

## Conference Paper

# Factors Analysis that Affecting the Intention to Use Digital Payment (Case Study on OVO Users in Jakarta, Bogor, Depok, Tangerang, Bekasi)

Wahyu Indar Rachmawati, Budi Rustandi Kartawinata, Candra Wijayangka, and Imanuddin Hasbi

Faculty of Communication and Business, Telkom University – Indonesia

## Abstract

Transaction activities have evolved from cash payments to non-cash payments. The digital payment is a method of payment made using electronic media. Payments can be made through short message service, mobile banking, internet banking, e-money, or e-wallet. This study shows how response of OVO users in Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek) to the intention of use digital payments which have become a trend in carrying out transactions of anything practically. This research uses quantitative methods. The research data was obtained through the distribution of google docs online questionnaires which were shared through social media. The sample of this study is OVO users in Jabodetabek with a total of 200 respondents with a percentage of 76% having experience of using e-wallet services. The results showed that the Performance Expectancy, Effort Expectancy, and Perceived Security factors were significantly affecting the intention to use digital payment (OVO) in Jabodetabek. While the Social Influence and Culture factors do not affect significantly the intention to use digital payment (OVO) in Jabodetabek.

**Keywords:** digital payment, performance expectancy, effort expectancy, perceived security

Corresponding Author:  
Wahyu Indar Rachmawati  
indarwr56@gmail.com

Received: 7 February 2020  
Accepted: 9 March 2020  
Published: 23 March 2020

Publishing services provided by  
Knowledge E

© Wahyu Indar Rachmawati et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICE-BEES 2019 Conference Committee.

## 1. Introduction

Digital payment is a method of payment made using electronic media. One example of the use of information technology is transaction activities that evolve from cash payments to non-cash payments. This phenomenon began in 2007 which was marked by the emergence of e-money in Indonesia, followed by an e-wallet which in recent years has become a trend of mobile payment services. With this cashless system, it can support the growth of digital payments in Indonesia.

Based on data from We Are Social 2019, Indonesia's population of more than 268 million people with internet users reaches 150 million people or more than 50% of

## OPEN ACCESS

Indonesia's population. Most are mobile internet users, of which more than 142 million people. The percentage of internet users using mobile banking has reached 61% [1].

According to the Executive Director of the Head of the Bank Indonesia Legal Department, Rosalina Suci Handayani, 64% of the population in Indonesia is still unbanked (does not have a bank account) and 42% of the population is millennial. In addition, the number of smartphone users in this country also continues to increase to 310 million [2]. This means that there are still many Indonesian people who are not yet financially inclusive.

The number of electronic money providers that have obtained permits as of March 4 2019 is 37 providers [3]. Based on data from Aftech (Indonesian Fintech Association) annual member survey report, fintech's largest consumers are in Jabodetabek [4].

The number of OVO users has reached 115 million by the end of 2018 since it was officially operational in August 2017. The user base grew by more than 400% with the three largest transactions from the transportation, retail and e-commerce sectors. The number of transactions for the OVO platform has also experienced exponential growth, reaching 1 billion transactions over the past year. OVO has reached Sabang to Merauke with 77% of OVO users outside Jabodetabek [5]. The significant increase in the number of users is certainly caused by certain factors. This is what underlies the conduct of this research.

The purpose of this research is to find out how the influence of performance expectancy, effort expectancy, social influence, culture, and perceived security on the intention to use digital payment (OVO).

## 2. Literature Review

### 2.1. Electronic Payment

The basic definition of a simple e-payment is the exchange of value of money for the receipt of goods or services. In this simple context, electronic payment transactions can be defined as transactions where the value of money is electronically or digitally transferred between two entities as compensation or consideration for the receipt of goods or services. An entity refers to a bank, business, government or even individual consumers, the smallest "denominator". By this definition, it is clear that any payments that are not affected by paper-based instruments are considered electronic payment transactions. [6]

## 2.2. Financial Technology

According to Bank Indonesia, Financial Technology is the result of a combination of financial services with technology which ultimately changes the conventional business model to moderate, which initially pay directly (face-to-face) and bring some cash, now can make payments undirectly (long-distance transaction) that can be made in just seconds. [7]

## 2.3. UTAUT

UTAUT (Unified Theory of Acceptance And Use Technology) is a research model by Venkatesh et.al (2003) aims to explain the interest of users to use information technology and subsequent user behavior. UTAUT has four main constructions (performance expectancy, effort expectancy, social influence, facilitating condition) which is a direct determinant of use and behavioral intention. [8]

In the model proposed by Junadi and Sfenrianto (2015), there are two external variables added to the UTAUT model. The external variable is culture and perceived security. Cultural factors such as the level of education and technological experience are very important in the adoption of new technologies. Security relates to how electronic payment systems can protect consumer transactions. Perceived Security is influenced by several factors including, the statement that security is easily found by consumers and technical protection of consumer privacy towards outsiders. Security is also associated with regulatory and legal protection felt by consumers [9].

### 2.3.1. Performance Expectancy

Performance Expectancy refers to how consumers feel that the use of an electronic payment system will help and provide benefits in conducting online transactions such as speed, security, and convenience of transactions. [8]

**H1: Performance Expectancy significantly influence the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi.**

### 2.3.2. Effort Expectancy

Effort Expectancy is defined as the level of convenience felt by consumers when using electronic payment systems in online transactions on e-commerce sites. Effort

Expectancy also deals with systems that are easy to understand and (can) be used without special skills. [8]

**H2: Effort Expectancy significantly influence the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi.**

### 2.3.3. Social Influence

Social Influence is the influence felt by other people (important people) who encourage consumers to use electronic payment systems in transactions. The important people are defined as people who include family, spouse, and organization. [8]

**H3: Social Influence significantly influence the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi.**

### 2.3.4. Culture

Culture is the most fundamental determinant of one's desires and behavior because culture concerns all aspects of human life. According to Kotler (2005: 224), culture is the most fundamental determinant of consumer desires and behavior. [10]

**H4: Culture significantly influence the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi.**

### 2.3.5. Perceived Security

In general, security is a set of procedures, mechanisms and computer programs to authenticate sources of information and ensure the integrity and privacy of information (data) to avoid this situation to lead to difficulties (economic) data or network resources. Security-related to electronic payments can be categorized into three areas:

- i. Infrastructure security and implementation
- ii. Security transactions ensure payment in accordance with rules that are determined and determined properly
- iii. Legal security and legal framework for electronic payments. [11]

**H5: Perceived Security significantly influence the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi.**

In a study entitled Consumer Model of Factors Influencing's Intention To Use Payment System in Indonesia by Junadi and Sfenrianto (2015) [9] showed that the five factors

which included culture, perceived security, performance expectancy, effort expectancy, social influence positively affected the intention to use e-payment system in Indonesia. While the research conducted by Amoroso and Watanabe (2012) proposes a model of eleven key variables related to consumers that influence the adoption of the mobile payment system. This study presents a case of the success of Mobile Suica adoption in Japan, which serves as a model for the rapid deployment of such payment systems for other countries where adoption runs unexpectedly slowly. The results revealed that the eleven variables included perceived ease of use, perceived usefulness, facilitating conditions, attitudes toward using, perceived value, perceived security and privacy, social influence, trust, behavioral intention to use, perceived risk, and attractiveness of alternatives in the context of mobile payments has significantly affected consumers to adopt the mobile wallet. [12]

### 3. Methodology

This research is a type of quantitative research using survey methods. This study also uses descriptive research types. Descriptive statistics are statistics used to analyze data by describing or describing data that has been collected as it is without intending to make conclusions that apply to the general or generalizations (Sugiyono, 2013: 239)

In this study, the questionnaire was made in the form of a Google docs survey. It is used as an appropriate data collection instrument. The questionnaire consists of three parts: to avoid bias in these results and to target respondents accordingly, so part I is the respondent's screening questions, part II includes questions to collect respondents' demographic information and the last part is the question of factors that influence the intention to use digital payment (OVO) in Jabodetabek, which includes 18 statement which included in the dimensions. The population in this study were OVO users. Meanwhile, the sample in this study used one sampling technique in nonprobability sampling, namely, purposive sampling. The number of respondents collected was 200. The collected data were then analyzed using the Statistical Package for Social Sciences (SPSS) 25 with descriptive analysis techniques and multiple linear regression analysis. The dimensions and indicators used as questionnaires in this study were adopted from previous studies, namely, Junadi & Sfenrianto, 2015 will be presented in the following subsections.

TABLE 1: Dimensions and Indicators.

Dimensions	Indicators	
Performance Expectancy	PE1	Productivity in the transaction <sup>9</sup>
	PE2	Convenient in the transaction <sup>9</sup>
	PE3	Speed in the transaction <sup>9</sup>
Effort Expectancy	EE1	Easy of use OVO <sup>9</sup>
	EE2	Flexibility in the transaction <sup>9</sup>
	EE3	Easy to learn OVO <sup>9</sup>
Social Influence	SI1	The important people (family/relatives/friends) recommends OVO <sup>9</sup>
	SI2	The important people (family/relatives/friends) use OVO <sup>9</sup>
	SI3	The important people (family/relatives/friends) support the use of OVO <sup>9</sup>
Culture	CU1	Internet access <sup>9</sup>
	CU2	Experience in using computer <sup>9</sup>
	CU3	Level of education <sup>9</sup>
Perceived Security	PS1	Technical protection <sup>9</sup>
	PS2	Security statements <sup>9</sup>
	PS3	Government and central bank regulations <sup>9</sup>
Intention to Use	IU1	I intend to use OVO in the next <n> months <sup>8</sup>
	IU2	I predict I would use the system in the next <n> months <sup>8</sup>
	IU3	I plan to use the system in the next <n> months <sup>8</sup>

Source: Junadi & Sfenrinato (2015)

## 4. Result Analysis and Discussion

### 4.1. Multiple Linear Regression

So, the multiple linear regression equation can be arranged into:

$$Y = 0,568 + 0,350X1 + 0,285X2 + (-0,100)X3 + 0,048X4 + 0,329X5$$

1. The value of the constant (a) is positive at 0.568 (56.8%), which means if the variables Performance Expectancy (X1), Effort Expectancy (X2), Social Influence (X3), Culture (X4), Perceived Security (X5) zero value or no change, then the Intention to Use Digital Payment (OVO) (Y) is equal to 0.568 or 56.80%.
2. The regression coefficient on the Performance Expectancy (X1) variable has a positive value of 0.350 which means that if each factor in the Performance Expectancy

TABLE 2: Multiple Linear Regression.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.568	.898		.633	.527
	Performance Expectancy	.350	.097	.331	3.629	.000
	Effort Expectancy	.285	.091	.247	3.141	.002
	Social Influence	-.100	.067	-.093	-1.494	.137
	Culture	.048	.048	.051	.991	.323
	Perceived Security	.329	.102	.274	3.226	.001

a. Dependent Variable: Intention to Use

Source: Data processed by SPSS 25, 2019

(X1) variable increases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) will increase by 0.350 (35 %) and if each factor in the Performance Expectancy (X1) variable decreases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) will decrease by 0.350 (35%). So it can be concluded that if Performance Expectancy (X1) is increased, the intention to use digital payment (OVO) will increase.

3. The regression coefficient on the Effort Expectancy (X2) variable has a positive value of 0.285 which means that if each factor in the Effort Expectancy (X2) variable increases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) will increase by 0.285 (28.5%) and if each factor in the Effort Expectancy (X2) variable decreases by 1 percent, then the Intention to Use OVO (Y) will decrease by 0.285 (28.5%). So it can be concluded that if Performance Expectancy (X2) is increased, the intention to use digital payment (OVO) will increase.
4. The regression coefficient on the Social Influence (X3) variable has a negative value of 0.1, which means that if each factor in the Social Influence (X3) variable increases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) as an e-wallet will decrease by 0.1 (10%) and if each factor in the Social Influence (X3) variable decreases 1 percent, then the Intention to Use OVO (Y) will increase by 0.1 (10%). So that it can be concluded if Social Influence (X3) is increased, the intention to use digital payment (OVO) will decrease.
5. The regression coefficient in the Culture variable (X4) has a positive value of 0.048 which means that if each factor on the Facilitating Condition (X4) variable increases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) as an e-wallet will increase by 0.048 (4.8%) and if each factor in the Culture variable (X4)

decreases by 1 percent, then the Intention to Use OVO (Y) will decrease by 0.048 (4.8%). So it can be concluded that if Culture (X4) is increased, the intention to use digital payment (OVO) will increase.

6. The regression coefficient on the Perceived Security variable (X5) has a positive value of 0.329, which means that if each factor in the Perceived Security (X5) variable increases by 1 percent, the Intention to Use Digital Payment (OVO) (Y) will increase by 0.329 (32.9%) and if each factor in the Perceived Security (X5) variable decreases 1 percent, then the Intention to Use OVO (Y) will decrease by 0.329 (32.9%). So that it can be concluded that if Performance Security (X2) is increased, the intention to use digital payment (OVO) will increase.

## 4.2. Hypothesis Test

### 4.2.1. Normality Test

TABLE 3: Normality Test Result.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		200
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.42982859
Most Extreme Differences	Absolute	.040
	Positive	.039
	Negative	-.040
Test Statistic		.040
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: Data processed by SPSS 25, 2019

Based on the results table from the non-parametric normality test using the Kolmogorov-Smirnov method shows that the value of Asymp. Sig (2-tailed) is 0.200 where the number is >0.05 so it can be concluded that the data in this study are normally distributed.



### 4.2.2. Heteroscedasticity Test

TABLE 4: Heteroscedasticity Test Result.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.484	.550		2.700	.008
	Performance Expectancy	-.001	.059	-.002	-.011	.991
	Effort Expectancy	.040	.056	.083	.711	.478
	Social Influence	-.014	.041	-.032	-.338	.736
	Culture	-.029	.029	-.074	-.971	.333
	Perceived Security	-.030	.062	-.060	-.473	.637

a. Dependent Variable: RES2

Source: Data processed by SPSS 25, 2019

From the results of testing the data, the significance value of each variable shows >0.05 so that it can be concluded that this shows no symptoms of heteroscedasticity in the data used.

### 4.2.3. Multicollinearity Test

From the results of testing the data, the tolerance value of each variable shows > 0.10 and the value of VIF in each variable is no more than 10.00 so it can be concluded that this shows no symptoms of multicollinearity in the data used.

### 4.2.4. T Test and F Test

The  $R^2$  shows 55.6% of variances, Performance Expectancy, Effort Expectancy, Social Influence, Culture, and Perceived Security has an effect on Intention to Use digital payment (OVO). However, Social Influence, and Culture does not significantly influence the intention to use digital payment (OVO).

Performance Expectancy is the most crucial factor among all the related factors and it has a significant effect on the intention to use digital payment (OVO) in Jabodetabek, ( $t = 3,629, p \geq 1,972$ ). The results of this test can be supported by the results of previous studies by Ghalandari (2017) showing that the Performance Expextancy factor has a positive and significant influence on the intention to use e-banking services. Performance expectancy such as speed, convenience, and increased productivity on a

TABLE 5: F Test Result.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.568	.898		.633	.527
	Performance Expectancy	.350	.097	.331	3.629	.000
	Effort Expectancy	.285	.091	.247	3.141	.002
	Social Influence	-.100	.067	-.093	-1.494	.137
	Culture	.048	.048	.051	.991	.323
	Perceived Security	.329	.102	.274	3.226	.001

F= 48,593 and R<sup>2</sup> = 0,556

a. Dependent Variable: Intention to Use Note: \*\*correlation significant at 0.05, respectively (two-tailed)

Source: Data processed by SPSS 25, 2019

service platform or application are considered to influence someone’s intention to use the service. So this study concludes that along with changing people’s lives in a direction that requires more speed, comfort, and being able to increase productivity, consumers will have a tendency to choose products or services that support their lifestyle.

Effort Expectancy has a significant effect on the intention to use digital payment (OVO) in Jabodetabek, (t = 3,141, p ≥ 1,972). The results of this test can be supported by the results of previous studies by Mulyadi et. al (2018) found that Effort Expectancy factors had a significant effect on the intention to use the Supervision Results Management Information System. From the results of the study, it can be concluded that the intention to use a product or service depends on how much effort is spent by consumers. The results of this study also support previous studies that provide empirical evidence that business expectations are a level of ease of use of information systems that will reduce efforts (energy and time) in doing their work (Venkatesh et al, 2003).

Social Influence does not have a partially significant influence on Intention to Use digital payment (OVO) in Jabodetabek. The results of this test can be supported by the results of previous studies by Nammah et.al. (2017) shows that Social Influence factors do not affect behavioral intention in using internet technology. This can be due to the lack of influence of people around the respondents such as colleagues, family, or close friends to provide information about OVO. Based on data from Bank Indonesia, the number of electronic money providers that have obtained permits as of March 4, 2019, is 37 providers. [7] From this, it can also cause because of the large selection of e-money products and e-wallets, the respondents need more information or recommendations from the people closest to them to determine their intention to use certain applications.

Likewise Culture does not have a partially significant influence on Intention to Use digital payment (OVO) in Jabodetabek. The results of this test can be supported by the results of previous research by Riyadi et al. (2018) which shows that culture has no influence on the intention to use Mandiri E-Cash. The experience of respondents who are still lacking, especially on the online system, causes the number of respondents who still choose payment in traditional or cash. This is found in the Morgan Stanley survey, namely 38% of 1,582 respondents still chose cash as a daily payment method compared to using digital wallets owned by Tekfin companies (20%), debit cards (12%), RTGS (10%), and digital payments from banks, cellular providers, and e-commerce. [13]

Perceived Security has a significant effect on the intention to use digital payment (OVO) in Jabodetabek, ( $t = 3,141$ ,  $p \geq 1,972$ ). The results of this test can be supported by the results of previous studies by Kelvin et.al. (2018) which shows that Perceived Security has an influence on the intention to use the electronic payment system in e-money. One of the benefits of using e-wallet is safer and lower risk, such as if the cellphone is lost or stolen, the money in the application will not be easily lost as long as the password or pin is kept confidential. The stored balance will be maintained properly on the system. [14]

## 5. Conclusion

Based on the results of the analysis and processing of data from the research that has been carried out on the analysis of factors that affecting the intention to use digital payment (OVO) in Jakarta, Bogor, Depok, Tangerang, Bekasi, some conclusions can be drawn as follows:

i. a) The results of the performance expectancy factor (X1) on the intention to use digital payment (OVO), which is obtained a total score score of 82.2%. This value is included in the good category.

b) The results of effort expectancy (X2) on the intention to use digital payment (OVO), which is obtained a total score of 89.6%. This value is included in the excellent category.

c) The result of social influence (X3) on the intention to use digital payment (OVO), which is obtained by a total score of 84.2%. This value is included in the excellent category.

d) Result of culture (X4) on the intention to use digital payment (OVO), which is obtained a total score of 79.5%. This value is included in the good category.

e) The results of perceived security (X5) on the intention to use digital payment (OVO) which is obtained by the total score of 82.8%. This value is included in the good category.

ii. Intention to Use (Y) digital payment (OVO), which is obtained by a total score of 80.7%. This value is included in the good category.

iii. Performance expectancy (X1), effort expectancy (X2), and perceived security (X5) factors partially have a significant influence on OVO in Jabodetabek. While social influence factors (X3), and culture (X4), showed results that partially did not have a significant effect.

iv. Performance expectancy, effort expectancy, social influence, culture, and perceived security factors simultaneously influence the intention to use digital payment (OVO) in Jabodetabek. And, the results of the coefficient of determination show results of 55.6%. These results indicate that of the five factors above there are several factors that are considered not too significant to be able to influence the intention of using digital payment (OVO) such as social influence, and culture.

## References

- [1] Kemp, S. (2019, January 30). Digital 2019: GLOBAL INTERNET USE ACCELERATES. Retrieved May 11, 2019, from We Are Social: <https://datareportal.com/reports/digital2019-indonesia>
- [2] R., J. I. (2019, March 20). Sederet Implikasi Penting Fintech di Indonesia, Apa Saja? Retrieved May 11, 2019, from Liputan6: <https://www.liputan6.com/tekno/read/3921525/sederet-implikasi-penting-fintech-diindonesia-apa-saja>
- [3] Bank Indonesia. (2019). Edukasi Financial Technology. Retrieved May 11, 2019, from Bank Indonesia: <https://www.bi.go.id/id/edukasi-perlindungan-konsumen/edukasi/produk-danjasa-sp/fintech/Pages/default.aspx>
- [4] Ulya, F. N. (2019, May 2). Survei Aftech: Fintech Dorong Inklusi Keuangan. Retrieved May 7, 2019, from Kompas.com: <https://money.kompas.com/read/2019/05/02/212700826/survei-aftech--fintech-doronginklusi-keuangan>
- [5] investor.id. (2019, February 22). Hingga Akhir 2018, Pengguna OVO Capai 115 Juta. Retrieved May 11, 2019, from INVESTOR DAILY INDONESIA: <https://investor.id/archive/hingga-akhir-2018-pengguna-ovo-capai-115-juta>
- [6] Tan, M. (2004). e-Payment: The Digital Exchange. 31 Lower Kent Ridge Road: NUS Publishing.

- [7] Bank Indonesia. (2019). Informasi Perizinan Penyelenggara dan Pendukung Jasa Sistem Pembayaran. Retrieved May 8, 2019, from Bank Indonesia: <https://www.bi.go.id/id/sistem-pembayaran/informasi-perizinan/uangelektronik/penyelenggara-berizin/Pages/default.aspx>
- [8] Venkatesh et. al., (2003). USER ACCEPTANCE OF INFORMATION TECHNOLOGY: TOWARD A UNIFIED VIEW. MIS Quarterly Vol. 27 No.3, 425-478.
- [9] Junadi et. al. (2015). A Model of Factors Influencing Consumer's Intention To Use E-Payment System in Indonesia. Procedia Computer Science 59 (2015), 214-220
- [10] Ghoni. (2012). The Influence Of Factor Of Cultural, Social, Personality And Psychology On Customer Behavior Studies In Real Estate Main Griya Banjardowo Semarang. Jurnal Kajian Akuntansi dan Bisnis.
- [11] Tsiakis, T., & Sthephanides, G. (2004). The Concept of Security and Trust in Electronic Payments. Computers and Security (2005), 10-15.
- [12] Singh, P. V., Jahan, A., & Mathu, A. A. (2017). Mobile Wallets Talk of Every Town after Demonetization: Factors Effecting Mobile Wallet Users: An Empirical Study of Bhopal. ICASES-17
- [13] Rahadian, L. (2019, February 25). *Industri Pembayaran Digital: Bank dan Fintech Berebut Pasar?* Retrieved May 8, 2019, from Bisnis.com: <https://finansial.bisnis.com/read/20190225/90/893062/industri-pembayaran-digital-bank-dan-fintech-berebut-pasar>
- [14] Fitriadi, F. (n.d.). *Mengenal Lebih Dekat e-Wallet atau Dompot Digital*. Retrieved May 8, 2019, from Kreditpedia.net: <http://www.kreditpedia.net/e-wallet-atau-dompot-digital/>