hypothesis: Performance Expectations (EK) have not significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user, as value 1.31 < critical ratio of 1.96. Effort Expectations (EB) have a significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user as value 2.16 > critical ratio of 1.96. Social Influence (PS) have not significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user as value 2.16 > critical ratio of 1.96. Social Influence (PS) have not significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user, as value 0.37 < critical ratio of 1.96. Facilitaties Conditions (KM) have a significant positive effect on usage behavior of the Jabodetabek QRIS payment instrument user, as value 2.73 > critical ratio of 1.96, Behavioral intention (MP) have a significant positive effect on usage behavior (PP) of r the Jabodetabek QRIS payment instrument user as value 2.36 > critical ratio of 1.96.

IV. Conclusion

Refer to the results of the research discussion, the conclusions of this study are as follows: Performance Expectations (EK) of the QRIS payment instrument is no significant effect on Behavioral Intention of the Jabodetabek QRIS payment instrument user. Effort Expectations (EB) of the QRIS payment instrument have a significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user. Social Influence (PS) of the QRIS payment instrument have no significant positive effect on Behavioral intention (MP) of the Jabodetabek QRIS payment instrument user. Facilitating Conditions (KM) of the QRIS payment instrument have a significant positive effect on the usage behavior (PP) of the Jabodetabek QRIS payment instrument user.

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References

- [1] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User acceptance of information technology: Toward a unified view," *MIS Q. Manag. Inf. Syst.*, vol. 27, no. 3, pp. 425–478, 2003, doi: 10.2307/30036540.
- [2] J. Hou, J. F. Lee, and S. Doherty, "A study of the effects of mobile media on L2 text processing: Beyond offline comprehension accuracy measures," *Comput. Educ.*, vol. 182, Jun. 2022, doi: 10.1016/j.compedu.2022.104466.
- [3] Y. M. Huang, L. M. Silitonga, and T. T. Wu, "Applying a business simulation game in a flipped classroom to enhance engagement, learning achievement, and higher-order thinking skills," *Comput. Educ.*, vol. 183, Jul. 2022, doi: 10.1016/j.compedu.2022.104494.
- [4] M. D. Williams, N. P. Rana, and Y. K. Dwivedi, "The unified theory of acceptance and use of technology (UTAUT): A literature review," *J. Enterp. Inf. Manag.*, vol. 28, no. 3, pp. 443–448, Apr. 2015, doi: 10.1108/JEIM-09-2014-0088.
- [5] Y. Y. Wang, A. Luse, A. M. Townsend, and B. E. Mennecke, "Understanding the moderating roles of types of recommender systems and products on customer behavioral intention to use recommender systems," *Inf. Syst. E-bus. Manag.*, vol. 13, no. 4, pp. 769–799, Nov. 2015, doi: 10.1007/S10257-014-0269-9.
- [6] J. W. Yoon, J. E. Andrews, and H. L. Ward, "Perceptions on adopting artificial intelligence and related technologies in libraries: public and academic librarians in North America," *Libr. Hi Tech*, 2021, doi: 10.1108/LHT-07-2021-0229.
- [7] J. Y. L. Thong, S. J. Hong, and K. Y. Tam, "The effects of post-adoption beliefs on the expectationconfirmation model for information technology continuance," *Int. J. Hum. Comput. Stud.*, vol. 64, no. 9, pp. 799–810, Sep. 2006, doi: 10.1016/j.ijhcs.2006.05.001.
- [8] J. E. Andrews, H. Ward, and J. W. Yoon, "UTAUT as a Model for Understanding Intention to Adopt AI and Related Technologies among Librarians," *J. Acad. Librariansh.*, vol. 47, no. 6, p. 102437, Dec. 2021, doi: 10.1016/J.ACALIB.2021.102437.
- [9] P. Tarka, "An overview of structural equation modeling: its beginnings, historical development, usefulness and controversies in the social sciences," *Qual. Quant.*, vol. 52, no. 1, pp. 313–354, Jan. 2018, doi: 10.1007/S11135-017-0469-8.
- [10] G. Siemens and R. S. J. D. Baker, "Learning analytics and educational data mining: Towards communication and collaboration," ACM Int. Conf. Proceeding Ser., pp. 252–254, 2012, doi: 10.1145/2330601.2330661.
- [11] R. D. Aviyanti, E. Saraswati, and A. Prastiwi, "ANALYSIS OF ACCEPTANCE OF ACCOUNTING INFORMATION SYSTEM IMPLEMENTATION BASED ON ELECTRONIC PAYMENT USING THE UTAUT MODEL," *Int. J. Account. Bus. Soc.*, vol. 29, no. 2, pp. 119–149, Sep. 2021, doi: 10.21776/UB.IJABS.2021.29.2.8.
- [12] S. Chauhan and M. Jaiswal, "Determinants of acceptance of ERP software training in business schools: Empirical investigation using UTAUT model," *Int. J. Manag. Educ.*, vol. 14, no. 3, pp. 248– 262, Nov. 2016, doi: 10.1016/J.IJME.2016.05.005.
- [13] C.-H. Liu, Y.-T. Chen, S. Kittikowit, T. Hongsuchon, and Y.-J. Chen, "Using Unified Theory of Acceptance and Use of Technology to Evaluate the Impact of a Mobile Payment App on the Shopping Intention and Usage Behavior of Middle-Aged Customers," *Front. Psychol.*, vol. 13, Mar. 2022, doi: 10.3389/FPSYG.2022.830842.
- K. T. Ihejirika, A. Goulding, and P. J. Calvert, "Do they 'like' the library? Undergraduate students' awareness, attitudes, and inclination to engage with library social media," *J. Acad. Librariansh.*, vol. 47, no. 6, Dec. 2021, doi: 10.1016/j.acalib.2021.102451.
- [15] M. Ashraf, J. Ahmad, A. A. Hamyon, M. R. Sheikh, and W. Sharif, "Effects of post-adoption beliefs

on customers' online product recommendation continuous usage: An extended expectationconfirmation model," *Cogent Bus. Manag.*, vol. 7, no. 1, Jan. 2020, doi: 10.1080/23311975.2020.1735693.