

Mobile Payment Service Adoption: Understanding OVO E-Wallet Customers among GEN Y and GEN Z in Bandung, West Java

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KEYWORDS

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ABSTRACT

This study aimed to determine the factors that influence the Y and Z generation consumers in using OVO E-wallet in the city of Bandung. The analysis employed the Unified Theory of Acceptance and Use of Technology (UTAUT) model, namely performance expectancy (PE), social influence (SI), and behavioral intention (BI). The data analysis was carried out using the structural equation model (SEM-PLS) on the final data collected as many as 400 respondents. The obtained results indicated that the performance expectancy (PE) and social influence (SI) have a positive and significant effect on the behavioral intention (BI) regarding the use of OVO mobile payment. In addition, the social influence (SI) moderates the performance expectancy (PE) towards the behavioral intention (BI). Generations Y and Z have high awareness and strong enthusiasm for adopting OVO mobile payment as long as it provides benefits. One strategy to encourage the adoption of OVO mobile payments among the Y and Z generations is to facilitate financial transactions in an expeditious manner. The social influence (SI) is also a factor regarding the adoption of OVO mobile payments. This suggests that generations Y and Z rely more on advice and recommendations from important people (such as family, friends and relatives) in the adoption of OVO mobile wallet.

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Introduction

It is currently evident that the development of technology is experiencing a significant acceleration. This increasingly rapid technological progress affects the activities of the Indonesian people in several fields, one of which is in the use of the internet. According to DataIndonesia.id (2022) We Are Social notes that the quantity of web clients in Indonesia has expanded from the earlier year. In January 2022, 205 million people in Indonesia used the internet. This indicates that 73.7 percent of Indonesians have used the internet.

OCBC (2021) reports that the high volume of internet users currently plays a significant role in shaping the purchasing and selling behaviors of Indonesian consumers, including the shift towards digital, non-cash payment methods. According to Widyanto et al. (2021), Mobile Payment is defined as the use of mobile devices to perform, authorize, and confirm financial transactions to obtain goods and services. A Kadence International Survey (2021) on the Digital Payment and Financial Services Usage and Behavior in Indonesia Report with 1,000

respondents explains that OVO is the most well-known digital wallet (e-wallet) with a brand awareness acquisition rate of 96%. According to the survey, 31% of respondents who reported being the most active users also indicated that OVO is the brand they use the most frequently.

Fintech.id (2020) defines OVO as an application that provides non-cash payment system services, and open access to other digital financial products and services that are presented in collaboration with selected partners. It is reported by Katadata.co.id (2021) that OVO application has been installed on 115 million devices in total.

Appstore rankings show that OVO is positioned fifth in the finance section, but has a relatively low rating of 3.9 compared to other digital wallet (e-wallet) options. The results of user reviews for OVO indicate that a significant number of reviews have rated the application poorly. One common reason for this is the difficulty in completing transfers and other transactions. The existence of this phenomenon will affect the user's intention to use OVO application (behavioral intention). Customers who expect OVO performance to meet their expectations become disappointed when OVO cannot be used (performance expectancy). Customers who intend to recommend to those closest to them become dissatisfied because of bad reviews from other customers (social influence).

According to the Central Statistics Agency (BPS), Indonesia will have a population of 275.77 million in 2022, making it the fourth largest country in the world. Generation Z (Gen Z), which makes up 27.94% of Indonesia's total population, is expected to dominate the country's population in 2020. This is followed by generation Y or millennials, comprising 25.87% of the total population of Indonesia (databooks.katadata.id, 2021). Of the total groups of generations Y and Z, a significant number reside in West Java, with a population of 11,886,068 in 2021.

This research can be explained by a model of user behavior towards information technology called UTAUT (Unified Theory of Acceptance and Use of Technology) which is one of the acceptance of technology that uses the elements in eight existing models of technology acceptance, namely theory of reasoned (TRA), technology acceptance model (TAM), motivation model (MM), theory of planned behavior (TPB), combined TAM and TPB, model of PC utilization (MPTU), innovation diffusion theory (IDT), and social cognitive theory (SCT) to obtain an unified view of acceptance of the latest technology (Venkatesh et al, 2003).

Gupta & Arora's (2022) research on performance expectancy reveals that the performance expectancy significantly impacts the consumers' behavioral intention to use e-wallets due to the time-saving and effectiveness of utilizing e-wallets for transactions (t-value 2.784; p-value < 0.05). The research on social influence conducted by Esawe (2022) shows that the social influence significantly influences the consumer behavioral intentions towards using e-wallets (t-value 4.196; p-value < 0.001). In other words, one of the factors driving the behavioral intention to use e-wallets is the social influence of important people, such as family, relatives and friends.

Based on the description of the gap phenomenon supported by the data, theory, and research gaps from the results of previous research, it is necessary for the researchers to conduct a research related to performance expectancy, social influence, and behavioral intention.

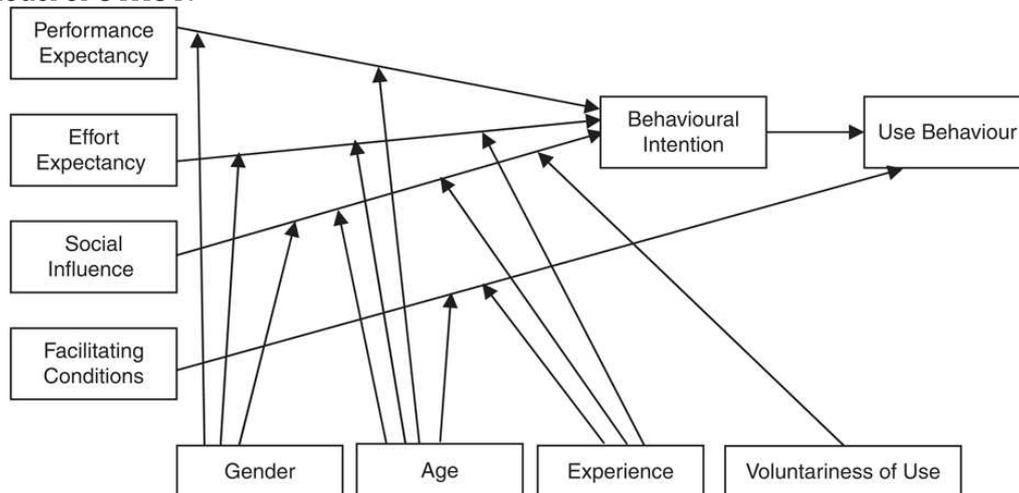
Literature Review

1. Unified Theory of Acceptance and Use of Technology (UTAUT)

This study uses the theory put forward by Venkatesh et al. (2003) namely *Unified Theory of Acceptance and Use of Technology* (UTAUT). This theory is the theory of acceptance and use of the latest integrated technology which is considered the most appropriate model. UTAUT combines eight models, namely *Theory Reasoned Action* (TRA), *Technology Acceptance Model* (TAM), *Motivational Model* (MM), *Theory of Planned Behavior* (TPB), *Combined TAM and TPB*

(C-TAM-TPB), *Model of PC Utilization (MPCU)*, *Innovation Diffusion Theory (IDT)*, and *Social Cognitive Theory (SCT)*. Compared to the eight models, UTAUT has proven successful in explaining up to 70% of behavioral intention variants.

Venkatesh et al. (2003) found, through their analysis of several influential constructs directly and significantly impacting intention and use, that there are four constructs that play a crucial role as direct determinants of user acceptance and usage behavior in the *Unified Theory of Acceptance and Use of Technology (UTAUT)*. The four constructs are *performance expectancy*, *effort expectancy*, *social influence*, and *facilitating conditions*. This theory has several moderators, namely *gender*, *age*, *voluntariness of use*, and *experience*. The following is the model of UTAUT:



Source: Venkatesh et al. (2003)

Figure 1. Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology Model (UTAUT) has an important role as a direct determinant of behavioral intention and use behavior, namely performance expectancy, effort expectancy, social influence, and facilitating conditions.

- a. Performance Expectancy
Performance expectancy is defined as the extent to which an individual believes that using a system will improve their performance at work.
- b. Effort Expectancy
Effort expectancy reflects the extent to which users perceive technology as easy to use, which can result in a reduction of the effort and time required to complete work tasks.
- c. Social Influence
Social influence refers to the extent to which a consumer's decision to use a product or service is influenced by the opinions of their family, relatives or friends. The indicators used are based on what other people think, should, and usually do to help use mobile payments.
- d. Facilitating Conditions
Facilitating conditions can be interpreted as the level of confidence that users can implement innovations with suggestions that support the use of new technology.
- e. Behavioral Intention
Behavioral intention is a person's desire to use information technology for the purposes he/she wants.

2. Electronic Wallet (E-Wallet)

Referring to the 2016 Bank Indonesia Regulation number 18/40/PBI/2016, *e-wallet* is an

electronic service for storing payment instrument data, including payment instruments using cards and/or electronic money, which can also accommodate funds for making payments. Ramli and Hamzah (2021) define an e-wallet as a mobile device-based platform that facilitates payment of cashless sales transactions – both in person and remotely, between consumers and merchants or service providers.

Its several advantages lead to consumer acceptance of e-wallet. To attract the attention of consumers, service providers often offer a variety of incentives as rewards for using their services. For example, they offer cashback, bonus points, good offers or discounts. Utilizing e-wallet services enables consumers to efficiently transfer money to third party accounts. In addition, e-wallet users can pay the same amount separate receipts to separate invoices. Several e-wallet providers offer this feature to consumers to save costs for related services (Ramli & Hamza, 2021).

Framework

In this study, the researchers conducted a research on the factors that influence the Y and Z generation consumers who use mobile payments on OVO e-wallet in the city of Bandung. This research used the *Unified Theory of Acceptance and Use of Technology (UTAUT)* theory by using *performance expectancy* and *behavioral intention* variables as well as *social influence* variable as a moderating variable. For this reason, a framework is needed as a basis for developing hypotheses.

According to the research conducted by Puspa (2021), *performance expectancy* has a significant influence on *behavioral intention*. This means that the greater the consumer’s expectations, the stronger their desire to use the system. Furthermore, the other study conducted by Rahi et al. (2019) also stated that social influence *positively* influences the consumer intentions in using *mobile banking*.

Based on this description, the framework of the research is described as follows:

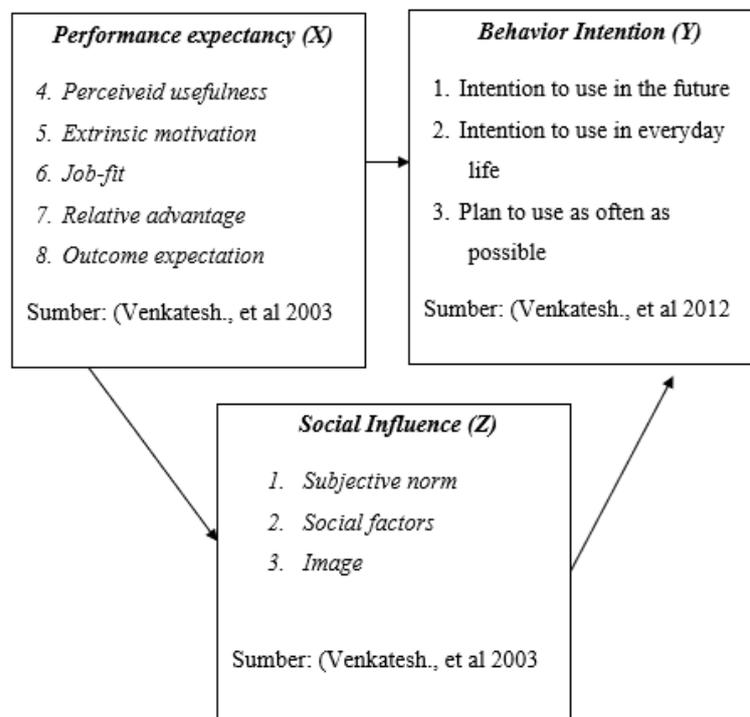


Figure 2Research Model

Relations among Variables

1. Relationship between Performance Expectancy and Social Influence

In their study, Venkatesh et al. (2003) explained that *performance expectancy* and *social influence* are closely related and complement each other in regards to *behavioral intention*. Furthermore, Hidayatullah et al. (2020) explained that consumer behavior towards *performance expectancy* always meets the expectations of users and consumers in making purchasing decisions, and this holds true for all behaviors. Additionally, *social influence* also provides a positive stimulus to *behavioral intention*. Therefore, the *performance expectancy* and the *social influence* together provide a clear picture of the current consumer behavior. In this study, we aimed to understand the relationship between the *performance expectancy* and *social influence*, particularly in the digital age where consumer behaviors and geographical conditions can vary.

2. Relationship between Performance Expectancy and Behavioral Intention

Hutabarat et al. (2021) found that *Performance Expectancy* has a significant impact on *Continuance Intention* based on their research. This means that if a system helps to achieve benefits or optimal performance, it will increase a person's desire to use it. This supports the results of the research conducted by Kelvin (2018) stating that the *performance expectancy variable* has an influence on the *intention to use electronic payment systems in e-money*.

3. Relationship between Social Influence and Behavioral Intention

According to the research conducted by Achiriani (2021), *social influence* variable has a significant influence on *behavioral intention* variable. This suggests that the recommendation, usage, and support of OVO e-wallet provided by close individuals, such as family, relatives, or friends, has an influence on the behavioral intention to use the system. This aligns with the findings of research conducted by Kelvin (2018), which found that *social influence* variable has an impact on the *intention to use electronic payment systems through e-money*.

Hypothesis Development

According to Sugiyono (2019: 99), a hypothesis is a temporary answer to a formulation of research problem, where the formulation of the problem has been stated in the form of a question. It is said temporarily because its new answer is based on relevant theories, not based on the results of facts that have been obtained from data collection. The following are hypotheses in this study:

- a) H1: *Performance expectancy* has an effect on *behavioral intention* among OVO e-wallet users.
H0: *Performance expectancy* has no effect on *behavioral intention* among OVO e-wallet users.
- b) H2: *Performance expectancy* has an influence on *social influence* among OVO e-wallet users.
H0: *Performance expectancy* has no influence on *social influence* among OVO e-wallet users.
- c) H3: *Social influence* has an effect on *behavioral intention* among OVO e-wallet users.
H0: *Social influence* has no effect on *behavioral intention* among OVO e-wallet users.
- d) H4: *Performance expectancy* has an effect on *behavioral intention*, with *social influence* as a moderating variable among OVO e-wallet users.
- e) H0: *Performance expectancy* has an effect on *behavioral intention*, with *social influence* as a moderating variable among OVO e-wallet users.

Methodology

1. Research Population and Sample

Population in a study must be stated explicitly, including a size of population members and

the research area covered. The population is a key part of all aspects of the study (Widodo and Yusiana, 2021: 102).

In this study, the population consists of OVO digital wallet users in Bandung, who are unknown in terms of their exact number. The research location was chosen because Bandung is one of the largest cities in Indonesia. In addition, according to Kadence's 2021 survey "Digital Payment and Financial Services Usage and Behavior in Indonesia," OVO is the most widely used digital wallet in the city of Bandung, at 33%.

In this study, the following sample selection criteria were used:

1. Domiciled in the city of Bandung
2. Using OVO mobile wallet application

In this study, the *nonprobability sampling technique* with *purposive sampling* was used. *Nonprobability sampling* is defined by Sugiyono (2019) as a technique that does not provide equal opportunities for every member of a population to be selected.

Samples for this study were collected through an online survey conducted in Bandung in November 2022. The research was conducted for approximately two weeks using Google Forms, which were shared on social media platforms such as Instagram and WhatsApp. The researchers were able to collect 400 responses that met the predetermined criteria.

Results

In this study, the characteristics of the respondents were divided into three categories: age, occupation, and monthly income. The following table presents a summary of the characteristics of the respondents:

Table 1. Profile of the respondents

<i>Categories</i>	<i>Description</i>	<i>No. of Respondents</i>	<i>%</i>
age	17-25	176	44
	26-35	121	30,2
	>35	103	25,7
Occupation	Student	173	43,3
	Employee	154	38,5
	entrepreneur	73	18,3
Level of Income (monthly income)	< IDR 1,000,000	73	18,3
	IDR 1,000,000 – IDR 5,000,000	121	30,2
	IDR 5,000,000 – IDR 10,000,000	103	25,7
	> IDR 10,000,000	103	25,7

This study employed the SEM-PLS technique. According to Hair et al. (2017), SEM-PLS consists of two stages: the first stage, known as the *outer model (measurement model)*, assesses reliability and validity, while the second stage, known as the *inner model (structural model)*, tests the strength of the relationship between constructs.

Discriminant and convergent validity is seen through the measurement of *cross loading factor* with a comparison of AVE and correlation between variables in a study. If the data shows that the construct correlation of each indicator has a value greater than the other construct values, then this variable has a high *cross loading factor* (Hair et al., 2017). In addition, there are other approaches to determine the amount of *discriminant validity*, namely using the *heterotrait-monotrait ratio* and the *Fornell-Larcker Criterion*. In the *heterotrait-monotrait* (or HTMT) approach, the ratio value for HTMT in a study may not exceed 0.9 (Henseler et al.,

2015). Furthermore, the reliability test on partial least squares is carried out using two methods, namely *Cronbach's Alpha* which must have a value of > 0.60 and *Composite Reliability* which must have a value of > 0.70 (Ghozali, 2014).

Table 2. Measurement Model Assessment¹

Latent Variables	Items	Indicator Reliability	Convergent Validity	Internal Consistency Reliability	
		Load Factor (>0.6)	AVE (>0.5)	Composite Reliability (>0.7)	Cronbach's Alpha (>0.7)
Performance Expectancy	PE1	0.742	0.568	0.964	0.954
	PE2	0.727			
	PE3	0.752			
	PE5	0.825			
	PE6	0.747			
	PE7	0.731			
	PE8	0.720			
	PE9	0.769			
	PE10	0.777			
	PE11	0.804			
	PE12	0.819			
	PE13	0.729			
	PE14	0.744			
	PE15	0.724			
	PE16	0.710			
	Behavioral Intention	BI1			
BI2		0.695			
BI3		0.667			
BI4		0.793			
BI5		0.811			
BI6		0.759			
BI7		0.745			
BI8		0.747			
Social Influence	SI1	0.753	0.551	0.907	0.883
	SI2	0.777			
	SI3	0.795			
	SI4	0.786			
	SI5	0.698			
	SI6	0.692			
	SI7	0.696			
	SI8	0.670			

Table 3. Heterotrait-monotrait ratio (HTMT)

	Behavioral Intention	Performance Expectancy	Social Influence
BI			
PE	0.482		
SI	0.856	0.479	

Furthermore, the measurement of the structural model (*Inner Model*) aimed to test the effect of other latent variables. The test was carried out based on the path value to see whether or not the influence that can be displayed from the t value is significant. The t value can be obtained by *bootstrapping*. The R-square value is the coefficient of determination in the endogenous construct. A higher R-square value indicates a better prediction of the proposed research model.

Table 4. R-Square

<i>Variable</i>	<i>R-Square</i>
Behavioral Intention (Y)	0.616
Social Influence (Z)	0.324

Based on table 4, it can be seen that the *R-Square value on behavioral intention* resulted in an *R-Square value* of 0.616. This means that *performance expectancy* has an influence of 61.6% and the remaining 38.4% is influenced by other variables outside the research. the *R-Square value for social influence* is 0.324, meaning that the effect of *performance expectancy* on *social influence* is 32.4% and the remaining 67.6% is influenced by other variables outside this study.

Q-square indicates the independent-test predictive power or predictive significance of the model. A *Q2* value greater than 0 indicates that the model has predictive value for certain endogenous constructs. Conversely, values of 0 and below indicate a lack of predictive significance. As a relative measure of predictive importance, values of 0.02, 0.15, and 0.35 indicate that exogenous constructs have low, medium, and high predictive significance, respectively, for certain endogenous constructs (Hair et al., 2017). The following is a Q-Square calculation using SmartPLS:

Table 5. Q-Square

	<i>(Q²)</i>
Behavioral Intention (Y)	0.159
Social Influence (Z)	0.325

Based on table 5 above, it can be seen that the *Q2 value for the social influence variable* is 0.159. Because $Q2 = 0.159 > 0$, it is concluded that the *performance expectancy variable* has predictive relevance for the *social influence variable*. It is known that the value of $Q2 = 0.159$, which is greater than 0.15, then it is concluded that the relevance of the prediction is medium.

Furthermore, the *Q2 value for the behavioral intention variable* is 0.325. Because $Q2 = 0.325 > 0$, it can be concluded that the *performance expectancy variable* has predictive relevance for the *behavioral intention variable*. It is known that the value of $Q2 = 0.325$, which is greater than 0.15, it can be concluded that the relevance of the prediction is medium.

Based on the results of the SEM analysis that was carried out, it can be seen from the results of the hypothesis test that the *performance expectancy* has a significant and positive effect on the behavioral intention to use OVO *e-wallet* (*t-statistic* 2,676; *p-value* 0.007 < 0.05). This is in line with the research conducted by Esawe (2022) which states that the *performance expectancy* influences consumer the *behavioral intention* to use *e-wallets* because using *e-wallets* can save time and make transactions more effective.

Furthermore, the results of the hypothesis test show that the *performance expectancy* has a significant and positive effect on the *social influence* on the use of OVO *e-wallet* (*t-value* 20.897; *p-value* 0.000 < 0.05). This finding is consistent with the research conducted by Hidayatullah et al. (2020), which found that consumer behavior in terms of intention on *performance expectancy* (PE) always meets the expectations of users and consumers in making purchase decisions, including their behavior. Moreover, the *social influence* (SI) also provides

a positive stimulus to the *behavioral intention*. The *social influence* has a significant and positive effect on the *behavioral intention* in using OVO e-wallet (t -value 20.377; p -value 0.000 < 0.05). In other words, one of the drivers of the behavioral intention to use OVO e-wallet is the social influence of important people, such as family, relatives and friends. These results are supported by previous research by Esawe (2022) and Abdullah et al. (2020).

In addition, the *performance expectancy* has a significant and positive effect on the *behavioral intention* through the *social influence* (t -value 14.569; p -value 0.000 < 0.05). This can be explained by the fact that the social influence from family, relatives, and friends influences consumer performance expectations and the behavioral intention in using OVO e-wallet.

For more details, refer to the following table:

Table 6. Path Coefficient

	<i>Original Sample (O)</i>	<i>Sample Means (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>
PE -> BI	0.129	0.125	0.048	2,676	0.007
PE -> SI	0.569	0.577	0.027	20,897	0.000
SI -> BI	0.705	0.708	0.035	20,377	0.000
PE -> SI -> BI	0.401 _	0.408 _	0.02 8	14,569	0.000

Based on the results of this research, the following conclusions can be drawn regarding the hypotheses:

Table 7 Summary of Hypothesis Test Results

<i>Hypotheses</i>	<i>Description</i>	<i>Relations between Variables</i>	<i>Results</i>
DIRECT EFFECT			
H1	Performance expectancy on behavioral intention	PE -> BI	H0 is rejected H1 is accepted
H2	Performance expectancy on social influence	PE -> SI	H0 is rejected H2 accepted
H3	Social influence on behavioral intention	SI -> BI	H0 is rejected H3 is accepted
INDIRECT EFFECT			
H4	Performance expectancy on behavioral intention moderated by social influence	PE -> SI -> BI	H0 is rejected H4 is accepted

Conclusion

The results of this study show that the majority of respondents in generations Y and Z in Bandung City, West Java have a positive attitude towards using OVO e-wallet. Based on the results of the SEM analysis that was carried out, it can be seen from the results of the hypothesis test that the *performance expectancy* (PE) has a significant and positive effect on the *behavioral intention* (BI) regarding the use of OVO e-wallet (t -statistic 2,676; p -value 0.007 < 0.05). The

performance expectancy (PE) also has a significant and positive effect on the *social influence* (SI) regarding the use of OVO *e-wallet* (t -value 20.897; p -value 0.000 < 0.05). The *social influence* (SI) also has a significant and positive effect on the *behavioral intention* (BI) in using OVO *e-wallet* (t -value 20.377; p -value 0.000 < 0.05). The *performance expectancy* (PE) has a significant and positive effect on the *behavioral intention* through the *social influence* (SI) as well (t -value 14.569; p -value 0.000 < 0.05).

The results of hypothesis test indicate that the PE, BI and SI variables are factors that influence the intention to adopt OVO mobile payment. The Y and Z generations have high awareness and strong enthusiasm for adopting OVO mobile payment as long as it provides benefits. Making financial transactions effortlessly and swiftly is a way to attract the Y and Z generations to use OVO mobile payment.

The social influence (SI) is also a factor in the use of OVO mobile payment. This suggests that generations Y and Z rely more on advice and recommendations from important people (such as family, friends, and relatives) when using OVO mobile wallet.

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