

Understanding the key drivers in using mobile payment among Generation Z

Key drivers in using mobile payment

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Received 13 August 2021
Revised 30 January 2022
28 May 2022
Accepted 15 July 2022

Abstract

Purpose – This quantitative study aims to examine the determinants that impact the behavioral intention to use mobile payment (m-payment) among Generation Z (Gen Z) customers in Indonesia.

Design/methodology/approach – The theoretical model comprises seven latent variables: effort expectancy, performance expectancy, social influence, facilitating conditions, promotional activities, perceived security and behavioral intention. In addition, the two moderating factors of education and gender are used to investigate the significant effect of the determinants on intention to adopt m-payment. This study obtained the final data size of 430 respondents. The data analysis is conducted using structural equation modeling.

Findings – The results substantiate the significance of promotional activities, perceived security, performance expectancy, effort expectancy and social influence, on the behavioral intention to accept m-payment systems. Gender is revealed to significantly moderate two constructs: social influence and promotional activities, on the m-payment usage intention. Meanwhile, education moderates the effect of perceived security on behavioral intention.

Originality/value – This research is expected to fill the gap because only a few studies discuss the determinants affecting m-payment usage in Indonesia, especially among Gen Z-ers. Furthermore, the new findings associated with the role of two moderating factors become important practical implications because most of the prior studies often ignore the moderating factors.

Keywords M-payment, Generation Z, Moderating factor

Paper type Research paper

1. Introduction

The rapid growth of mobile technology and the high penetration rate of mobile internet users have made the mobile phone an essential device to support many daily life activities. Because of its diverse functionality, more users use their smartphones to do payment transactions, referring to mobile payment (m-payment). Handarkho *et al.* (2021) declared that m-payment is a digital payment service to perform financial transactions using mobile devices and wireless communication technologies. As an online digital payment, m-payment can create the process of payment become more convenient yet faster for customers without carrying any physical cards or money.

Globally, the adoption of m-payments has continued to rise in the past five years. Mordor Intelligence (2021) reported that the global value of m-payments had reached US \$1,449.56 billion in the year 2020 and forecasted will amount to US\$5,399.6bn in 2026, reflecting a compound annual growth rate (CAGR) of 24.5% between 2021 and 2026. As the market size, there were 1.3 billion global m-payment users in the year 2020, increasing 225% from 2015 (Business of Apps, 2020).

Despite the rapid global growth of m-payment, a study revealed that the willingness of Indonesian customers to adopt m-payment is considered low and still at the infancy stage



(Lisana, 2021). Central Bank of Indonesia reported that m-payment transactions were valued at US\$13.95bn in 2020, increasing 38.6% from 2019 and expected to obtain US\$18.5bn in 2021 (The Asian Banker, 2020). Another survey showed that the percentage of m-payment penetration in Indonesia was 15.9% in 2019 (Boston Consulting Group, 2020). However, Indonesia is still considered a big market in developing access to m-payment systems because of large geographical and population conditions. The adoption of m-payment is expected to continue to rise because of huge support from both government agencies, the Indonesia Central Bank (BI) and the Financial Service Authority (OJK) (Isnurhadi, 2021). The Indonesia Central Bank reported the number of licensed bank and non-bank e-money providers was 14 and 37, respectively (Fintechnews Indonesia, 2020). This study focuses on m-payment systems provided by non-bank services.

Indonesia is the fourth largest country globally, having a population of 271.35 million in the year 2020. Central Bureau of Statistics Indonesia reported that Generation Z (Gen Z) dominated the people of Indonesia in 2020, with 27.94% (Triyasni, 2021). Gen Z describes youth born between 1997 and 2012 (Dimock, 2019). Research conducted by Turner (2015) explored the uniqueness of Gen Z-ers in technology and smartphone usage. As the dominating generation in Indonesia, it is necessary to examine the behavior among Gen Z-ers in using m-payment.

Most of the extant studies in m-payment acceptance have been conducted using one of the popular technology acceptance models, unified theory of acceptance and use of technology (UTAUT) (Lisana, 2021). Originally, UTAUT comprises four main constructs, namely performance expectancy, effort expectancy, social influence and facilitating conditions, that affect the user's intention to accept new technology. Because of the impossibility of the four constructs to fully address the uniqueness of m-payment platforms, the UTAUT model has been extended by adding several different constructs such as personal innovativeness (Wang and Dai, 2020), trust (Zhao and Bacao, 2021) and individual mobility (Liébana-Cabanillas, 2021). Moreover, UTAUT has introduced the importance of four moderating factors: age, gender, experience and voluntariness of use, on the relationships between the constructs and behavior intention.

Even though UTAUT has been adopted by many authors to explore the user's intention toward m-payment usage in several countries (Zhao and Bacao, 2021; Wei *et al.*, 2021; Al-Saedi *et al.*, 2020), only limited studies are conducted in Indonesia. Indeed, a systematic review conducted by Pramana (2021) showed that only two articles related to the adoption of m-payment in Indonesia had been published in journals from online major scientific databases between 2016 and 2020. Moreover, to the best of my knowledge, no studies examine the factors that influence the Gen Z-er's intention, as a dominant population in Indonesia, to accept m-payment. Additionally, in the m-payment adoption context, only a few authors adopted the moderating factors in their research model, specifically for education (Lisana, 2021; Pramana, 2021). This study aims to fill the void by investigating the factors that affect the behavior intention among Indonesian Gen Z-ers. The proposed research model uses extended UTAUT theory by adding another two constructs that are closely related to the characteristics of Gen Z: perceived security and promotional activities. Meanwhile, to obtain a deeper understanding, this study analyzes the role of two moderating factors: gender and education, on the direct effects of Gen Z-er's intention toward m-payment usage and its antecedents. All stakeholders, including m-payment service providers and bank policy-makers, may benefit from the findings of this study by providing a profound understanding of how

Gen Z customers in Indonesia developed their intention to use m-payment platforms. Thus, this research proposes two research questions as follows:

- RQ1.* Which factors have a positive impact on Gen Z customers' intention to accept m-payment?
- RQ2.* Do Gen Z customers' gender and education have a significant moderating effect on the intention to accept m-payment?

The article is organized into eight sections. Section 2 presents the theoretical review based on the existing studies in m-payment acceptance, followed by developing the research model and hypotheses in Section 3. Sections 4 and 5 describe the research methodology and preliminary analyses, respectively. SEM analysis of the research model and hypotheses testing are then presented in Section 6, followed by discussion in Section 7. Finally, the conclusion is presented in Section 8.

2. Literature review

In the last decade, many authors have explored the adoption of m-payment as a new innovative payment method. [Dahlberg et al. \(2015\)](#) discovered that 34 m-payment adoption articles had been published from 2007 to 2014. Another systematic review study found that between 2014 and 2018, there were a total of 54 publications on m-payment adoption research ([Karsen et al., 2019](#)). Of those 54 publications, 38 articles (or 70%) were published in scientific journals and the remaining 16 (or 30%) were published in conference proceedings.

[Table 1](#) summarizes the prior m-payment adoption studies conducted in different countries. Both Technology Acceptance Model (TAM) and UTAUT were found to be the most adopted theories to investigate how users develop their intention to use m-payment platform. Because those two basic models were not sufficient to explain the user's behavior to accept m-payment, many authors have added other various variables as listed in [Table 1](#).

UTAUT, as one of the most popular technology adoption models, has been adopted by many studies in m-payment usage. UTAUT originally includes four primary constructs: effort expectancy, performance expectancy, facilitating conditions and social influence to be significant in influencing intention to use technology. Many studies have examined the significance of those constructs on the user's intention toward m-payment ([Do et al., 2020](#); [Zhao and Bacao, 2021](#); [Moorthy et al., 2020](#)). Other relevant determinants were added to get a better explanation of user's behavior in using m-payment, such as perceived security ([Jin et al., 2020](#); [Moorthy et al., 2020](#); [Cobanoglu et al., 2015](#)) and promotional activities ([Wei et al., 2021](#); [Wang and Dai, 2020](#)).

Not only four constructs, but the UTAUT model also provides four moderating factors: gender, age, experience and voluntariness of use. However, limited studies in m-payment adoption are concerned about moderating factors in their research model. [Pramana \(2021\)](#) verified that only 13 out of 72 articles (18 %) published from 2016 to 2020 investigated the role of moderating factors among determinants in their research model. His study also found that gender is one of the moderating factors often used in m-payment adoption studies. Furthermore, some authors explored education as another important moderating factor ([Jin et al., 2020](#); [Sobti, 2019](#); [Park et al., 2019](#)).

As defined by [Dimock \(2019\)](#), Gen Z-ers are between the ages of 9 and 24 by the year 2021. His study highlighted that Gen Z has grown up in an environment with "always-on" technology. Therefore, mobile technology plays an essential role for Gen Z youth. They behave that smartphone is everything to them as they can perform many activities using their smart portable handled device ([Turner, 2015](#)).

Reference	Topic of study	Basic theory	Variable	Country	Moderating factor
Wong and Mo (2019)	A Study of Consumer Intention of Mobile Payment	TAM	PU, PEU, PR, PT, PS, IU	Hong Kong	–
Do <i>et al.</i> (2020)	The effects of factors influencing on user behavior intention to use mobile payment	UTAUT	SI, FC, BI, Perceived Convenience, Perceived Transaction Speed	Cambodia	–
Wang and Dai (2020)	Exploring factors affecting the adoption of mobile payment at physical stores	TAM and UTAUT	PU, PEU, PI, SI, BI, Promotional offer, Attitude	China	Sex, Age
Gupta and Arora (2019)	Investigating consumer intention to accept mobile payment systems	UTAUT2	PE, EE, FC, SI, BI, Hedonic Motivation, Habit	India	–
Wei <i>et al.</i> (2021)	Young Generation's Mobile Payment Adoption Behavior	UTAUT	PE, EE, FC, SI, PR, BI, Promotional Activities	Taiwan	Gender
Sobti (2019)	Impact of demonetization on diffusion of mobile payment service	UTAUT	PE, EE, SI, FC, PR, PC, BI, Demonetization Effect	India	Gender, Age, Education
Kalinić <i>et al.</i> (2019)	The moderating impact of gender on the acceptance of peer-to-peer mobile payment systems	TAM	PU, PEU, SN, PI, PT, PR, IU	Spain	Gender
Lee <i>et al.</i> (2019)	Determinants of mobile payment usage and the moderating effect of gender	UTAUT	PE, EE, SI, FC, PR, IU	South Korea	Gender
Jin <i>et al.</i> (2020)	Consumers' behavioral intention to accept mobile wallet	TAM and Theory of Reasoned Action	PU, PEU, PS, SI, IU, Price value, Social media, Brand image	Malaysia	–
Al-Saedi <i>et al.</i> (2020)	Developing a general extended UTAUT model for M-payment adoption	UTAUT	PE, EE, SI, PC, PT, PR, BI, Self-efficacy	Oman	–

Table 1.
Overview of prior m-payment studies

Notes: BI = Behavioral intention, EE = Effort expectancy, FC = Facilitating condition, IU = Intention to use, PU = Perceived usefulness, PEU = Perceived ease of use, PI = Personal innovativeness, PT = Perceived trust, Personal security, PR = Perceived risk, PE = Performance expectancy, PC = Perceived cost, SN = Subjective norms, SI = Social influence

The extant studies in m-payment acceptance have been done in various countries. However, not many authors focused on Southeast Asian countries, more specifically Indonesia. Additionally, some scholars disregarded the role of moderating factors in their research models. This empirical study focuses on investigating the development of Indonesian Gen Z-er's intention to use m-payment based on extended UTAUT, including two moderating factors.

3. Theoretical model and hypotheses development

3.1 Hypotheses development

Performance expectancy refers to the individual's perception that m-payment systems will enhance his/her job performance (Zhao and Bacao, 2021). The higher customers believe that m-payment offers some incentives, the higher they will adopt it (Al-Saedi *et al.*, 2020). Most prior studies confirmed that performance expectancy was an essential determinant of the adoption of m-payment (Zhao and Bacao, 2021; Moorthy *et al.*, 2020; Al-Saedi *et al.*, 2020; Do *et al.*, 2020). However, Wei *et al.* (2021) reported that the effect of performance expectancy was insignificant. Therefore, this hypothesis is proposed:

H1. Performance expectancy has a positive effect on the Gen Z customers' intention to accept m-payment.

Effort expectancy is defined as the degree of belief that the use of m-payment systems is easy (Wei *et al.*, 2021). The easier m-payment is used, the higher user's willingness to adopt. Effort expectancy was one of the most influential determinants affecting m-payment acceptance (Sobti, 2019; Al-Saedi *et al.*, 2020; Gupta and Arora, 2019; de Sena Abrahão *et al.*, 2016). Contrary, some authors confirmed an insignificant effect of effort expectancy on customers' intentions (Zhao and Bacao, 2021; Wei *et al.*, 2021; Lee *et al.*, 2019; Moorthy *et al.*, 2020). However, literature review studies revealed that effort expectancy was the most frequently used factor in m-payment studies (Karsen *et al.*, 2019). This leads to this hypothesis:

H2. Effort expectancy has a positive effect on the Gen Z customers' intention to accept m-payment.

Wang and Dai (2020) described social influence as the extent to which other people's opinions can sway the decision to use a particular system. It reflects the influence of close friends, relatives and family on behavioral intention to use m-payment. In several m-payment adoption research, social influence was considered a significant antecedent of users' intention (Lisana, 2021; Wei *et al.*, 2021; Zhao and Bacao, 2021; Wang and Dai, 2020). However, some studies reported the insignificance of this effect (Moorthy *et al.*, 2020; Gupta and Arora, 2019; Teo *et al.*, 2015). A study showed that Gen Z-ers used social networks actively and built their relationship based on social media channels (Cho *et al.*, 2018). This gives rise to the following hypothesis:

H3. Social influence has a positive effect on the Gen Z customers' intention to accept m-payment.

Teo *et al.* (2015) defined facilitating conditions as the degree to which an individual believes that he or she was equipped with configuring and operating wireless internet mobile phones to perform m-payment. The support of the organizational and technical infrastructure of m-payment platforms can increase the customers' intention to adopt m-payment. Moorthy *et al.* (2020) and Molina-Castillo *et al.* (2020) argued that the effect of facilitating conditions on customers' intention to use m-payment was significant, while other authors, Wei *et al.* (2021) and Lee *et al.* (2019), showed the contradictory result. Thus, the following hypothesis is proposed:

H4. Facilitating conditions has a positive effect on the Gen Z customers' intention to accept m-payment.

Perceived security is defined as the degree to which an individual believes that using m-payment systems is secure (Zhao and Bacao, 2021). Customers will perform the financial transactions using m-payment if they feel secure against confidential data loss. Most m-payment studies confirmed perceived security as a significant determinant that influences the usage of m-payment (Zhao and Bacao, 2021; Oliveira *et al.*, 2016; Moorthy *et al.*, 2020; Liébana-Cabanillas *et al.*, 2018). Surprisingly, Jin *et al.* (2020) found that perceived security did not positively influence customers' behavior intention to use m-payment in Malaysia. However, Francis and Hoefel (2018) argued that Gen Z-ers put security as their priority. Therefore, this hypothesis is proposed:

H5. Perceived security has a positive effect on the Gen Z customers' intention to accept m-payment.

Promotional activities refer to activities related to promoting a product or service, such as offering both rewards: monetary and nonmonetary (Wei *et al.*, 2021). It reflects the more promotion offered to the customers, the higher their interest in using m-payments. Wang and Dai (2020) showed the strong effect of the promotions provided to the customers on the positive attitude and intention to accept m-payment in China. Furthermore, a prior study also argued that the number of promotion activities effectively attracted and attained more young generations to adopt m-payment in Taiwan (Wei *et al.*, 2021). Unfortunately, the role of promotional activities in m-payment adoption is still under-investigated. This gives rise to the following hypothesis:

H6. Promotional activities has a positive effect on Gen Z customers' intention to accept m-payment.

Several m-payment studies confirmed that gender significantly influences the direct effects of the following variables: effort expectancy (Hamza and Shah, 2014), performance expectancy (Yunpeng and Jamal, 2018), social influence (Hamza and Shah, 2014), perceived security (Musa *et al.*, 2015) on the behavioral intention to m-payment usage. However, the exploration of moderating effect of education in m-payment studies is still limited. Park *et al.* (2019) appear to be the only study that argued the moderating factor of education significantly influences the relationship between perceived security and behavioral intention. As a result, this study proposed 12 hypotheses associated with the influences of the two moderating factors (education and gender) on the six aforementioned hypotheses *H1–H6*:

H7–H12. Gender moderates the positive effect of performance expectancy, effort expectancy, social influence, facilitating conditions, perceived security and promotional activities on behavioral intention.

H13–H18. Education moderates the positive effect of performance expectancy, effort expectancy, social influence, facilitating conditions, perceived security and promotional activities on behavioral intention.

3.2 Theoretical model

The proposed theoretical model is developed after extensively reviewing the extant studies in m-payment usage. The model offers a different perspective by extending the UTAUT model with promotional activities and perceived security variables to provide an understanding of the factors that influenced Indonesian Gen Z-ers to use m-payment

systems. UTAUT theory was selected as a basic model because it contains not only performance expectancy and effort expectancy constructs, which are similar to perceived usefulness and perceived ease of use constructs in TAM (Venkatesh *et al.*, 2003), but also social influence and facilitating conditions constructs. According to Hofstede-insights (2022), Indonesia is a collectivist society, thus it is necessary to include social influence construct in the theoretical model. Furthermore, as the dominating population in Indonesia (Triyasni, 2021), Gen Z-ers highlights several characteristics. They care much about security matters and rely heavily on technology (Francis and Hoefel, 2018). Additionally, they can be categorized as shrewd consumers (Annie Foundation, 2021). Therefore, this study employs another three constructs: facilitating conditions, perceived security and promotional activities, in the proposed theoretical model to represent the characteristics of Gen Z-ers. To enrich the findings, the model also includes two moderating factors: gender and education, as seen in Figure 1.

4. Methodology

This study is exploratory research and uses a field study method because the impact of variables on the dependent variable is uncontrollable, which is possible in experimental designs (Boudreau *et al.*, 2001). This method is also excellent in identifying relatively strong effects on dependent variables that could enhance the statistical results (Cook and Campbell, 1979).

As a quantitative cross-sectional study, the questionnaire is used to gather information related to the customers' experiences when they are using m-payment systems. The questionnaire is designed into three parts. The first part is an introduction explaining the understanding of m-payment. The second section contains the questions related to the characteristic of the participants (age, gender and education). The last section consists of measuring instruments developed based on prior studies in m-payment adoption. Both

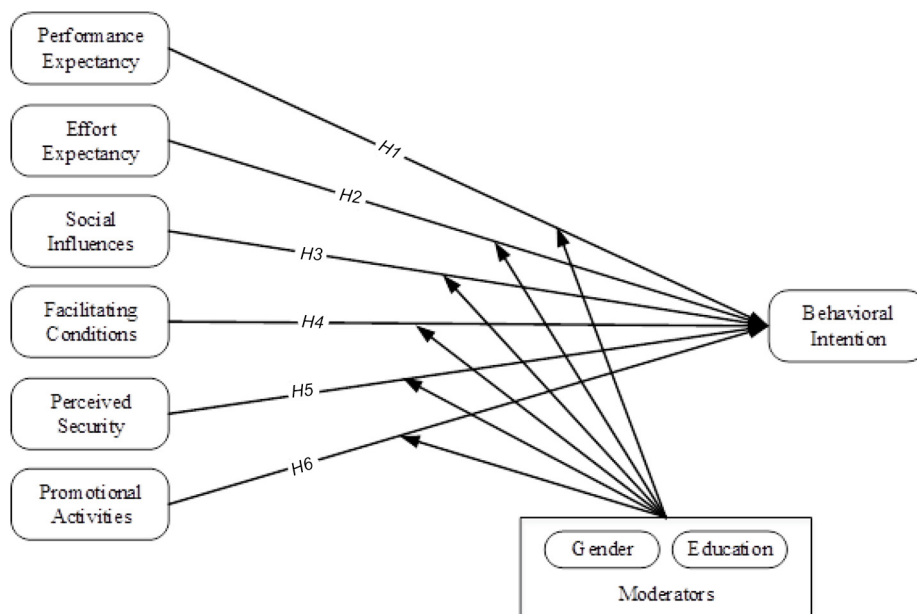


Figure 1. Theoretical model

English and Indonesian questionnaires are then reviewed by expert users knowledgeable in English and Indonesian languages.

Table 2 lists all measuring instruments from seven variables in the theoretical model adapted from the existing studies. Each indicator is measured using a five-point Likert scale. The value of gender is either male or female and education is either high school or below or higher education or above.

This study used a purposive sampling method to gather the data. According to Gupta and Arora (2019), the purposive sampling method chooses the most productive targeted respondents to answer the research questions. This method was considered to be used following the research guidance from Neuman (2014). The questionnaires were administered via a google form. Concerning the aforementioned research objectives, the target

Variable (symbol)	Indicator	Measuring instrument	Reference
Performance Expectancy (PE)	PE1	Mobile payment is useful to perform my financial transactions	Gupta and Arora (2019)
	PE2	Mobile payment helps me to conduct transactions faster	
	PE3	Mobile payment makes me perform transactions easily	
	PE4	Mobile payment increases my productivity	
Effort Expectancy (EE)	EE1	I can easily learn how to use mobile payment	Zhao and Bacao (2021)
	EE2	I can easily become skillful in using mobile payment	
	EE3	My interaction with mobile payment is clear and understandable	
Social Influence (SI)	EE4	It is easy to follow all the steps of mobile payment	Al-Saedi et al. (2020)
	SI1	People whose opinions that I value prefer that I use the mobile payment	
	SI2	People who are close to me encourage me to use the mobile payment	
Facilitating Conditions (FC)	SI3	People who influence my behavior think that I should use the mobile payment	Gupta and Arora (2019)
	FC1	My existing resources support me to use mobile payment	
	FC2	I have the knowledge to use mobile payment	
	FC3	Mobile payment provides me with online assistance	
Perceived Security (PS)	FC4	Mobile payment is compatible with the existing device that I use	Lisana (2021)
	PS1	Mobile payment is trustworthy	
	PS2	Mobile payment can protect my financial information	
	PS3	Mobile payment can protect my personal information	
Promotional Activities (PA)	PS4	The security system adopted by the mobile payment is reliable	Wei et al. (2021)
	PA1	I am interested in the cashback reward points given by mobile payment and the merchants	
	PA2	I am interested in promotional offers given by mobile payment	
Behavioral Intention (BI)	PA3	Promotional offers provided by mobile payment are reliable	Wang and Dai (2020)
	BI1	I will use mobile payment frequently in my financial transaction	
	BI2	Given the opportunity, I continue to use mobile payment in the future	
	BI3	I am willing to continuously use mobile payment	

Table 2.
Variables measurement

respondents of interest for this study are Indonesian Gen Z-ers living in five urban cities and actively using m-payment systems. Furthermore, following the guideline from [Israel \(2003\)](#), the minimum sample size used in this study is 400 respondents because the target population is more than 100,000.

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5. Descriptive analyses

Initially, this study collected 481 responses from Indonesian Gen Z-ers. The respondents' participation is arranged through personal contacts with the author to ensure that only Gen Z-ers could participate in this study. Moreover, the first part of the questionnaire also states the range of respondents' age who can participate. The data from google forms were then transferred to the SPSS version 23 worksheet and checked whether they contained at least one outlier value for each indicator. As a result, 51 responses were removed, bringing the final sample size to 430 to be further analyzed. This number has exceeded the minimum sample size of 400 based on criteria from [Israel \(2003\)](#).

[Table 3](#) shows the characteristics of the participants based on the received questionnaires. The number of male respondents (57.4%) is greater than females (42.6%). The respondents' age is between 15 and 24 years old in accordance with the Gen Z-er's criteria. Meanwhile, more respondents have higher education or above (62.6%) compared to those with high school or below (37.4%).

This study used SPSS version 23 to analyze 430 valid data. A confirmatory factor analysis (CFA) was used to measure the validity of all variables. Based on [Straub et al. \(2004\)](#), the CFA results of the construct validity for seven latent variables were satisfactory because all indicators had a factor loading value greater than 0.4 with an eigenvalue of at least 1. However, there was a problem because all indicators for two latent variables, facilitating conditions (FC1-4) and promotional activities (PA1-3), have loaded onto the same component. This implied that all indicators of both latent variables did not satisfy the discriminant validity. Consequently, one of those two variables should be excluded from the model. The Promotional Activities variable is closely related to Gen Z'ers ([Annie Foundation, 2021](#)). Therefore, this study eliminated facilitating conditions variable from the

Characteristic	Frequency	(%)
<i>Gender</i>		
Male	247	57.4
Female	183	42.6
<i>Education</i>		
High School or below	161	37.4
Higher education or above	269	62.6
<i>Age (Years)</i>		
15	23	5.3
16	69	16.0
17	67	15.6
18	41	9.5
19	37	8.6
20	51	11.9
21	44	10.2
22	36	8.4
23	34	7.9
24	28	6.5

Table 3.
Characteristics of participants

theoretical model while the promotional activities variable remained. Figure 2 depicts the modified theoretical model.

The second iteration of the CFA demonstrated that all indicators from six latent variables were found to satisfy the condition of discriminant and convergent validity. Another testing, average variance extracted (AVE), was executed to confirm the convergent validity. The AVE values of all latent variables exceeded the minimum acceptable values of 0.5, assuring the convergent validity based on the recommendation from Fornell and Larcker (1981).

Cronbach Alpha coefficients were used to test the equivalence reliability of all indicators from six latent variables. All construct's coefficients confirmed internal consistency with a value higher than the threshold value of 0.7 (George and Mallery, 2003). Another assessment to test the internal consistency reliability is composite reliability (CR). The CR values of all latent variables were above 0.7, confirming internal consistency reliability (Fornell and Larcker, 1981). Table 4. presents the results of validity and reliability testing showing that the measurement model has been satisfactory.

The descriptive statistics for all indicators of model variables can be seen in Table 5. The following formula is used to calculate the single scale measure (SCM) of each variable (Pramana, 2018):

$$SCM = \frac{\sum_{i=1}^n SD [i] * FL[i]}{\sum_{i=1}^n SD [i]}$$

Notes:

SD = Standard Deviation;

FL = Factor Loading; and

n = number of variable indicator.

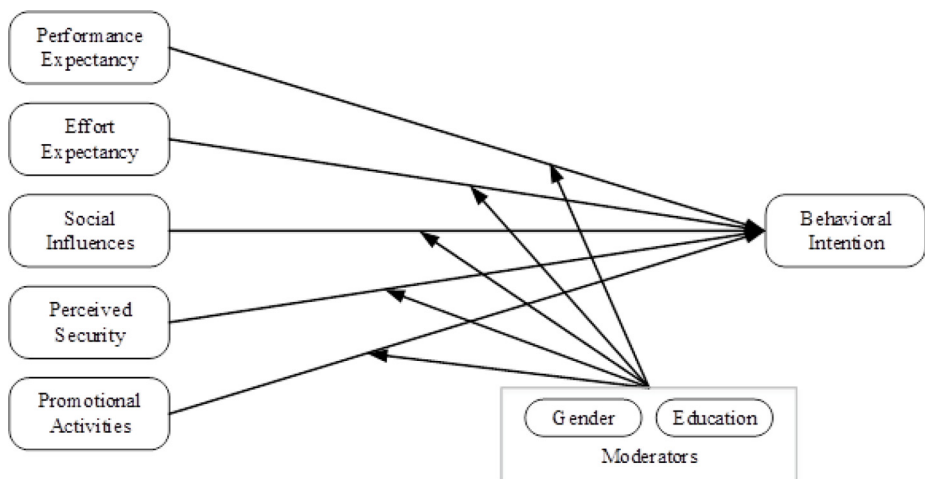


Figure 2. Modified theoretical model

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Variable	Indicator	Factor loading	Composite reliability	AVE ($\sqrt{\text{AVE}}$)	Cronbach's alpha	Result
Perceived security	PS2	0.911	0.938	0.791 (0.889)	0.924	Excellent
	PS3	0.903				
	PS4	0.876				
Effort expectancy	PS1	0.867	0.855	0.597 (0.773)	0.874	Good
	EE2	0.850				
	EE4	0.809				
	EE3	0.768				
Performance expectancy	EE1	0.650	0.831	0.553 (0.743)	0.836	Good
	PE2	0.792				
	PE1	0.759				
	PE3	0.750				
Social influence	PE4	0.667	0.922	0.797 (0.892)	0.907	Excellent
	SI1	0.916				
	SI2	0.884				
Behavioral intention	SI3	0.877	0.864	0.680 (0.824)	0.873	Good
	BI3	0.843				
	BI2	0.827				
Promotional activities	BI1	0.803	0.821	0.606 (0.778)	0.741	Acceptable
	PA2	0.866				
	PA1	0.751				
	PA3	0.710				



Notes: Extraction method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization. Rotation converged in six iterations. Kaiser–Meyer–Olkin Measure of Sampling Adequacy = 0.880. Bartlett’s Test of Sphericity: Approx. Chi-Square = 5,637.020, df = 210, Sig. = 0.000. Only eigenvalues of 1 or more are shown. AVE = Average variance extracted

Table 4. Results of CFA and Cronbach’s alpha

Furthermore, [Table 5](#) shows that the indicators from each latent variable have both values of kurtosis and skewness are below the maximum value of 7 and 3, respectively, as suggested by [Kline \(2016\)](#). This condition is necessary as one of the main prerequisites for conducting SEM analyses.

[Table 6](#) presents the correlation for the relationships among the single-scale measures for the model variables. With exception to the association between perceived security and promotional activities (the shaded cell), all six variables are significantly correlated with each other.

6. Analyses of modified theoretical model and hypotheses testing

Because facilitating conditions construct was deleted from the theoretical model, as shown in [Figure 2](#), three hypotheses were excluded from the modified theoretical model. One hypothesis is related to the direct effect on behavioral intention (*H4*) and the other two are related to the moderating factors (*H10* and *H16*).

The analyses of the modified theoretical model were conducted using structural equation modeling (SEM) done using AMOS Version 21 software. The results were measured by standardized path coefficients (in parentheses) that can be used to determine the relationships among variables, as depicted in [Figure 3](#). The five proposed hypotheses are significant positive predictors of behavioral intention (confirming *H1–H6*).

Following the recommendation from [Kline \(2016\)](#), the results of fit statistics of the modified theoretical model are satisfactory, as presented in [Table 7](#). A reasonable model fit

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Variable/Indicator	Mean	SD	Skewness	Kurtosis
Performance expectancy	4.64	0.431	-1.006	0.051
PE1	4.64	0.553	-1.222	0.517
PE2	4.75	0.434	-1.152	-0.677
PE3	4.52	0.598	-0.819	-0.312
PE4	4.70	0.461	-0.852	-1.280
Effort expectancy	4.72	0.381	-1.001	-0.578
EE1	4.64	0.490	-0.713	-1.188
EE2	4.74	0.439	-1.095	-0.804
EE3	4.77	0.421	-1.286	-0.348
EE4	4.76	0.429	-1.210	-0.539
Social influence	4.02	0.766	-0.278	-0.942
SI1	4.00	0.858	-0.267	-1.017
SI2	3.93	0.851	-0.249	-0.821
SI3	4.14	0.786	-0.450	-0.677
Perceived security	3.92	0.722	-0.347	-0.396
PS1	4.26	0.663	-0.346	-0.775
PS2	3.82	0.843	-0.307	-0.501
PS3	3.78	0.843	-0.240	-0.549
PS4	3.89	0.804	-0.358	-0.324
Promotional activities	4.81	0.315	-1.531	1.073
PA1	4.77	0.421	-1.286	-0.348
PA2	4.86	0.349	-2.060	2.255
PA3	4.82	0.386	-1.659	0.757
Behavioral intention	4.54	0.573	-1.188	0.669
BI1	4.71	0.513	-1.519	1.391
BI2	4.51	0.643	-0.968	-0.163
BI3	4.44	0.710	-1.039	0.316

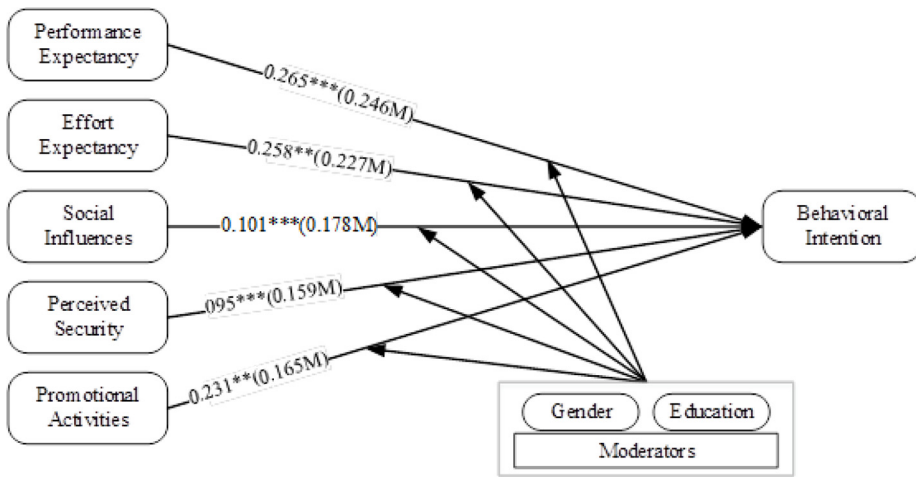
Table 5.
Descriptive statistics

Variable	Performance expectancy	Effort expectancy	Social influence	Perceived security	Promotional activities	Behavioral intention
Performance Expectancy	1					
Effort Expectancy	0.564**	1				
Social Influence	0.364**	0.194**	1			
Perceived Security	0.223**	0.164**	0.229**	1		
Promotional Activities	0.350**	0.496**	0.168**	0.052 ^{ns}	1	
Behavioral Intention	0.499**	0.492**	0.353**	0.290**	0.374**	1

Table 6.
Correlations

Notes: ** = statistical significance at a level of 0.01; ns = not statistically significant at a level of 0.05 or less

is yielded with a Normed Chi-square (NC) value of 2.238 calculated from the χ^2 (389.390) and degrees of freedom (174). The goodness of fit index (GFI) value is greater than 0.9, indicating a good fit. The result of R^2 is satisfactory, showing the explanatory power of the research model. The remaining fit results such as root mean square residual (RMR), adjusted goodness of fit index (AGFI), normed fit index (NFI), incremental fit index (IFI), comparative fit index (CFI) and root mean square error of approximation (RMSEA) are good within their acceptable threshold limit.



Key drivers in using mobile payment

Figure 3. Result of hypotheses testing

N	NC (χ^2/df)	RMR	GFI	AGFI	NFI	IFI	CFI	RMSEA
430	389.390/174 = 2.238 R^2 : Behavioral Intention (0.463)	0.015	0.923	0.897	0.932	0.961	0.961	0.054

Note: R^2 = the proportion of the variance of the variable explained by the variables that affect it

Table 7. Model fit statistic

As seen in Figure 2, the modified theoretical model employs two moderating factors: gender and education, hypothesized to moderate the relationship between each of the five determinants of behavioral intention significantly. Table 8 shows the detailed hypotheses results related to two moderating factors. The difference between the unstandardized effects for each pair of groups is also included.

The results indicate that gender significantly moderates two direct effects: social influence on behavioral intention and promotional activities on behavioral intention. Meanwhile, education moderates significantly the direct effect of perceived security on behavioral intention only. It claims that only three out of ten proposed hypotheses related to two moderating factors are statistically significant (confirming H9, H12 and H17).

7. Discussion

7.1 Direct and moderating effects

The study found that all determinants directly affect behavioral intention, as shown in Figure 3. Performance expectancy was revealed to be the most significant effect on customers' intention to use m-payment. Previous research also yielded a similar result (Sobti, 2019; Gupta and Arora, 2019). The result implies that Indonesian Gen Z customers have a strong enthusiasm to adopt m-payment as long as it provides them some benefits. Performing financial transactions easily and faster attracts Gen Z customers to use the m-payment platform. This finding also strengthened the research from Mu and Lee (2021) that confirmed the significance of performance expectancy on Korean university students'

Table 8.
Moderating effects
results

Direct effect	Unstandardized effect	Standardized effect and magnitude	Unstandardized effect	Standardized effect and magnitude	Unstandardized effect group 1 – unstandardized effect group 2	Magnitude of critical ratio for the difference
			Gender			
			Group 1 Males (247)	Group 2 Females (183)		
PE → BI	0.362***	0.328M	0.121NS	0.118M	0.241	1.485NS
EE → BI	0.103NS	0.103M	0.360*	0.258M	-0.257	1.369NS
SI → BI	0.037NS	0.067S	0.190***	0.314M	-0.153	2.488*
PS → BI	0.097**	0.180M	0.142**	0.205M	-0.045	0.748NS
PA → BI	0.440***	0.341M	-0.004NS	-0.003S	0.436	2.395*
			Education			
			Group 1 High School or below (161)	Group 2 Higher education or above (269)		
PE → BI	0.242NS	0.190M	0.284**	0.291M	-0.042	0.255NS
EE → BI	0.308*	0.238M	0.278**	0.269M	0.030	0.170NS
SI → BI	0.132**	0.224M	0.080*	0.144M	0.052	0.868NS
PS → BI	0.185**	0.235M	0.055*	0.107M	0.130	1.968*
PA → BI	0.051NS	0.028S	0.245**	0.203M	-0.194	0.876NS

Notes: * = statistical significance at a level of 0.05, ** = statistical significance at a level of 0.01, *** = statistical significance at a level of 0.001, and NS = not statistically significant at a level of 0.05 or less. The magnitudes S = small and M = medium

switching intention from traditional payment to m-payment. Additionally, a study conducted by [Cho et al. \(2018\)](#) argued because Gen Z-ers use the internet frequently and comfort with technology usage, performance has become the top priority among Gen Z-ers in adopting m-payment systems.

The second determinant affecting Indonesian Gen Z customers' use of m-payment was effort expectancy. This finding was supported by some existing studies ([Al-Saedi et al., 2020](#); [Sobti, 2019](#); [Gupta and Arora, 2019](#); [de Sena Abrahão et al., 2016](#)). The result indicates that the degree of effort-free experienced by Gen Z customers when they use m-payment will lead to a greater inclination to adopt the platform. Therefore, providing m-payment systems with an effortless, user-friendly and intuitive user interface will increase Gen Z customers' chance to switch from traditional payment to m-payment when performing their financial transactions. Further, the result is reasonable because Gen Z students have already used many applications and have been familiar with technologies since their youth ([Lisana and Suciadi, 2021](#)).

Social influence was the third influential antecedent on the Gen Z customer's intention to use m-payment. The finding was in line with the studies conducted by [Lisana \(2021\)](#), [Wei et al. \(2021\)](#), [Zhao and Bacao \(2021\)](#), [Wang and Dai \(2020\)](#), [Al-Saedi et al. \(2020\)](#), [Jin et al. \(2020\)](#) and [Do et al. \(2020\)](#). The finding implies that Gen Z customers rely more on the suggestions and recommendations from their important people in formulating their intentions to adopt m-payment. Moreover, according to [Cho et al. \(2018\)](#), Gen Z is a generation engaged with social networking and has high regard for the opinions of their close friends, relatives and family members.

The fourth determinant, promotional activities, significantly affected Gen Z customers toward m-payment. This finding strengthened the studies from [Wei et al. \(2021\)](#) and [Wang and Dai \(2020\)](#). They argued both promotions and incentives offered by m-payment were essential factors affecting the development of users' intention to adopt m-payment, specifically for the young generation. Meanwhile, the result confirms the degree to which Gen Z-ers' impulse to react to any promotions, including financial rewards, significantly influences behavior intentions to use m-payment.

Perceived security was the last factor that significantly influenced Gen Z customers' intention toward m-payment. Most authors supported the result and agreed that security becomes the major barrier for customers to switch from traditional payment to m-payment ([Zhao and Bacao, 2021](#); [Moorthy et al., 2020](#); [Liébana-Cabanillas et al., 2018](#); [Cobanoglu et al., 2015](#); [Oliveira et al., 2016](#)). The finding indicates that the ability of m-payment systems to protect their financial and information privacy is a crucial and important factor that affects the development of Indonesian Gen Z-ers' intention toward the platform. Furthermore, according to [Francis and Hoefel \(2018\)](#), security matter is the most important consideration for Gen Z.

Moreover, the findings also convinced the significant moderating effect of gender on two paths. First, gender significantly moderates the direct effect of social influence on behavioral intention in m-payment usage. The result reflects that female Gen Z customers are more influenced by opinions from their close friends, relatives and family members than male Gen Z customers in deciding to use m-payment. This finding is consistent with a study by [Hamza and Shah \(2014\)](#).

Second, gender significantly moderates the effect of promotional activities on behavioral intention to adopt m-payment. Surprisingly, male Gen Z customers are more interested in all activities related to promotion when they perform m-payment than female Gen Z customers. To the best of my knowledge, this can be considered a new finding because no prior studies

discussed the significant moderating effect of gender on the direct effect of promotional activities on customers' intention to use m-payment.

Other findings showed education moderates significantly the direct effect of perceived security on the behavioral intention to use m-payment. The result implies that low-educated Gen Z customers perceive higher security when they use m-payment than highly educated Gen Z customers. This finding strengthens the research conducted by [Park et al. \(2019\)](#).

7.2 Theoretical implication

This research contributes to the extant studies in m-payment adoption, especially for Gen Z, which is still limited in Indonesia. The results regarding the influence of all determinants on Gen Z-er's intention toward m-payment usage are considered new findings. Moreover, only a few authors examined the significance of promotional activities on users' intention to accept m-payment ([Wei et al., 2021](#); [Wang and Dai, 2020](#)). There are also new findings related to the moderating factors of gender and education, as presented in [Table 8](#).

Instead of new findings, this study also presents inconsistent results with the existing literature. While [Wei et al. \(2021\)](#) failed to demonstrate the influence of performance expectancy and effort expectancy on young generations' intention to accept m-payment platforms in Taiwan, this study shows both determinants become the strongest factors. Moreover, some authors did not support the findings that social influence has a positive effect on users' intention toward m-payment acceptance ([Moorthy et al., 2020](#); [Gupta and Arora, 2019](#)). Finally, the finding that perceived security significantly affects Gen Z-er's intention to use m-payment is not in line with the research conducted by [Jin et al. \(2020\)](#).

7.3 Practical implication

This study provides a comprehensive understanding of the factors influencing Gen Z-ers to use m-payment systems. The findings can be used by m-payment service providers to create strategic regulations to attract more users to accept m-payment platforms. The results show that all determinants directly affect behavioral intention toward m-payment usage. Because performance expectancy becomes the strongest factor, m-payment service providers are encouraged to keep improving and promoting the useful features of m-payment as the best marketing strategy to boost the number of Gen Z customers using m-payment systems.

The following practical contributions are related to the other influential determinants and moderating effects results. First, with regard to effort expectancy, m-payment service providers need to continuously enhance the m-payment application's user interface by following the standard guidelines to lead prospective Gen Z customers to accept m-payment. Second, related to social influence and moderating effect of gender, m-payment service providers are suggested to create some approaches that take advantage of the social network to advertise m-payment systems by more focusing on female Gen Z customers. Third, associated with promotional activities and the moderating effect of gender, m-payment service providers are recommended to develop attractive promotions more specifically to male Gen Z customers by offering discounts and incentives. Finally, regarding perceived security and the moderating effect of education, m-payment service providers should actively advertise the safety of m-payment systems and provide 24/7 responsive help support, especially for low-educated Gen Z customers.

8. Conclusion, limitations and future studies

This research aims to investigate the determinants that influence Gen Z customers in Indonesia to use m-payment. The proposed theoretical model was initially developed based on the extended UTAUT model consisting of six determinants: performance expectancy,

effort expectancy, facilitation conditions, social influence, perceived security and promotional activities. However, after conducting the first iteration of CFA, facilitating conditions must be eliminated from the model, so five determinants remain. The SEM analysis results show that all determinants positively affect Gen Z customers' intention to accept m-payment, with performance expectancy becoming the strongest factor. The findings strengthen the research from Francis and Hoefel (2018) and Annie Foundation (2021), which confirmed that Gen Z-ers always put security as their top priority and can be categorized as smart customers. With regard to the moderating factors, the results declare that gender significantly moderates the relationship between two determinants: social influence and promotional activities on behavioral intention. In addition, the finding proves the significance of education on the direct effect between perceived security and behavioral intention. The highlighted results are expected to give practical contributions to all stakeholders as guidelines for developing a successful m-payment application, especially for countries having more Gen Z-ers.

However, this study is associated with some limitations. First, the study is restricted to the Indonesian Gen Z m-payment customers. Future research may be done in other countries to improve the generalizability of the results. Second, the result failed to show the significance of facilitating conditions on the customer's intention to use m-payment, as reported in many prior studies. Thus, future studies need to retest the effect of this construct. Third, this study primarily focuses on the adoption of m-payment platforms provided by non-bank. Future research may explore the m-payment acceptance using bank service providers. Fourth, future research may add other variables to the theoretical model to enhance the explanatory power. Lastly, to complement the research findings, future research should investigate the Gen Z-ers' switching intention toward m-payment usage using a qualitative approach.

References

- Al-Saedi, K., Al-Emran, M., Ramayah, T. and Abusham, E. (2020), "Developing a general extended UTAUT model for M-payment adoption", *Technology in Society*, Vol. 62, p. 101293.
- Annie Foundation (2021), "What are the core characteristics of Generation Z?", available at: www.aecf.org/blog/what-are-the-core-characteristics-of-generation-z (accessed 20 Jan 2022).
- Boston Consulting Group (2020), "Southeast Asian consumers are driving a digital payment revolution", available at: www.bcg.com/publications/2020/southeast-asian-consumers-digital-payment-revolutions (accessed 20 May 2021).
- Boudreau, M., Gefen, D. and Straub, D. (2001), "Validation in is research: a state-of-the-art assessment", *MIS Quarterly*, Vol. 25 No. 1, pp. 1-16.
- Business of Apps (2020), "Fintech app revenue and usage statistics (2021)", available at: www.businessofapps.com/data/fintech-app-market/ (accessed 20 May 2021).
- Cho, M., Bonn, M.A. and Han, S.J. (2018), "Generation Z's sustainable volunteering: motivations, attitudes and job performance", *Sustainability*, Vol. 10 No. 5, p. 1400.
- Cobanoglu, C., Yang, W., Shatskikh, A. and Agarwal, A. (2015), "Are consumers ready for mobile payment? An examination of consumer acceptance of mobile payment technology in restaurant industry", *Hospitality Review*, Vol. 31 No. 4, p. 6.
- Cook, T.D. and Campbell, D.T. (1979), *Quasi-Experimentation: Design and Analysis Issues for Field Settings*, Houghton Mifflin, Boston.
- Dahlberg, T., Guo, J. and Ondrus, J. (2015), "A critical review of mobile payment research", *Electronic Commerce Research and Applications*, Vol. 14 No. 5, pp. 265-284.

- de Sena Abrahão, R., Moriguchi, S.N. and Andrade, D.F. (2016), "Intention of adoption of mobile payment: an analysis in the light of the unified theory of acceptance and use of technology (UTAUT)", *RAI Revista de Administração e Inovação*, Vol. 13 No. 3, pp. 221-230.
- Dimock, M. (2019), "Defining generations: where millennials end and Generation Z begins", *Pew Research Center*, Vol. 17 No. 1, pp. 1-7.
- Do, N., Tham, J., Azam, S. and Khatibia, A. (2020), "Analysis of customer behavioral intentions towards mobile payment: Cambodian consumer's perspective", *Accounting*, Vol. 6 No. 7, pp. 1391-1402.
- Fintechnews Indonesia (2020), "Crowded Indonesian market: 51 licensed e-money providers", available at: <https://fintechnews.sg/44001/indonesia/crowded-indonesia-market-51-licensed-e-money-providers-in-indonesia/> (accessed 24 May 2021).
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-45.
- Francis, T. and Hoefel, F. (2018), "'True gen': Generation Z and its implications for companies", McKinsey and Company, p. 12.
- George, D. and Mallery, P. (2003), *SPSS for Windows Step by Step: A Simple Guide and Reference, 11.0 Update*, Allyn and Bacon, Boston, MA.
- Gupta, K. and Arora, N. (2019), "Investigating consumer intention to accept mobile payment systems through unified theory of acceptance model", *South Asian Journal of Business Studies*, Vol. 9 No. 1, pp. 88-114.
- Hamza, A. and Shah, A. (2014), "Gender and mobile payment system adoption among students of tertiary institutions in Nigeria", *International Journal of Computer and Information Technology*, Vol. 3 No. 1, pp. 13-20.
- Handarkho, Y.D., Harjoseputro, Y., Samodra, J.E. and Irianto, A.B.P. (2021), "Understanding proximity mobile payment continuance usage in Indonesia from a habit perspective", *Journal of Asia Business Studies*, Vol. 15 No. 3, pp. 420-440.
- Hofstede-insights (2022), "Country comparison", available at: www.hofstede-insights.com/country-comparison/indonesia/ (accessed 20 Jan 2022).
- Isnurhadi, R. (2021), "e-Wallet payments usage and trends in Indonesia", available at: www.xendit.co/en/blog/e-wallet-payments-usage-and-trends-in-indonesia/ (accessed 24 May 2021).
- Israel, G.D. (2003), "Determining sample size (Tech. Rep. No. PEOD6)", University of FL, Institute of Food and Agricultural Sciences, FL.
- Jin, C.C., Seong, L.C. and Khin, A.A. (2020), "Consumers' behavioural intention to accept of the mobile wallet in Malaysia", *Journal of Southwest Jiaotong University*, Vol. 55 No. 1.
- Kalinić, Z., Liébana-Cabanillas, F.J., Muñoz-Leiva, F. and Marinković, V. (2019), "The moderating impact of gender on the acceptance of peer-to-peer mobile payment systems", *International Journal of Bank Marketing*, Vol. 38 No. 1, pp. 138-158.
- Karsen, M., Chandra, Y.U. and Juwitasary, H. (2019), "Technological factors of mobile payment: a systematic literature review", *Procedia Computer Science*, Vol. 157, pp. 489-498.
- Kline, R.B. (2016), *Principles and Practice of Structural Equation Modeling*, 4th ed., The Guilford Press, New York, NY.
- Lee, J.M., Lee, B. and Rha, J.Y. (2019), "Determinants of mobile payment usage and the moderating effect of gender: extending the UTAUT model with privacy risk", *International Journal of Electronic Commerce Studies*, Vol. 10 No. 1, pp. 43-64.
- Liébana-Cabanillas, F., Marinkovic, V., de Luna, I.R. and Kalinic, Z. (2018), "Predicting the determinants of mobile payment acceptance: a hybrid SEM-neural network approach", *Technological Forecasting and Social Change*, Vol. 129, pp. 117-130.

- Liébana-Cabanillas, F., Molinillo, S. and Japutra, A. (2021), "Exploring the determinants of intention to use P2P mobile payment in Spain", *Information Systems Management*, Vol. 38 No. 2, pp. 165-180.
- Lisana, L. (2021), "Factors influencing the adoption of mobile payment systems in Indonesia", *International Journal of Web Information Systems*, Vol. 17 No. 3, pp. 204-228.
- Lisana, L. and Suciadi, M.F. (2021), "The acceptance of mobile learning: a case study of 3D simulation android app for learning physics", *International Journal of Interactive Mobile Technologies (IJIM)*, Vol. 15 No. 17, pp. 205-214.
- Molina-Castillo, F.J., Lopez-Nicolas, C. and de Reuver, M. (2020), "Mobile payment: the hiding impact of learning costs on user intentions", *Journal of Theoretical and Applied Electronic Commerce Research*, Vol. 15 No. 1, pp. 1-12.
- Moorthy, K., Chun Ting, L., Chea Yee, K., Wen Huey, A., Joe In, L., Chyi Feng, P. and Jia Yi, T. (2020), "What drives the adoption of mobile payment? A Malaysian perspective", *International Journal of Finance and Economics*, Vol. 25 No. 3, pp. 349-364.
- Mordor Intelligence (2021), "Mobile payments market – growth, trends, COVID-19 impact, and forecasts (2021–2026)", available at: www.mordorintelligence.com/industry-reports/mobile-payment-market (accessed 20 May 2021).
- Mu, H.L. and Lee, Y.C. (2021), "How inclusive digital financial services impact user behavior: a case of proximity mobile payment in Korea", *Sustainability*, Vol. 13 No. 17, p. 9567.
- Musa, A., Khan, H.U. and AlShare, K.A. (2015), "Factors influence consumers' adoption of mobile payment devices in Qatar", *International Journal of Mobile Communications*, Vol. 13 No. 6, pp. 670-689.
- Neuman, W.L. (2014), *Social Research Methods, Qualitative and Quantitative Approaches*, 6th ed., Allyn and Bacon, Boston.
- Oliveira, T., Thomas, M., Baptista, G. and Campos, F. (2016), "Mobile payment: understanding the determinants of customer adoption and intention to recommend the technology", *Computers in Human Behavior*, Vol. 61, pp. 404-414.
- Park, J., Amendah, E., Lee, Y. and Hyun, H. (2019), "M-payment service: interplay of perceived risk, benefit, and trust in service adoption", *Human Factors and Ergonomics in Manufacturing and Service Industries*, Vol. 29 No. 1, pp. 31-43.
- Pramana, E. (2018), "Determinants of the adoption of mobile learning systems among university students in Indonesia", *Journal of Information Technology Education: Research*, Vol. 17, pp. 365-398.
- Pramana, E. (2021), "The mobile payment adoption: a systematic literature review", *2021 3rd East Indonesia Conference on Computer and Information Technology (EIConCIT)*, IEEE, pp. 265-269.
- Sobti, N. (2019), "Impact of demonetization on diffusion of mobile payment service in India", *Journal of Advances in Management Research*, Vol. 16 No. 4, pp. 472-497.
- Straub, D., Boudreau, M.-C. and Gefen, D. (2004), "Validation guidelines for is positivist research", *Communications of the Association of Information Systems*, Vol. 13, pp. 380-427.
- Teo, A.C., Tan, G.W.H., Ooi, K.B., Hew, T.S. and Yew, K.T. (2015), "The effects of convenience and speed in m-payment", *Industrial Management and Data Systems*, Vol. 115 No. 2, pp. 311-331.
- The Asian Banker (2020), "Indonesia e-wallet transaction to reach \$18.5 billion in 2021 amid fierce competition", available at: www.theasianbanker.com/updates-and-articles/big-tech-platforms-heat-up-competition-in-indonesias-digital-payments-landscape (accessed 20 May 2021).
- Triyasni, T. (2021), "Infografis gen Z dominasi penduduk Indonesia", available at: www.liputan6.com/news/read/4467203/infografis-gen-z-dominasi-penduduk-indonesia (accessed 25 May 2021).
- Turner, A. (2015), "Generation Z: technology and social interest", *The Journal of Individual Psychology*, Vol. 71 No. 2, pp. 103-113.

- Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F. (2003), "User acceptance of information technology: toward a unified view", *Management Information System Quarterly*, Vol. 27 No. 3, pp. 425-478.
- Wang, L. and Dai, X. (2020), "Exploring factors affecting the adoption of mobile payment at physical stores", *International Journal of Mobile Communications*, Vol. 18 No. 1, pp. 67-82.
- Wei, M.F., Luh, Y.H., Huang, Y.H. and Chang, Y.C. (2021), "Young generation's mobile payment adoption behavior: analysis based on an extended UTAUT model", *Journal of Theoretical and Applied Electronic Commerce Research*, Vol. 16 No. 4, pp. 618-637.
- Wong, W.H. and Mo, W.Y. (2019), "A study of consumer intention of mobile payment in Hong Kong, based on perceived risk, perceived trust, perceived security and technological acceptance model", *Journal of Advanced Management Science*, Vol. 7 No. 2, pp. 33-38.
- Yunpeng, L. and Jamal, A. (2018), "Understanding consumer's motivation of adopting mobile payment systems for e-business in China", *International Journal of Entrepreneurship Management Innovation and Development*, Vol. 2 No. 2, pp. 35-55.
- Zhao, Y. and Bacao, F. (2021), "How does the pandemic facilitate mobile payment? An investigation on users' perspective under the COVID-19 pandemic", *International Journal of Environmental Research and Public Health*, Vol. 18 No. 3, p. 1016.

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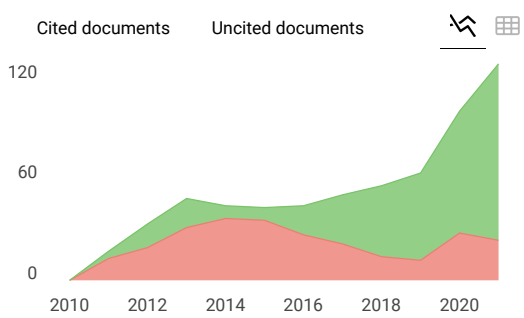
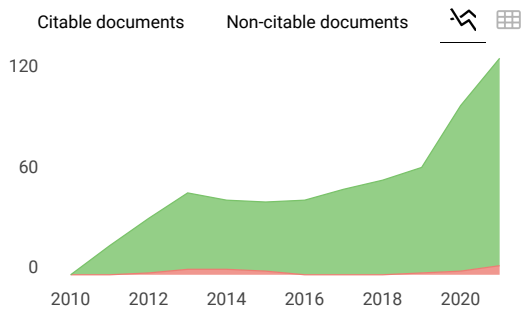
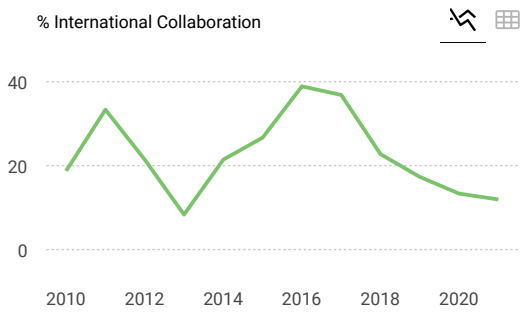
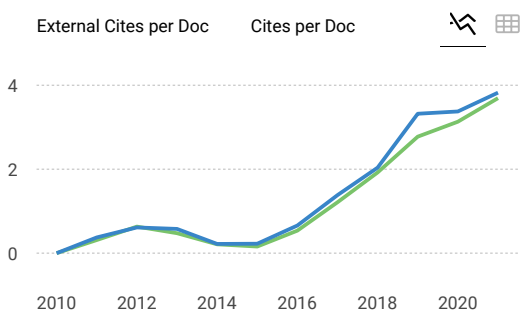
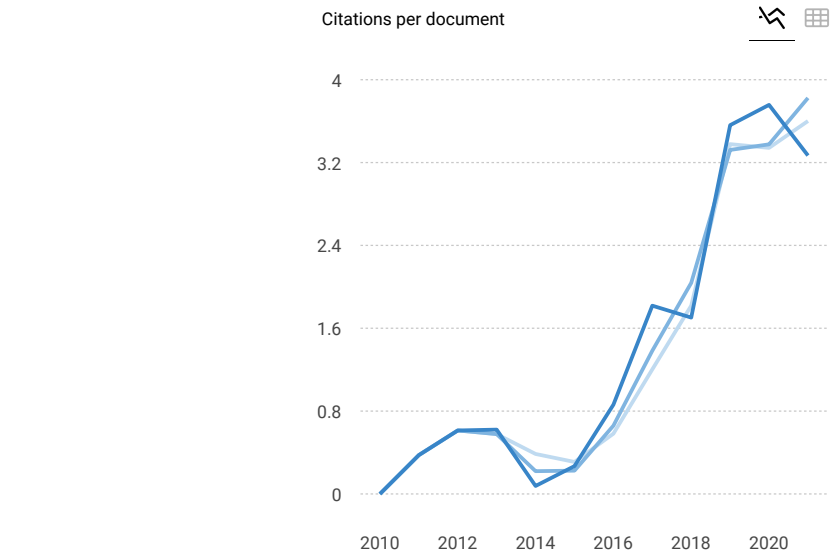
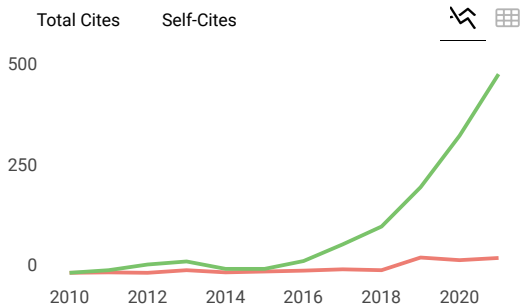
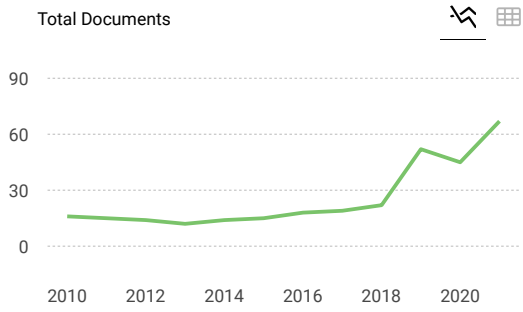
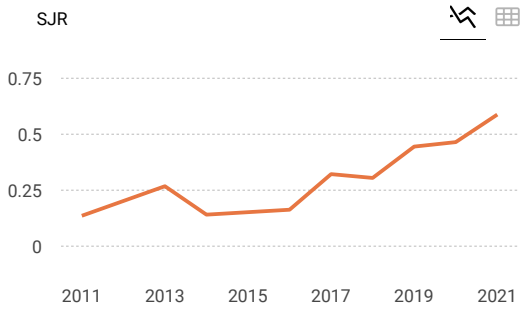
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