

Analysis of Factors Affecting Consumer's Continuance Intention to Use Mobile Payments with a Value-Based Adoption Model (Vam) Approach

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ABSTRACT

This trend has succeeded in changing the behavior of various technology users in the world. This is very interesting. In fact, the internal and external sides of users can influence the behavior intention of a person which cannot be separated from the benefits and sacrifices that are felt when becoming a mobile payment user. In 2018, Indonesia proved to be a good market for mobile payments and is expected to continue to grow in 2020 and beyond. Therefore, this study aims to analyze several related factors to identify a relationship with consumer intention to continue using mobile payment services in Indonesia through the VAM Model approach, which supports the user's perception of perceived value. This research was conducted in the Jabodetabek area through an online questionnaire collection tool and generated quantitative data after being distributed to 280 respondents. The data obtained were processed using the Multiple Regression analysis method with SPSS 16.0 software.

The results of this study indicate that not all of the suggested factors have significant positive effect in influencing consumers' continued intention using mobile payments, namely, the perceived sacrifice factor, besides that it was found that the perceived benefit factor of consumers is the strongest determinant besides the perceived convenience factor and the social influence on consumer's continuance intention to use mobile payments. The implications and limitations of this study are discussed at the end of this paper.

Keywords

perceived benefit, perceived sacrifice, convenience, social influence, consumer's continuance to use mobile payments.

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Introduction

Acceptance of new technology is one of the most important fields in information technology (Momani & Jamous, 2017). Along with the development of technological sophistication, all young people who are already proficient are required to be able to use electronic devices with a touch of technology. The application, acceptance, and use of information technology and information systems by individuals as part of the computer software engineering field has been recognized since the 1970s as a condition for the utilization and realization of technology. (Momani and Jamous, 2017). The use of wireless telecommunication network technology to carry out business activities is currently becoming a trend, so that in the future it is expected to be able to encourage the emergence of new business phenomena and become a very potential market (Zhang et al., 2019). Cellular and wireless technologies are rapidly changing how personal finance services are provided (Luarn & Lin, 2005). According to (Yang et al., 2012), the use of information technology has entered all areas in the financial industry, thus changing the current financial system, which refers to applications that allow mobile phone users to access and use bank accounts, transfer funds, and make payments in stores. (Donner & Tellez, 2008). Payment services on mobile not only provide convenience and speed but also allow users to complete payments by providing greater convenience in making transactions anytime and anywhere (Tomi Dahlberg et al., 2008).

Information technology is one of the superior tools for use in the financial industry. This is supported by several advantages of information technology, including reducing costs, speed, and work efficiency, as well as creating a high

level of flexibility (Sekundera P.L, 2006). This payment method uses mobile devices such as cell phones, smartphones, personal digital assistants by utilizing wireless communication network technology or other communication technologies such as Bluetooth, Radio Frequency Identification (RFID), and Near Field Communication (NFC). (Tomi Dahlberg et al., 2008).

Later, this gave rise to electronic payment systems (electronic payments) that allowed consumers to transfer money or make payments online conveniently. Despite initial concerns about the alleged risk when conducting online transactions, it has gradually been able to speed up operations and improve quality of life in terms of ease of use, usability, and convenience. In particular, a mobile payment system (m-payment) using a mobile device was introduced to facilitate the payment of merchandise and services. Although not all mobile users pay using their cell phones, the number of mobile payment system users is projected to increase significantly in the coming year (Wong, 2014). Given the general use of mobile devices and the Internet, mobile payment systems prove to be a well-accepted payment method for individual consumers and a useful mechanism for expediting payments for government bodies and business organizations (Ondrus & Pigneur, 2006).

It is not certain whether the factors that can encourage consumers to continue using mobile payments are due to the many factors that influence this. As a result, an understanding of mobile users' intention to adopt a payment system is lacking. In particular, the intention of mobile users to use mobile payments is of particular interest to researchers and practitioners, because financial institutions, trusted third parties, payment service providers, systems and

software, and support service providers can greatly benefit from an increased understanding of what is underlying sustainability intentions using mobile payments (Dahlberg et al., 2003a; Dahlberg et al., 2003b; Lim et al., 2007; Ondrus & Pigneur, 2006).

Changes in the digital era, supported by technological advances, are able to encourage acceptance of values that are closely related to the intention to use them. In fact, if it can enrich the cellular payment system by realizing what the basis of consumer intentions is, in addition to internal factors, it does not rule out that the influence of external factors can also influence a person's behavioral decisions. Based on the background of this research, the researcher felt the need to conduct this research which aims to determine what factors are related to the VAM model for the use of mobile payments on an ongoing basis in the Jabodetabek area, which means how the influence of Perceived Benefits, Perceived Sacrifices, Convenience, and Social Influence impact on Consumer's Continuance Intention to Use Mobile Payments.

Theoretical background

2.1 Literature review

The intention to adopt and accept technology, such as mobile payment systems, has been examined in several studies with the help of models. These models provide researchers with a solid theoretical basis in providing a framework that can measure and assess external variables (Tomi Dahlberg et al., 2008). It is important to emphasize that carrying out a continuous evaluation of technologies can expand and enhance the value proposition offered to consumers, such as the use of mobile payments. Perceived value is a factor that influences the user's intention to use or buy online services (S. Q. Wang et al., 2013). This study adopts the Value-based Adoption Model (VAM) (H. W. Kim et al., 2007), which states the Value-based Adoption Model (VAM) to explain the use of consumers in using mobile internet services, where a model with a benefit-sacrifice framework can be used to explain and predict consumer behavior in buying online service content (S. Q. Wang et al., 2013). One of the most popular models is named by Davis et al. (1989); the Technology Acceptance Model (TAM). In contrast, (H. W. Kim et al., 2007) argue that the VAM model is better able to explain consumer mobile payment adoption and acceptance than the TAM model. This statement is supported by several reviews of studies that have used the VAM model to study consumer adoption, such as those conducted by Kim et al. (2014), Ge et al. (2010), and Lin et al. (2012). Dodds et al. (1985) were the first to examine the relationship between price, sacrifice, perceived quality, perceived value, and willingness to buy from consumers. According to Zeithaml (1988) Perceived Value Theory (PVP) is built on the basis of a model created by Dodds et al. (1985), using perceived value as "consumer's overall assessment of the usefulness of a product based on perceptions of what is received and what is given". So, according to Padashetty & Kishore (2013), with this model, decision-makers can have a reference point in accordance with the concept of perceived sacrifice and benefit. Kim et al., (2007) specifically emphasized the

different adoption intentions between user types and developed a Value-Based Adaptation Model (VAM) to explain mobile acceptance and adoption of internet users better than TAM. The purpose of understanding the VAM model is to help determine the appropriate variables based on the perceived value of consumers, according to Wang et al., (2013) his is supported by Schierz et al. (2010) that consumer adoption studies allow the potential to make important business decisions regarding how mobile payment services can be marketed more effectively and can generate greater consumer acceptance. However, at present, there are research gaps related to the study of mobile payment acceptance. Schierz et al. (2010) suggested that to expand, it is imperative to understand the relationship between consumers and different acceptances. Dahlberg et al. (2008) corroborate a statement believing that more theory-based empirical research is needed to improve the current understanding of mobile payment services and to improve the quality and relevance of mobile payment research in realizing consumer's continuance to use. They suggest that future researchers should collect more empirical data that is supported by previous guiding theories.

Electronic payments are generally defined as payments that are processed and received electronically (Humphrey et al., 1996). This is a global phenomenon that allows individuals to make online transactions anywhere and anytime (Weir et al., 2006), thereby strengthening domestic and even global trade (He et al., 2006). The intention of adopting and accepting technology, such as a mobile payment system, is examined by numerous studies. This model provides researchers with a strong theoretical basis, as well as strong empirical support in providing a framework in which they can measure and assess external variables (Dahlberg et al., 2008). In this study, we used the Value-based Adoption Model (VAM) by Kim et al. (2007) to measure and assess the external variables that influence the intention to adopt mobile commerce. VAM will be used to analyze consumer adoption from a consumer perspective. Kim et al., (2007) argue that VAM is aimed at consumer adopters, not just technology users, and focuses on optimizing value for consumers and, therefore, is most suitable for use from a consumer perspective.

2.1.1. Value-based Adoption Model (VAM)

Value Adaptation Model (VAM) developed by Kim et al. (2007) to study consumer mobile commerce adoption (see Figure 1.). This model is widely used by researchers to judge information and communication technologies, such as cellular systems. For example, Kim et al. (2014) used the VAM model to determine factors influencing students to share smartphones, and Ge et al. (2011) used the model to study mobile payment adoption in China. Another study conducted by Lin et al. (2012) integrated the VAM model with other models to study adoption intention across multiple products and services. The advantage of VAM itself is that the model has strong support including several studies that have supported the model. VAM only realizes that today's adopters are not users of technology but also consumers, so value maximization should be a major concern. In this way, the intention of consumer adoption will be determined by the value on the benefit factor

assessment, namely the assessment and assessment of the sacrifice factor, which is technically and the perceived cost is evaluated by cellular services (Kim et al., 2007). The adoption of the previous model's technology was inadequate, and the perceived value should be considered in the adoption model. The main effective factors at perceived value are indicated. The adoption intention construct was adopted from Agarwal & Karahanna (2000). For perceived value, the construct is adopted from Sirdeshmukh et al., (2002). While value is defined as a comparison of costs and benefits, this construction compares (1) cost and value, (2) effort and benefit, and (3) time spent to be of total good value and worth. Usability is adopted from Davis (1989) and enjoyment is adopted from Agarwal & Karahanna (2000). Perceived cost is adapted from Voss et al., (1998). In developing technicality as a new element, we follow the development of the psychometric scale developed by Bagozzi & Philips (1982).

Furthermore, the basic theory of economic, psychological, and sociological relationships is based on the exchange of benefits and considerations of costs and values (Homans 1961).

In this sense, social exchange captures how a person considers a particular relationship, keeping in mind the relational cost (input) versus imbalance (output), the type of relationship they believe they deserve, and the likelihood of having better alternatives. In essence, in line with the premise that one's goal is to reward and reward costs, social exchange theory holds that relationships are built on possible outcomes (Thibaut & Kelley 1959). This will then lead to the ordering of ethical attitudes by an individual, which will depend on the level of interaction in a particular community. This factor becomes a consideration for the researcher to find the comfort factor and the influence factor of social factors, where the comfort factor comes from the personal influence factor and someone who comes from the closest person in influencing his intention. to continue using mobile payments.

This research then adopts the perceived benefit, perceived sacrifice, convenience, and social influence factors in influencing consumers' continuance intention to use mobile payments.

Table 1. Descriptions of constructs.

Construct	Operational description	Source
Perceived Benefits (PB)	Perceived usefulness, Perceived enjoyment The post-adoption subjective view of users that mobile payment technology increases the effectiveness and speed of paying; The post-adoption subjective view of users that mobile payment procedure system are rather pleasant and enjoyable.	Koenig et al. (2015).

Perceived Sacrifices (PS)	Perceived cost, Perceived risk	High financial costs have the potential to cause psychological harm; Associated risks have the potential to cause psychological harm.	Luarn & Lin (2005); Wei et al. (2009); Featherman & Pavlou (2003).
Convenience (C)	Ease to use, Perceived transaction convenience	Post-adoption user subjective view that mobile payments are easy to use anytime and under any circumstances also increases convenience in the payment process.	Kim et al. (2014); Chen & Nath (2008).
Social Influence (SI)	Behavioral intention, Subjective norms	People who are considered important are more dominant in influencing someone's behavior using mobile payment technology.	Koenig et al., (2015); Nguyen et al., (2016).
Continuance Intention to Use (CI)	Intention of continued use, Continuance intention	Willingness to continue to use mobile payments based on confirmation of expectations.	Jia et al., (2014); Zou (2013).

2.2. Hypothesis Development

2.2.1. Perceived Benefits

The motivational model which was adapted by Davis et al. (1992) makes use of two key factors: extrinsic and intrinsic motivation. According to Venkatesh and Speier (1999), extrinsic motivation was defined as the performance of an activity. Extrinsic motivation is considered to help attain valued results separate from the activity itself, such as social influence, advancing job presentation, pay, etc. Intrinsic motivation refers to the performance of an activity for a reason, which is the development of performing it. Brief et al. (1979), in a different way, describe the terms: “an extrinsically motivated user is driven through the prospect of some price or benefit external to the system user interaction. An intrinsically motivated user is taken via benefits resulting from the interface with the system”. According to Davis et al. (1989), perceived usefulness affects the attitudes and intentions of users to use and is an important factor in receiving a product or service. Perceived usefulness in technology acceptance studies is an instance of

extrinsic motivation, whereas intrinsic motivation, we have some examples as perceived fun, playfulness, and enjoyment. Davis et al. (1992) initiated that perceived enjoyment was considerably associated with the perceived ease of use. According to Nysveen et al., (2005), the consumers' intention to make use of the mobile services demonstrates the four overall influences on usage intention: motivational influences, attitudinal influences, normative pressure, and perceived control. Correspondingly, in mobile Internet, two of the significant factors of perceived gain are connection stability and geographic coverage (Dong-Hee Shin, 2009). Also, according to the worldwide mobile Internet user survey, the perceived enhanced utility of mobile services is the main value that encourages applying mobile technology (Dong-Hee Shin, 2009).

Extrinsic motivation was defined as the presence of activity to attain an exact purpose (e.g., rewards) while intrinsic motivation refers to no obvious corroboration other than the process of performing the activity (Kim et al., 2007). Both extrinsic and intrinsic motivations influence perceived value and behavioral intention. In this study, and according to the value-based model, usefulness and enjoyment are the benefit components of perceived value. Usefulness as an extrinsic and cognitive benefit and ease of use as an intrinsic and affective benefit (Kim et al., 2007), which is the purchaser estimate of a product contains both cognitive and affective elements. Most of the job on acceptance research in technology adaption has been conducted from an extrinsic motivation point of view Davis et al., (1989) explored that the extrinsic and intrinsic motivations affect the intention to use and usage of the computer in the workplace; they considered the perceived usefulness as an extrinsic source of motivation and perceived enjoyment as an intrinsic cause of motivation. It was initiated that perceived enjoyment and perceived usefulness mediated the influence of perceived ease of use on intention. Usefulness is defined as the overall value which the user perceives via using fresh technology (Kim et al., 2007). Perceived usefulness is districted here at "the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). Also, perceived usefulness is defined as the degree to which an individual believes that using a particular system would improve their job performance (Davis et al., 1992).

As we said previously, we have enjoyed it as an intrinsic effective factor. As Kim et al., (2007) stated the enjoyment and fun have a significant influence on technology acceptance, and this is because of this fact; persons who experience instant pleasure or joy from using technology to be individually enjoyable in its involved value of the technology mentioned that consumers judge products, not just in practical terms of expected performance, value for money, and usefulness; but also in terms of the enjoyment or pleasure resultant from the product (emotional value) and the social consequences of what the product communicates to others (social value) and emotional value defined as the utility derived from feelings or sentimental states that a product generates and they have also shown that the benefit element comprises perceived enjoyment, in addition to perceived usefulness. According to Davis et al. (1989), enjoyment and fun significantly affect technology acceptance beyond usefulness. Many other research studies such as Suhuai & Peter (2010), Featherman & Pavlou (2003)

have shown that the perceived usefulness in environments using information technology, such as online or mobile shopping and the payment environment, is the most important factor. Therefore, the following hypothesis is proposed:

H₁: Perceived benefits (perceived usefulness and perceived enjoyment) will have a positive effect on consumers' continuance intention to use mobile payments.

2.2.2. Perceived Sacrifices

There are two kinds of sacrifices that are felt, namely, monetary and non-monetary (Thaler, 1985; Zeithaml, 1988). Regarding trade-offs, Kim et al. (2007) argue that technicality is one of the main barriers to mobile commerce adoption. Technically determined the extent to which cellular service is considered by consumers to be technically amazing by providing many of the cellular services they are looking for. This is measured by consumer perceptions of ease of use, reliability, connectivity, and efficiency. According to Davis (1991; cited by Kim et al., 2007), technicality on the M-internet is defined by using observations of ease of use (whether using the system is free from physical, mental, and learning efforts), system reliability (whether the system is error-free, available, and safe at all times), connectivity (both direct or uncomplicated connection) and efficiency (both short loading and response times). Technical is seen as having a negative influence on the perceived value of consumers from a system. However, there is often a gap between the technical perceptions of consumers and the actual technicalities of the system (Kim et al., 2007).

Furthermore, ease of use and connectivity can be thought of as a cost of effort and convenience for consumers, while loading and response times can be considered time costs. In ease of use, Kim et al. (2007) see that the cost criterion is seen as a trade-off. They further emphasize that ease of use is very important for mobile commerce because technology has limited resources compared to other systems. In terms of costs, monetary payments consist of the real price of the product and are usually measured based on customer perceptions of the price they pay and non-monetary costs include time effort, and other unsatisfactory costs for the purchase and use of the product (Kim et al., 2007). Technical and price factors have been explored as the most prominent barriers to M-Internet adoption as a result of several surveys (Kim et al., 2007).

The fees received are determined by the monetary costs using the mobile system. Kim et al. (2007) suggest that new consumers will experience cellular service costs by making comparisons with previously experienced costs from similar systems. For example, when consumers want to buy food using mobile payments that offer a bigger discount or refund and the lowest tax cost discount on the food product they want, but when making a payment, they have to wait for the promotion coupon loading time on the system and after making the transaction experienced a refund for a long time. So, when using mobile payments, consumers will compare the perceived effort to shape their perceptions of those costs. They further explain that the perceived cost directly affects the perceived value of cellular services negatively; the

higher the perceived monetary cost, the lower the perceived value (Kim et al., 2007). Perceived value, according to our definition, reflects by comparing benefits with trade-offs and, for that reason, is an indicator of adoption intention. The relationship between perceived value and adoption intention has been examined previously by Kim et al. (2007), and there is strong empirical support that perceived value influences perceived intention to use (Sweeney et al., 1997). Therefore, we assume that the perceived associated value influences adoption intention. Finally, we will test this assumption with an online-based survey. Based on these arguments, the following research hypothesis is proposed:

H₂: Perceived sacrifices (perceived cost and perceived risk) will have a negative effect on consumers' continuance intention to use mobile payments.

2.2.3. Convenience

Convenience is described as consistency between advancement and a consumer's experience, values, and needs. Bezhovski (2016) said that an important aspect of convenience for users to adopt the m-payment method is the system's flexibility so that it can be easily integrated into consumers' daily lives. According to Phonthanukitithaworn et al. (2016), convenience when making mobile payments is one reason that states the perceived convenience of using mobile payment, also mobile devices are effective in enabling secure and convenient payment transactions (Herzberg, 2003). In research that has been conducted by Chen (2006), Dewan & Chen (2005), Kreyer et al., (2003), Mallat (2007), Pousttchi & Zenker (2003), Teo et al., (2005) also states that ease of payment is a factor in consumer acceptance and use of mobile payments, so convenience may affect the overall perceived benefits of the mobile payment service, thereby affecting the intention to continue. However, in contrast to research by Hossain (2019), convenience has no effect in determining consumer intentions using mobile payments. Given the conflicting findings, it is important to examine this relationship in this study. Based on these arguments, the following research hypothesis is proposed:

H₃: Convenience (ease to use and perceived transaction convenience) will have a positive effect on consumers' continuance intention to use mobile payments.

2.2.4. Social Influence

Subjective norm represents perceived social pressure to perform a particular behavior (Ajzen, 1985). Hsu & Lu (2004) also state several theories suggest that social influence is very important in shaping user behavior. Mallat et al. (2008) reveal that social pressure is positively related to intention to use and factors affecting mobile payment adoption. According to Venkatesh et al. (2012), social influence is the extent to which consumers feel that important people such as family and friends believe that they must use the technology. Schierz et al. (2010) added that peer influence is more dominant in influencing someone's behavior. The influence of group references will very easily define what someone will do about a certain behavior; in this case, using mobile payments (Fishbein & Ajzen, 1975). The study found that consumers with more

people who have adopted m-payment services in their social networks are more likely to access financial information and adopt m-payments (Murendo et al., 2015). So that social influence is very important in influencing individual decisions to use new technology, especially when it is first introduced (Hamza & Shah, 2014). This statement is supported by Heikki et al. (2008), The results of his research also show that group reference influences a person in using m-marketing. Riquelme & Rios (2010) added that mobile users are often in social situations. On research, Crabbe et al. (2009) stated that social influences and cultural factors influence behavior so that each individual in the social group will share experiences when they think positively so that the effects of other people's opinions encourage joint adoption. However, in research Aydin & Burnaz (2016) said the social influence factor does not affect the use of mobile payments. Given the conflicting findings, it is important to examine this relationship in this study. Based on these arguments, the following research hypothesis is proposed:

H₄: Social influence (behavioral intention and subjective norms) will have a positive effect on consumers' continuance intention to use mobile payments.

2.2.5. Consumer's Intention to Use Mobile Payments

According to Wang et al. (2009) that beliefs and attitudes based on consumer perspectives are predictors of behavioral intention. The intention is often used to understand how attitudes can influence actual behavior (Huang et al. 2004) and how negative attitudes lead to unfavorable intentions and behavior (Stevenson et al. 2000). Previous studies have also provided empirical evidence about the goodwill of mobile users towards cellular technology when they hold positive beliefs about it (Au & Kauffman, 2008; Mallat, 2007; Ondrus & Pigneur, 2006). Putritama (2019) adds to find out the positive and negative factors that affect sustainability of the use of payments using mobile payments, wherein this study it was found that the use of mobile payments is influenced by benefits and risks. In the benefits, there are several factors, namely economic benefits, smooth transactions, and convenience. Meanwhile, there are several risk factors, namely, legal risk, financial risk, and security risk. Benefits have an impact on mobile payment decisions than risks. In terms of its benefits, the most influential factor is convenience mostly comes from internal consumers, while social influence mostly comes from external consumers. The opinion of Davis (1993), Venkatesh and Davis (2000) that reflecting one's innate nature, technological features, and social influences can indirectly shape individual behavior to adopt new technologies by influencing the construction of perceived usefulness and perceived ease of use to continuous use. We adopt two factors, namely convenience and social influence based on the theory of Kim et al. (2007) that in measuring and assessing external variables that affect consumer acceptance, focus on optimizing value for consumers on the intention to use mobile payments so that they are most suitable for use from the consumer point of view.

The existing vulnerable mobile networks and limited mobile terminals will increase users' perceived risk and uncertainty of mobile payment after adoption, consequently affecting their continuance usage intention. Thus, we modify the post-

adoption model proposed by Bhattacharjee (2001) to include dissatisfaction or a form of sacrifice as antecedents of continuance intention. We have opted for dissatisfaction or a form of sacrifice to get a clearer insight into the discontinuation of mobile-based payment methods after adoption. In particular, it has been argued that the source of satisfaction is different from dissatisfaction (Najmul, 2014), and we anticipate our finding to highlight further differences.

2.3. Research Model

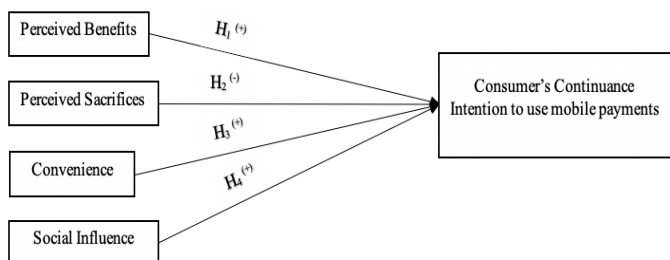


Figure 1. Author's research model

Research Method

This study is aimed at mobile payment users for at least 3 months using a purposive sampling technique, which has deliberate criteria from the participants because of the quality that participants have in helping relevant research (Bernard, 2002).

All respondents in this study were collected through an online questionnaire distributed through social media and social messaging applications with the criteria of being domiciled in the Jabodetabek area and mobile payment users at least 3 months after the online questionnaire was distributed. Jabodetabek is the most populous metropolitan area in Indonesia. This method is done to facilitate data collection during this pandemic, which requires social distancing in accordance with the COVID-19 health protocol.

All participants were instructed to provide a statement by providing a perceived value regarding several factors that led to the continuous use of mobile payments, including the perceived benefit factor, the perceived sacrifice factor, the convenience factor, and the social influence factor afterward experience using mobile payment technology users are presented on a 5-point Likert scale measurement based on (Sekaran & Bougie, 2016) ranging from "Strongly Disagree" to "Strongly Agree". Hair et al. (2010) suggest that the minimum sample size is 100 when considering models containing five or less of their respective constructs. Each has more than three items with high item similarity (0.6 or higher), which were analyzed using the help of SPSS 16.0 software.

The items in this research were developed either by adapting the existing measures validated by previous researchers (e.g., perceived usefulness and perceived risk factors (Koenig et al., 2015); perceived cost and perceived risk (Fong et al., 2016); ease to use (Liu & Tai, 2016), perceived transaction (Chen & Nath, 2008); behavioral intention (Koenig et al., 2015), subjective norms (Nguyen et al., 2016); the intention of continued use

(Jia et al., 2014), continuance intention (Zhou, 2013) or by converting the definitions of the constructs into a questionnaire format (e.g., perceived benefit, perceived sacrifice, convenience, social influence, continuance intention).

A total of 306 samples were collected through online surveys, but only 280 samples were considered valid for data analysis. Table 2. shows the demographic information of the respondents. The sample consisted of 42% women and 58% men, most of the 66% respondents have a bachelor's degree, almost a third of the frequency using the internet more than 9 hours per day, even 61% of them use mobile payments more than 10 times per year. 59% of them work as private civil servants or state-owned enterprises and are followed by private employees, as many as 88% of them are aged 18-49 years.

Table 2. Demographic Profile of Respondents

Demographic Variable	Categories	Amount	Percentage
Gender	Male	163	58.21%
	Female	117	41.79%
	Total	280	100.00%
Age	18 - 33 year's old	123	43.93%
	34 - 49 year's old	122	43.57%
	More than 50 year's old	35	12.50%
	Total	280	100.00%
Occupation	Private Civil Servants/State-Owned Enterprises	86	30.71%
	Private Employees	78	27.86%
	Entrepreneur	35	12.50%
	Students	31	11.07%
	Housewife	23	8.21%
	Others	27	9.64%
	Total	280	100.00%
Last Formal Education	Elementary School/Junior High School	3	1.07%
	Senior High School	49	17.50%
	Associate Level	18	6.43%
	Bachelor's Degree	185	66.07%
	Master's Degree	23	8.21%
	Doctorate's Degree	2	0.71%
Total	280	100.00%	

Frequency of internet usage per day	< 1 hour	5	1.79%
	1-3 hours	35	12.50%
	3-6 hours	60	21.43%
	6-9 hours	75	26.79%
	> 9 hours	105	37.50%
	Total	280	100.00%
Frequency of use of mobile payments per year	< 3 times	14	5.00%
	3-6 times	55	19.64%
	7-9 times	40	14.29%
	> 10 times	171	61.07%
	Total	280	100.00%

Results and Discussion

Table 3. Reability-Cronbach’s Alpha

Factors	Cronbach’s Alpha	Recommended Value	Number of Items
Perceived Benefit (PB)	0.867	> 0.70	5
Perceived Sacrifice (PS)	0.897	> 0.70	6
Convenience (C)	0.876	> 0.70	7
Social Influence (SI)	0.965	> 0.70	6
Continuance Intention (CI)	0.944	> 0.70	6

As the table shows, the Cronbach’s alpha coefficients of the variables are as follows: PB (0.867), PS (0.897); C (0.876) SI (0.965); and CI (0.944), which indicated good internal consistency of reliability (Hair et al., 1998). Thus, the internal consistency of the items in the scale for Perceived Benefit (PB), Perceived Sacrifice (PS), Convenience (C), Social Influence (SI), and Consumer’s Continuance Intention (CI) is considered acceptable.

Items	Descriptive Statistics*	
	Mean	Std. Deviation
PB	4.50	.73
PS	2.91	1.26
C	4.23	.83
SI	4.00	1.00
CI	4.21	.84

The table above shows the descriptive statistics of the mean and standard deviation of the data obtained. In addition, all measurement items we use and their loading factors and AVE are shown in Table 4 below.

A confirmatory factor analysis (CFA) was performed to test the convergent and divergent validity of the scales. Convergent validity was evaluated through the factor loads of the indicators. It was verified that the coefficients do not differ significantly from zero and also that the loads between the latent and observed variables are high in all items. Convergent validity of all constructs was evaluated based on Average Variance Extracted (AVE) and factor loading. According to Hair et al., (2010), it is recommended that the value of Average Variance Extracted (AVE) ≥ 0.5 , and Factor loadings > 0.5 . Based on these results, the values of Average Variance Extracted (AVE) and Confirmatory Factor have a factor loading obtained above 0.50, which are considered significant. Also, the Cronbach's Alpha coefficients of all above 0.70 range from 0.867 to 0.965.

Table 4. Items with Their Loading Factors and Average Variance Extracted (AVE)

No. Items	Items	Loading factors.	AVE
PB1	<i>Mobile payment technology helps make payments more effectively.</i>	0.745	0.806
PB2	<i>Using mobile payment technology would enable us to pay more quickly.</i>	0.711	
PB3	<i>Mobile payment is a useful payment method.</i>	0.873	
PB4	<i>Using the mobile payment system is rather pleasant.</i>	0.870	
PB5	<i>The mobile payment procedure is rather enjoyable.</i>	0.832	
PS1	<i>I believe that the cost of equipment (e.g., mobile device) for using m-payment will be high.</i>	0.773	0.813
PS2	<i>I believe that the transaction fees for using m-payment will be high.</i>	0.887	
PS3	<i>I believe that the communication or access fees for using m-payment will be high.</i>	0.874	
PS4	<i>Overall, I believe that using m-payment will cost me a lot of money.</i>	0.834	
PS5	<i>I believe that there will be a high potential for loss associated with using m-payment.</i>	0.768	
PS6	<i>I believe that there will be too much uncertainty associated with using m-payment.</i>	0.742	
C1	<i>Interaction with mobile payment is clear and understandable.</i>	0.810	0.761
C2	<i>Interaction with mobile payments does not require mental effort.</i>	0.571	

C3	<i>I think it is easy to use mobile payment to do what I want to do.</i>	0.698	
C4	<i>In general, mobile payment is easy to use.</i>	0.773	
C5	<i>I believe that using mobile payment will be convenient.</i>	0.844	
C6	<i>I believe that using mobile payment will be hassle-free.</i>	0.845	
C7	<i>Compared to traditional payment methods, I believe that mobile payment methods are more convenient.</i>	0.785	
SI1	<i>People who are important to me are likely to recommend using mobile payment technology.</i>	0.925	0.924
SI2	<i>People who are important to me would probably suggest that I should use mobile payment technology.</i>	0.926	
SI3	<i>People who are important to me expect me to use mobile payment technology.</i>	0.932	
SI4	<i>People important to me think that I should use a mobile payment service.</i>	0.942	
SI5	<i>It is expected that people like me use mobile payment</i>	0.906	

	<i>services.</i>		
SI6	<i>People who influence my behavior expect me to use a mobile payment service.</i>	0.913	
CI1	<i>I intend to continue using mobile payments in the future.</i>	0.888	0.885
CI2	<i>I predict that I will continue to use mobile payments frequently in the future.</i>	0.886	
CI3	<i>I will strongly recommend that others use mobile payments.</i>	0.877	
CI4	<i>I intend to continue using mobile payment rather than discontinue its use.</i>	0.899	
CI5	<i>My intentions are to continue using mobile payment than using any alternative means.</i>	0.859	
CI6	<i>If I could, I would like to continue using mobile payment.</i>	0.901	

*All factor loadings are significant at the 0.05 level

Based on the results on a reliable and valid scale, it is now possible to study the impact of these factors on consumers' intention to continue using mobile payments.

Table 5. Correlations between the Factors and Continuance Intention to use Mobile Payment

Factors	Continuance Intention to Use (CI)
Perceived Benefit (PB)	0.430**
Perceived Sacrifice (PS)	- 0.157**
Convenience (C)	0.465**
Social Influence (SI)	0.422**

**Correlations are significant at the 0.01 level

With the scale proven to be reliable and valid, it is now possible to study the impact of these factors on consumers' intentions to continue using mobile payments. Table 5 displays the factor score correlation coefficients and ongoing intention to use mobile payments. The four factors were found to be significantly correlated ($p < 0.01$) with continuance intention to use. The results show that convenience, perceived benefits, and social influences will lead to a higher likelihood of sustainable intentions to use cellular payments, while perceived sacrifice will lead to a lower tendency of sustainable intentions to use cellular payments. Among all constructs, convenience has the highest correlation with continuance intention to use.

Table 6. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.576 ^a	.332	.330	.68865

From the results of R^2 or R Square of 0.332, which means that the contribution of the influence of the PB variable, PS variable, C variable, and SI variable on the CI variable is 33.2% while the remaining 66.8% is the contribution of other variables not included in the study.

Multiple Regressions of the Factor and Continuance Intention to use Mobile Payment

Table 7: Multiple Regressions Analysis Results

Model	Unstandardized Coefficients		Standardize d Coefficients	t-value	Sig.
	B	Std.E	Beta		
(Cons)	1.348	0.139		9.724	0.000***
PB	0.282	0.028	0.244	9.937	0.000***
PS	-0.083	0.015	-0.125	-5.545	0.000***
C	0.232	0.025	0.233	9.421	0.000***
SI	0.215	0.021	0.258	10.465	0.000***

*Dependent Variabel: Continuance Intention to use

*** indicates $p < 0.05$

Based on the result, the first hypothesis H1 states that Perceived Benefits (PB) have a positive effect on customers' continuance intention to use mobile payments. From these results, Perceived Benefit has a statistically significant value (p-value) of 0.000, which is smaller than 0.05. There is a significant relationship between perceived benefits and customers' ongoing intention to use mobile payments at the 95% confidence level.

Therefore, it can be concluded that H1 is significant for this study. This is in accordance with past results from Davis et al. (1989), Suhuai & Peter (2010), Featherman & Pavlou (2003) in environments using information technology, such as online or mobile shopping and the payment context.

Therefore, it can be concluded that H1 is significant for this study. This is in accordance with past results from Davis et al., (1989), Suhuai & Peter (2010), Featherman & Pavlou (2003) in environments using information technology, such as online or mobile shopping and the payment context.

The second hypothesis states that Perceived Sacrifice (PS) has a negative effect on customers' ongoing intention to use mobile payments. Sacrifice perception has significance related to customers' ongoing intention to use mobile payments at the 95% confidence level with a statistically significant value (p-value) of 0.000 which is less than 0.05.

Therefore, it can be concluded that H2 is significant for this study. This is in accordance with past results from Kim et al. (2007) in the context of mobile payment. This means when using mobile payments, consumers will compare the perceived effort to shape their perceptions of those costs and the impact of risk for them.

The third hypothesis H3 states that convenience (C) has a positive effect on customers' ongoing intention to use mobile payments. From the results of this study, Convenience (C) has a significant relationship with customers' continuing intention to use mobile payments at a 95% confidence level with a statistically significant value (p-value) of 0.000, which is less than 0.05.

Therefore, it can be concluded that H3 is significant for this study. This is in accordance with past results from Phonthanukitithaworn et al. (2016), Chen (2006), Dewan & Chen (2005), Kreyer et al. (2003), Mallat (2007), Pousttchi & Zenker (2003), Teo et al. (2005) that in between advancement and a consumer's experience, values, and needs of convenience factor when using affect their internal and individual perception in the context of mobile payments. The last hypothesis, H4, states that Social Influence (SI), has a positive effect on customer intention to use mobile payments. The results showed that the statistical significance value (p-value) of Social Influence (SI) of 0.000 was less than 0.05. Thus, Social Impact (SI) has a positive relationship with customers' ongoing intention to use mobile payments at a 95% confidence level.

Therefore, it can be concluded that H4 is significant for this study. This is in accordance with the results of previous research from Venkatesh et al. (2012), also Crabbe et al. (2009) that social influence is the extent to which consumers feel that important people such as family and friends believe that they must use technology, which is a factor external to a person in the context of mobile payments.

The results of multiple regression analysis indicate that the regression coefficient for social influence is relatively high compared to other independent variables. This suggests that Social Effect is relatively more important than all the other independent variables in the multiple regression model. The beta coefficient (β) of Perceived Benefit is 0.282, which means that 1 standard deviation change in Perceived Benefit will result in a change in the standard deviation of 0.282 in the dependent variable Continuance Intention to use (CI) if all other independent variables remain constant. Followed by the Coefficient of Convenience (C) with a beta coefficient (β) of 0.232, Social Influence (SI) with a beta coefficient (β) of 0.215, and Perceived Sacrifice (PS) with a beta coefficient (β) of -0.083. Based on the results of the regression analysis, the regression equation is obtained as follows:

$$CI = 1.348 + 0.282 PB + 0.232 C + 0.215 SI - 0.083 PS$$

Table 8. Results of The Path Model Analysis

Hypothesis	Path	Std. Coef.	Std. E	t-value	Path Coef. (β)	p
H1	PB > CI	0.282	0.028	9.937	0.244	0.000
H2	PS > CI	-0.083	0.015	-5.545	-0.125	0.000
H3	C > CI	0.232	0.025	9.421	0.233	0.000
H4	SI > CI	0.215	0.021	10.465	0.258	0.000
Result = all hypotheses are supported.						

The H1 pathway between PB and CI has β 0.244 and is significant at the level of p <0.05 (t = 9.937), thus indicating a positive, statistically significant relationship between perceived benefits of someone and consumer's continuance intention to use. This means that consumers' technical perceptions about their perceived benefit would positively influence consumers' continuance intention to use mobile payments.

The H2 pathway between PS on CI has β -0.125 and is significant at the level of p <0.05 (t = -0.125), showing a negative relationship when compared to other variables, there is a statistically significant relationship between the perception of sacrifice and consumer's continuance intention to use. This means that consumers' technical perceptions about their perceived sacrifice negatively influence consumers' continuance intention using mobile payments.

The H3 pathway between C and CI has β 0.233 and is significant at the level of p <0.05 (t = 9.421), thus indicating a positive, statistically significant relationship between convenience and consumer's continuance intention to use. This means the internal factors of consumers' perception of convenience would positively influence consumers' continuance intention to use mobile payments.

The H4 pathway between SI and CI has β 0.258 and is significant at the level of p <0.05 (t = 10.465), thus indicating a positive, statistically significant relationship between social influence and consumer's continuance intention to use. This means the external factors of consumers' perception of convenience would positively influence consumers' continuance intention to use mobile payments.

Thus, these results suggest that the effect of perceived value on VAM construction with external constructs is good in helping explain the factors that influence the use of mobile payments to consumers in considering and arousing continued use, but additional features should be added to better reflect the continued use of consumers. This system reduces user acceptance of costs and risks.

The specific intention given by respondents to the effect of perceived enjoyment and perceived usefulness of perceived benefit factors combined with their convenience and social influence as their internal and external factors implies that it is important for mobile payment service providers to build a critical mass of continued use by consumers.

Because consumers are more likely to want to use mobile payment services if they find that using this alternative payment method has more advantages than using the current

payment method because service providers provide a supportive information system and quality services to facilitate post-adoption of mobile usage by consumers.

Limitations and Recommendations for Future Research

All studies have limitations. First, this study only focuses on extension and slight modification by adding two external variables from the VAM model to identify factors that affect consumers' continuing intention to use mobile payments. Given the various uses of the model for various studies, including TAM, DOI, and TPB, in providing test results, which model can provide an optimal explanation of the main objectives in the context of mobile payment regarding its potential long-term use, it might be suggested. Second, considering the factors that influence the intention of continuous use, this study only focuses on consumer perceptions, the representation of the internal and external factors of consumers as dependent variables in order to interpret the actual behavior driven by theory in the usage stage. Therefore, further studies can increase the reliability of the measurement by using additional methods, such as field studies or longitudinal types of studies in order to observe more closely and be able to investigate the next stages of mobile payment for long-term use. Finally, this study drawing on its data from the Greater Jakarta area (Jabodetabek, Indonesia) at this time, may have influenced the response. Thus, future research may seek to include other factors in further exploration.

5.1. Conclusion and Implications

This study narrows the gap of previous research in investigating the adoption and use of mobile payment factors. This study presents a VAM approach to determine consumer perceptions in between giving positive and negative affect also individual perspectives regarding internal and external factors that have the potential to shape consumer intentions as users, for at least 3 months, since the continuous sampling of intentions to use mobile payments. This study can help mobile payment service providers to create their competitive strategy targeting potential mobile payment users in an effective and sustainable way as mobile payment users, not only because of the fleeting trend. As technology develops, competition between competitors becomes increasingly fierce as more and more similar innovations are developed and launched into the market. In 2020, the mobile payment market in Indonesia is expected to continue growing, supported by various advanced technology-based features in the mobile payment system. Mobile payment companies must continue to grow and develop in order to survive and have loyal customers. Satisfaction is a key factor in evaluating service quality and enhancing the competitive advantage of technology. Perceived benefits such as enjoyment and usability as a form of customer satisfaction also have a positive effect on recommendations for the use of mobile payments. As to remain competitive, mobile payment service providers are required to identify consumer needs and create mobile payment systems that are able to meet consumer needs.

Moreover, this study fulfills the objective by showing not only the positive and significant effect of the previous variables on their intention to continue using mobile payments but also providing insight into the difference between the perceived sacrifices and the perceived benefits of adopting the VAM model. Regardless of the growing market, the social influence of closest people or peers is quite influential in using mobile payments, as well as accepting their payment system as a convenient and effective option as an advantage they feel to make it easier when using mobile payments in making payment transactions. Therefore, government agencies and business organizations can further utilize their payment systems to complement existing payment methods and increase intentional behavior towards the use of consumer payments. Additionally, managers and marketers must recognize the implications of cultural value on intentions for their payment systems because they have a considerable influence.

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