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Digitalization of Payments in Urban Society Indonesia

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ABSTRACT

This research investigates the influence of users' perceptions of usefulness and ease of use on their intention to adopt digital payment methods, with attitude serving as an intervening factor. By employing the Technology Acceptance Model (TAM), this study delivers meaningful input for technology developers and decision-makers to understand the key elements affecting users' acceptance of digital payment platforms. Primary data for this study were obtained from a questionnaire of 200 urban communities in Indonesia that use digital payments in transactions using non-probability sampling techniques. This study used the SEM-PLS method using SmartPLS 3. The findings indicated that Perceived Usefulness (X1) does not exert a significant influence on Attitude (Y). However, Perceived Usefulness (X1) is known to be able to influence Behavior Intention (Z) directly. Attitude (Y) significantly affects Behavior Intention (Z). Perceived Ease of Use (X2) significantly influences Attitude (Y). Still, it cannot directly influence Behavior Intention (Z), which means that digital payments must be easy to use to shape supportive attitudes toward digital payments and increase intention to use. While enhancing perceived usefulness can directly increase users' intention to adopt these technologies, improving ease of use is essential for fostering positive attitudes, which in turn shape behavioral intentions.

Keywords: Attitude; Behavior intention; Digitalization; Perceived ease of use; Perceived usefulness

INTRODUCTION

Data and communication technology development support the public's increasing use of electronic devices and the Internet. This increase in internet usage has become a significant trend in recent decades, influenced by the expansion of internet infrastructure so that it can be more easily accessed in various parts of the world, the development of electronic devices that are more affordable for the public, and the development of online applications and content with multiple features and benefits for users. In Indonesia itself, according to data collected by the Indonesian Internet Service Providers Association in January 2024, around 220 million Indonesians, or 79.5% of the national population, are now active Internet users. There has been a consistent upward trend in internet user numbers, with an annual growth rate of 1.31% since 2023. The growing number of internet users in Indonesia indicates a strong potential for digital transformation, which the COVID-19 pandemic has further expedited, and strengthened Indonesian society's cultural shift, creating a digital culture (Arianto, 2021). This transformation will be a marker of acceleration into a digital society that will change many sectors of public life in a more advanced direction. In addition, economic growth and technological developments encourage every aspect of economic participation to be carried out online through the digitalization of financial products (Saputri et al., 2024).

Opportunities in digital transformation, especially in the financial sector, provide potential in the Fintech industry to optimize access to various public financial services. Financial Technology (Fintech) is a technological innovation in financial services that can produce new business models, applications, processes, or products related to offering finance-related services (Sahay et al., 2020). Financial Technology (Fintech) refers to technology that offers a financial solution by delivering financial products (Stefanny & Tiara, 2021). Fintech can be described as a new technology constantly being developed to provide convenience across financial sector services.

Financial Technology is divided into six developed models: digital payment, crowdfunding platforms, asset management, capital market access, insurance, and Peer-to-peer lending. Meanwhile, the financial regulatory authority (OJK) states that there are five types of Fintech, namely Crowdfunding (fundraising through online platforms), Microfinancing (financial services for the lower middle class), P2P Lending (Online Lending), Digital Payment, and Investment Options (Rosmida, 2021). This study focuses on Fintech in the form of digital payments, which looks at the acceptance (adoption) of the community towards the use of digital payments. Digital payments are economic transactions between sellers and buyers in telecommunications or electronic networks (Oktaviani & Santi, 2023).

Digital or electronic payments are a method of payment transactions that use digital devices such as smartphones, computers, or tablets without using cash. The development of payment technology in Indonesia has experienced an extraordinary surge in recent years, showing increasing innovation, one of which is the payment method (Oktaviani & Santi, 2023). Indonesia's digital payment market penetration level continues to increase. As a measure of access and usage among Indonesians, the penetration rate underscores the significance of investigating how digital payments are adopted.

Digital payments themselves provide convenience and speed in transactions and lower costs compared to cash transactions (Ravikumar et al., 2019). The adoption of digital payments in big cities has a faster rate compared to regions due to more mature technological infrastructure, ease of access to transactions, more choices in digital payment services, the need for fast transactions, and the behavior and habits of city dwellers tend to be more open to utilizing modern technological solutions, including digital-based marketing approaches.

To evaluate digital payment adoption within communities, this study adapts the Technology Acceptance Model (TAM), a theoretical framework that delineates the determinants of user engagement with new technologies (Davis, 1985). Researchers commonly rely on the TAM approach to better grasp the acceptance of various types of technology, including digital payments. In the TAM, an individual's decision to embrace a tech system is shaped by how useful they find it and how effortless they believe it is to operate, which influences behavioral intentions (behavioral intention) through attitudes.

Perceived usefulness influences the attitude toward adopting Fintech services, influencing interest (Riyanti et al., 2022). The perception of usefulness and ease of use plays a crucial role in shaping individuals' interest in adopting a technology. This interest, in turn, significantly contributes to their actual usage behavior (Hidayat et al., 2023). Mahardika et al. (2021) mentioned that ease of use influences interest in Fintech. Meanwhile, Riyanti et al. (2022) found that ease of use did not affect attitudes in adopting Fintech services.

Based on the description and gap research above, it is urgent to find out how the acceptance or level of adoption of digital payments is in the city community in Indonesia by developing the TAM theory. Through this study, the researcher aims to analyze how digital payment technologies are being accepted and utilized by the public, especially in cities in Indonesia, and how they have effectively influenced the intentions of their users.

LITERATURE REVIEW

The culture born from new habits in adapting to digitalization has influenced various sectors of life, including digital business (Arianto, 2021). The development of digital culture stems from human intellectual processes combined with the use of digital tools and platforms that create a digital space in communication and interaction. Digitalization gained strong traction throughout the pandemic period, driven by the sharp increase in internet connectivity and usage among Indonesians, especially in big cities. Digital innovations are transforming the financial industry by generating modern business models, streamlining processes, and facilitating the creation of new financial services and products (Jünger & Mietzner, 2020).

Digital payment systems represent a form of technological innovation whose adoption poses challenges not only at the organizational level but also for individuals adapting to these changes (Sivathanu, 2019). Digital payments are payments made digitally, including payments made using mobile phones operated online and not made using cards (Sahay et al., 2020). Bank Indonesia categorizes digital payments into Internet banking, mobile banking, E-money, digital wallets, QR Codes, and payments via NFC (Near Field Communication).

Building on the Technology Acceptance Model (TAM) method introduced by Davis (1985), in explaining individual acceptance of the use of digital payments. TAM has its advantages because it is a development of the Reason Action Theory (TRA), where each assumes a strong behavioral perspective, in which the intention to act leads to its execution under the assumption of freedom from external barriers (Ghozali, 2020). Researchers and practitioners can identify why specific systems may be unacceptable, so it is necessary to take revision steps to overcome this.

Perceived Usefulness on Behavioral Intention Through Attitude on Digital Payments

Perceived Usefulness (PU) refers to how strongly an individual perceives that employing a specific technology can enhance their effectiveness in completing work-related tasks (Ghozali, 2020). Perceived Usefulness describes how a person views the degree to which utilizing a particular technology can be beneficial or impactful in improving work performance, efficiency, or achieving desired goals (Hidayat et al., 2023). Perceived Usefulness (PU) is measured using four indicators adapted from Ramli et al. (2021), Siagian et al. (2022), Soun et al. (2023), and Yadav et al. (2024), covering aspects of time saving, effectiveness, performance improvement, and performance enhancement.

Time saving refers to the efficiency and speed in completing transactions through digital payment systems, which significantly influence perceived usefulness, as the ability to save time is a crucial aspect that enhances overall user experience and utilization (Yadav et al., 2024). Effectiveness in digital payment systems refers to the extent to which they meet users' needs and expectations, where higher effectiveness enhances perceived usefulness and increases the likelihood of user adoption in managing financial transactions (Ramli et

al., 2021; Siagian et al., 2022). Performance improvement refers to the increased effectiveness of users in conducting financial transactions, where ease and convenience without relying on physical cash strengthen perceived usefulness as a key factor influencing the intention to adopt digital payments (Yadav et al., 2024). Performance enhancement refers to the improvement of financial transaction performance through digital payment systems, where perceived usefulness that enhances the effectiveness of financial activities drives users' intention to adopt and continue using digital payment methods (Ramli et al., 2021; Soun et al., 2023).

Perceived Usefulness in digital payments serves as a crucial factor in shaping how individuals embrace and begin using financial technology. If individuals feel that this technology is useful and provides the expected benefits, they will choose a more positive perception of using digital payments. Understanding the perception of Usefulness will increase the likelihood of using digital payments. This is in line with research findings by (Christopher et al., 2022; Khoiriyah et al., 2020; Mailangkay et al., 2022; Mustofa & Maula, 2023; Riyanti et al., 2022), which found that perceived Usefulness influences attitudes toward adopting Fintech services.

H1: Perceived Usefulness influences Attitude on Digital Payments
H4: Perceived Usefulness influences Behavior Intention on Digital Payments

Perceived Ease of Use on Behavioral Intention through Attitude on Digital Payments

Perceived Ease of Use (PEOU) is the extent to which a person believes that using a particular technology will be relatively easy, free from excessive physical and mental effort (Ghozali, 2020). The measurement indicators of Perceived Ease of Use consist of four indicators developed based on Siagian et al. (2022), Soun et al. (2023), Nida and Alfirdaus (2024), and Saraswati and Moeis (2023). These indicators include Ease of Use, Easy to Learn, User Friendly, Controllable, and Flexible.

Ease of Use represents a core dimension of perceived ease of use, reflecting the simplicity of digital payment systems, which has been consistently shown to influence user adoption and behavioral intention strongly (Nida & Alfirdaus, 2024; Siagian et al., 2022; Soun et al., 2023). Easy to Learn refers to how quickly new users can understand and operate a digital payment system, where an intuitive design that requires minimal effort enhances perceived ease of use and supports user acceptance and technology adoption (Siagian et al., 2022; Soun et al., 2023). User-friendly refers to an intuitive interface that ensures a pleasant and efficient experience through well-designed layout and usability, which plays a crucial role in shaping user satisfaction and adoption of digital payment applications (Nida & Alfirdaus, 2024; Saraswati & Moeis, 2023). Controllable means that users feel confident in managing and navigating the digital payment system, allowing them to conduct transactions without difficulty, which in turn fosters trust, reduces perceived risk, and enhances ease of use (Saraswati & Moeis, 2023). Flexible refers to a digital payment system's ability to adapt to diverse user needs and preferences, accommodating various transaction types, settings, and integrations, thereby enhancing usability and appeal (Saraswati & Moeis, 2023).

The perspective of ease of use can convince users that the technology is intuitive and imposes no difficulty when used. The outcome resonates with the conclusions drawn in the

research by Khoiriyah et al. (2020), Christopher et al. (2022), and Mailangkay et al. (2022), which found that Perceived Ease of Use affects attitudes toward adopting Fintech services.
H2: Perceived Ease of Use influences Attitude on Digital Payments
H5: Perceived Ease of Use influences Behavior Intention on Digital Payments

Attitude Towards Behavior (Attitude) towards Behavioral Intention (Behavior Intention) on Digital Payment

Attitude Toward Using is a positive or negative attitude toward using a technology that can be applied to understand the factors that shape an individual's decision to adopt or avoid it (Ghozali, 2020). The measurement indicators of attitude consist of three indicators developed based on Gautam et al. (2020), Dzogbenuku et al. (2022), Song and Han (2009), Reiting et al. (2020), and Ho et al. (2013). These indicators include Convenience, Fun to Use, and Enjoyable.

Convenience is widely recognized as a key factor shaping users' attitudes and adoption of digital payments, serving as a primary motivator where ease of transactions and added incentives, such as cashbacks, play an essential role (Gautam et al., 2020). The aspect of fun to use, commonly known as perceived enjoyment, serves as a key indicator. Research indicates that perceived enjoyment has a strong impact on consumers' attitudes toward digital payment systems. Specifically, higher levels of enjoyment are associated with more positive attitudes, suggesting that when the experience is enjoyable, consumers are more inclined to adopt and continue using mobile payment services (Reiting et al., 2020; Song & Han, 2009). The pleasurable aspects of digital payment systems are strongly associated with users' perceived enjoyment and overall experience. Studies show that a positive user experience, which incorporates elements of enjoyment, is a key factor in sustaining long-term use of mobile payment platforms. Moreover, the view that digital receipts are both entertaining and practical, even if they require more time than conventional methods, indicates that enjoyment plays a significant role in encouraging the adoption of mobile payment technologies (Ho et al., 2013; Reiting et al., 2020).

A user's attitude represents their personal judgment regarding interest, and this attitude plays a significant role in shaping their behavioral intention (Alkhowaiter, 2020).
H3: Attitude influences the behavioral intention of Digital Payment

Figure 1 presents the research model of this study.

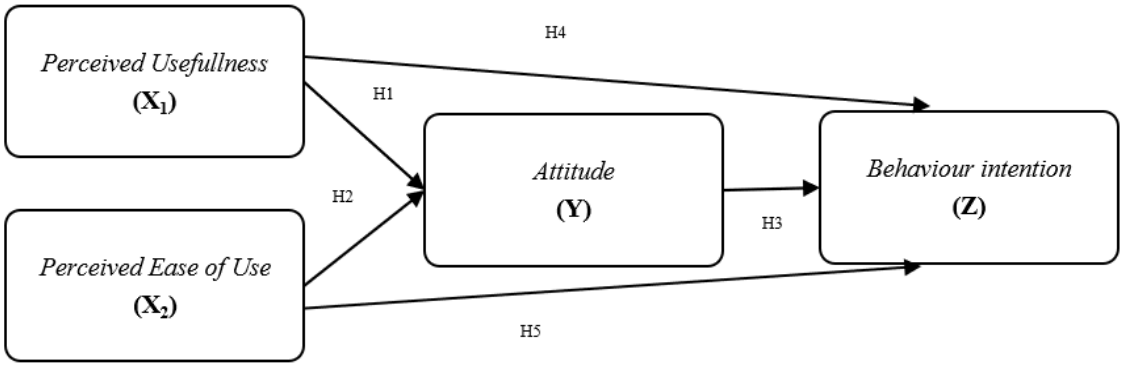

Figure 1. Research Model

RESEARCH METHOD

This quantitative study analyzes numerical data to respond to the research problem formulation. This research is a causal research that tests the relationship between variables. This research is intended to explore the various factors that shape an individual's intention to adopt digital payment services. The contributing aspects consist of perceived usefulness and perceived ease of use. This study applies the TAM approach to explore user behavior, offering valuable direction for stakeholders aiming to enhance the adoption of digital payment platforms. TAM is a theoretical framework used to understand user behavior towards adopting and using Information technology (Davis, 1985). Data collection involved disseminating surveys to participants, focusing on identifying key elements that shape a person's decision to engage with digital payment platforms. This study uses a measurement of the research variable construct, which is carried out using the Likert Scale as a quantitative measure in measuring respondents' perceptions of the statements or questions. The constructs and measurements are presented in Table 1.

Table 1. Constructs and Measurements

Variable	Conceptual Meaning	Indicator	Items	Scale
Perceived Usefulness (X_1)	Perceived Usefulness (PU) is the extent to which a person believes that using a particular technology will enhance their job performance.	Time Saving	PU1: The use of digital payments speeds up the payment process compared to cash payments.	5-point Likert scale
			PU2: Using digital payments saves time in transactions.	
		Effectiveness	PU3: Using digital payments is more effective than other methods.	
			PU4: Digital payments ensure transactions are completed without errors.	
		Performance Enhancement	PU5: Digital payments help reduce the risk of losing cash.	
			PU6: By using digital payment methods, there is no need to carry large amounts of cash for transactions.	
		Performance Improvement	PU7: Digital payments allow users to carry out more transactions in a shorter period of time.	
			PU8: Digital payment increases efficiency in transactions.	
Perceived Ease of Use (X_2)	*Perceived Ease of Use* (PEOU) is the extent to which a person believes that using a particular technology will be relatively easy and free from excessive physical and mental effort.	Ease of Use	PEOU1: Transactions with digital payments are very easy to use.	5-point Likert scale
			PEOU 2: No difficulty when using digital payments.	
		Easy To Learn	PEOU 3: Easy to learn how to make transactions using digital payments.	
			PEOU 4: It doesn't take much time to get used to using digital payments as a means of transaction.	
		User Friendly	PEOU 5: Simple and easy-to-understand digital payment system/application display.	
			PEOU 6: Problems are rarely experienced when making digital payments for various types of transactions.	
		Controllable	PEOU 7: Can monitor transactions that have been made.	
			PEOU 8: Have full control over the digital payment transactions carried out.	
		Flexible	PEOU 9: Digital payments can be relied on for transactions in various situations.	
			PEOU 10: Digital payments simplify the transaction process with various service providers.	

Table 1. Continued

Variable	Conceptual Meaning	Indicator	Items	Scale
Attitude (*Y*)	Attitude Toward Using is a positive or negative attitude toward the use of a technology that can be applied to predict a person's behavior or intention to use a product or not to use it.	Convenience	A1: Using digital payments feels convenient. A2: Digital payments make life practical.	5-point Likert scale
		Fun to Use	A3: Feel happy using digital payments in transactions. A4: Using digital payments feels exciting and is a great idea.	
		Enjoyable	A5: Using digital payments provides a pleasant transaction experience. A6: The transaction process with digital payments feels more pleasant than cash payments.	
Behavior Intention (*Z*)	Behavioral intention to use is the degree to which an individual has the interest to use the payment system by aligning it with the goals they want to achieve	Intend to use	ITU1: Intends to make digital payments the main method of transactions. ITU2: Intention to use digital payments for future transactions.	5-point Likert scale
		Trying to use	ITU3: Trying to use digital payments in daily activities. ITU4: Trying to get used to making transactions with digital payments.	
		Planning to use	ITU: Planning to use digital payments in the near future. ITU6: Incorporate the use of digital payments into transaction plans.	

Population and sample

The group of individuals considered to be the population in this study consists of the urban community in Indonesia, which uses digital payment services. The number of users of digital payment services is huge and can grow. The number is not known for sure; this study uses a sample taken from the population using the following Lemeshow (1997) formula:

$$n = z^2 p\,(1\text{-}p) / d^2$$
$$n = (1.96)^2\,(0.15)\,(1\text{-}0.15) / (0.05)^2$$
$$n = 195.9216$$

where, n was the number of samples; p was maximum estimate = 15% = 0.15; z was standard value = 1.96; and d was alpha (0.05) or sampling error = 5%

From the sample calculation above, this study requires at least 195.9216 respondents to meet the minimum sample size. However, the researcher finalized the sample size at 200 respondents. Based on the 10 times rule suggested by (Hair et al., 2017), with the construct having the largest number of indicators, totaling 10 and thus requiring a minimum of 100 respondents, the sample size of 200 used in this study meets and even exceeds the minimum requirement for SEM-PLS analysis. This research utilized a non-probability sampling method, specifically convenience sampling, where each person had an equal opportunity to participate in the sample selection as a sample member if they met the following criteria: 1) users of digital payment services, and 2) domiciled in a city in indonesia.

Analysis techniques

To analyze the data, this research employed the Structural Equation Modeling based on Partial Least Squares (SEM-PLS) method using the SmartPLS 3 software, as this approach is suitable for predictive models and can be applied with relatively small sample sizes without requiring the data to meet the assumption of normal distribution (Hair et al., 2017).

RESULTS AND DISCUSSION

Measurement Evaluation in SEM-PLS

Before testing the model, validity and reliability tests were first conducted, which are presented in Table 2.

Table 2. Measurement of Construct Validity and Reliability

Item Description	Outer Loading	AVE	CR	Cronbach's Alpha
PU1	0.730	0.551	0.907	0.883
PU2	0.711			
PU3	0.738			
PU4	0.649			
PU5	0.747			
PU6	0.729			
PU7	0.825			
PU8	0.796			
PEOU1	0.852	0.643	0.947	0.938
PEOU2	0.818			
PEOU3	0.791			
PEOU4	0.851			
PEOU5	0.889			
PEOU6	0.703			
PEOU7	0.772			
PEOU8	0.752			
PEOU9	0.751			
PEOU10	0.820			
A1	0.908	0.793	0.958	0.948
A2	0.919			
A3	0.901			
A4	0.892			
A5	0.878			
A6	0.843			
ITU1	0.796	0.727	0.941	0.924
ITU2	0.735			
ITU3	0.896			
ITU4	0.879			
ITU5	0.902			
ITU6	0.895			

Based on Table 3, the outer loading values, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha, obtained very satisfactory values for the SEM-PLS model. The criteria for internal consistency and convergent validity have all been met. Furthermore, all outer loading values fall within the range of 0.40–0.70, all AVE values are greater than 0.50, all CR values are above 0.70, and all Cronbach's Alpha values are

above the cut-off value of 0.60. Thus, all questionnaire items in this study are valid and reliable and therefore can be used as a research instrument.

Structural Model Evaluation

The structural model evaluation was conducted using two measurements, namely the Coefficient of Determination (R^2) and the magnitude and significance of the path coefficients. The data analysis presents the results of hypothesis testing of relationships among several formulated constructs, where a hypothesis is considered significant if the P-value is above 0.05. Table 3 shows the results of the hypothesis testing.

Table 3. The relationship in construct path analysis

Hypothesis	Original Sample (O)	P Values	Result
H1: Perceived Usefulness -> Attitude	0.105	0.173	not significant
H2: Perceived Ease of Use -> Attitude	0.792	**0.000**	Significant
H3: Attitude -> Behavior Intention	0.633	**0.000**	Significant
H4: Perceived Usefulness -> Behavior Intention	0.321	**0.000**	Significant
H5 Perceived Ease of Use -> Behavior Intention	-0.098	0.371	not significant

Based on the coefficient values, the significance value of Perceived Usefulness (X1) is 0.173, which is greater than 0.05, indicating that the variable Perceived Usefulness (X1) does not affect Attitude (Y). The significance value of Perceived Ease of Use (X2) is 0.000, which is smaller than 0.05, indicating that the variable Perceived Ease of Use (X2) has a significant effect on Attitude (Y). The research findings indicate that the coefficient of determination (R^2) is 0.782, meaning that 78.2% of the variation in users' attitudes toward digital payment systems can be explained by Perceived Usefulness and Perceived Ease of Use. However, the analysis reveals that only Perceived Ease of Use has a significant effect. A positive attitude toward adopting digital payments is largely driven by the perception that ease of use directly contributes to improving users' performance in conducting transactions. In this context, ease of use is not merely about simplicity of the interface, but about enabling users to perform transactions more quickly, accurately, and effectively—the importance of optimizing user experience in ways that translate ease of use into tangible performance improvements. For digital payment providers, this means prioritizing strategies such as enhancing transaction speed, minimizing errors, simplifying processes, and integrating seamless features that reduce user effort. By focusing on ease of use that delivers measurable performance benefits, providers can build stronger positive attitudes toward digital payment adoption. From a research perspective, the significant role of performance improvement under perceived ease of use underscores its strategic function of linking user interaction with technology to their attitudes toward acceptance.

The significance value between Perceived Usefulness (X1) and Attitude (Y) is 0.000, which is smaller than 0.05, indicating that the variables Perceived Usefulness (X1) and Attitude (Y) have a significant effect on Behavior Intention (Z). Meanwhile, the significance value of Perceived Ease of Use (X2) is 0.371, which is greater than 0.05, indicating that the variable Behavior Intention (Z) does not have a significant effect on Behavior Intention (Z). The coefficient of determination (R^2) yielded a value of 0.668, meaning that 66.8% of Behavior Intention can be explained by the variables Attitude, Perceived Usefulness, and Perceived Ease of Use. In contrast, other factors explain the remaining percentage. The

results of the study indicate that Behavior Intention in using the system is largely influenced by Perceived Usefulness and Attitude. Users are more likely to adopt a technology when they perceive that the system provides real benefits. In addition, a positive attitude formed toward the system also plays an important role in encouraging the intention to use it. Conversely, Perceived Ease of Use was not found to have a significant effect on Behavior Intention. This finding suggests that ease of use is not the main factor in users' decisions to adopt a technology; rather, they place greater emphasis on the extent to which the technology is useful and fosters a positive attitude toward its use.

Meanwhile, the relationship between the construct path analysis and the mediating variables is shown in Table 4.

Table 4. The relationship of path analysis with mediation variables

Hypothesis	Original Sample	P Values	Result
Perceived Usefulness -> Attitude -> Behavior Intention	0.066	0.184	not significant
Perceived Ease of Use -> Attitude -> Behavior Intention	0.502	0.000	Significant

The findings showed that Perceived Usefulness (X_1) does not have a significant effect on Attitude (Y) but directly influences Behavior Intention (Z). The tangible benefits perceived by users from a digital system, such as effectiveness and performance improvement, can directly encourage their intention to use it without necessarily going through changes in attitude first. This result also indicates that Attitude (Y) does not mediate the relationship between Perceived Usefulness and Behavior Intention, meaning that perceived benefits serve as a dominant factor on their own in determining users' decisions to adopt digital payment technologies.

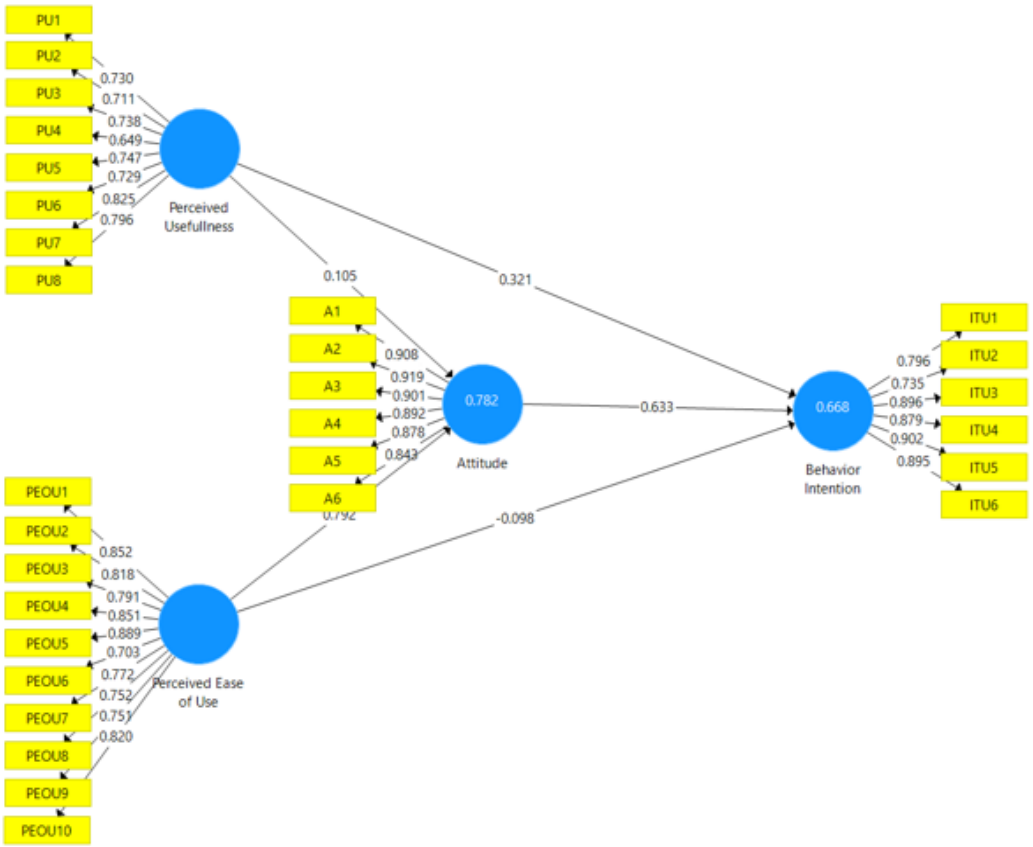

Figure 2. Structural Model

Meanwhile, Perceived Ease of Use (X_2) has a significant effect on Attitude (Y) but does not directly influence Behavior Intention (Z). Ease of use plays a role in shaping positive user attitudes, which in turn drive their intention to use the technology. Thus, attitude acts as a mediating factor in the relationship between ease of use and behavioral intention. The practical implication is that digital service providers should ensure simple and user-friendly interfaces, as this strengthens users' positive attitudes and ultimately contributes to increasing their intention to adopt digital payment systems. The structural model from the data analysis results is presented in Figure 2.

Discussion

Perceived Usefulness reflects an individual's view of how digital payment systems contribute positively by enhancing task efficiency, improving performance outcomes, or facilitating the achievement of targeted objectives. The results of this study indicate that Perceived Usefulness has a positive but insignificant relationship to Attitude. The insignificance of this hypothesis test results indicates that users' Perceived Usefulness when making digital payments is not a determining factor in forming user attitudes. This study's outcomes align with Widowati and Khusaini (2022), a prior empirical study. Studies support the view that although Perceived Usefulness plays a vital role, it does not necessarily exert a direct influence on attitudes toward digital payment systems (Julia et al., 2024). However, Perceived Usefulness can directly influence Behavior Intention (Z). Perceived Usefulness does not significantly influence Attitude toward using digital payments indirectly; rather, its impact is directly reflected in the user's intention to adopt digital payment methods. Prior empirical evidence (Marginingsih et al., 2019; Siagian et al., 2022; Tsai et al., 2022) consistently demonstrates that individuals are more likely to adopt digital payment systems when they perceive them to be advantageous. In particular, within the domain of mobile payments, perceived usefulness has been identified as a decisive factor shaping users' intention to adopt such systems.

The strong and significant association between perceived usefulness and behavioral intention to adopt digital payments suggests that when individuals perceive digital payment technology as more beneficial, their willingness to use it increases accordingly for urban communities in Indonesia. Considerations of the usefulness obtained, for example, enhancing efficiency and reducing the time required to complete payment transactions, increasing efficiency and effectiveness during transactions, reducing the likelihood of mistakes, and simplifying the process by eliminating the necessity to bring large amounts of cash, have demonstrated a positive impact on users' intention to utilize digital payment systems.

In reference to the outer loading values, the findings revealed that among the four indicators employed to measure Perceived Usefulness, PU7 under the indicator of Performance Improvement demonstrates the strongest contribution in reflecting the construct. Users are more inclined to adopt and utilize the system when they perceive it as enhancing their performance, operational efficiency, and financial outcomes. Such a relationship is consistently reinforced by prior studies, which underscore the critical role of performance improvement in fostering the adoption and continued use of digital payment systems(Kumar & Sofat, 2024; Padma Kiran & Vedala, 2025; Patil et al., 2019).

Perceived Ease of Use has been found to significantly impact users' attitudes toward utilizing digital payment services. Perceived ease of use demonstrates a positive relationship with attitudes toward using digital payments. The more people believe that digital payments are easier to use, the more they will increase their attitudes toward digital payments. This finding is consistent with previous studies conducted by Khoiriyah et al. (2020), Widowati & Khusaini (2022), Christopher et al. (2022), and Mailangkay et al. (2022), which proved that Perceived Ease of Use influences attitudes toward adopting Fintech services. Ease of use describes the extent to which people believe that digital payments do not require significant effort and that the process involved in using them provides convenience. Forms of ease of use include easy and convenient to use, easy to learn, and not taking long to make digital payments; the digital payment process feels easy and rarely experiences obstacles. Digital payment transactions are also easier to monitor and flexible (Tumpal Manik, 2019). Implementing a digitalization system for financial services will facilitate payment transaction traffic and make it easier to access information through online transactions, where financial services are at the palm of your hand. Digital payment transactions are relatively easy and practical (Houston, 2020).

However, this study revealed that Perceived Ease of Use cannot directly influence Behavior Intention, where digital payments must be easy to use to encourage attitudes towards the use of digital payments, and only then can it increase the intention to use digital payments in urban communities in Indonesia. Hu et al. (2019) stated that at the beginning of using a service, the perception of ease often does not significantly impact adoption behavior because users are not used to using it. Most urban communities in Indonesia have only started to use digital payments in the last few years, so acceptance of the digitalization of new payments is needed to create behavioral intentions to use them.

Several studies have confirmed that Perceived Ease of Use indirectly affects Behavioral Intention through attitude. In research on digital banking in Indonesia, for example, Perceived Ease of Use was found to influence attitude, which subsequently shapes Behavioral intention (Chaveesuk et al., 2022; Nur & Joviando, 2021). Based on the outer loading values, PEOU5 under the indicator of User Friendly demonstrates the strongest contribution in reflecting the construct. The simplicity and clarity of the digital payment system or application interface serve as key factors in shaping the perception of Perceived Ease of Use. The more intuitive and easy-to-use an application is, the more likely users are to feel comfortable and be encouraged to adopt it in their daily transaction activities. Therefore, developers of digital payment applications need to consistently focus on maintaining a simple interface design, clear navigation, and non-confusing features in order to enhance user acceptance and ensure the sustainability of technology usage (Al-Emadi et al., 2021; Hu et al., 2019).

Attitude is known to influence behavioral intention significantly in urban communities in Indonesia. Attitude manifests as a response that can take the form of approval or disapproval of decisions made using digital payments. This finding is consistent with previous studies conducted by Hu et al. (2019), Alkhowaiter (2020), and Widowati & Khusaeni (2022). The significant results indicating a positive relationship indicate that the higher the public's acceptance of digital payments, the more the public's intention to transact using digital payments will increase. This relationship has been extensively documented,

with multiple empirical studies demonstrating that a favorable attitude toward digital payment systems is associated with a stronger intention to adopt them (Chaveesuk et al., 2022; Julia et al., 2024). Specifically, within the context of digital banking, a positive user attitude has been shown to enhance the intention to utilize such systems significantly. Based on the outer loading values, A2 under the indicator of Convenience provides the highest value in reflecting the attitude variable. Convenience plays a crucial role in shaping the attitude variable toward behavioral intention in adopting digital payments. It improves both perceived ease of use and perceived usefulness, which are key drivers of a positive attitude toward using digital payment systems. This positive attitude then has a significant impact on users' intention to adopt these systems. Nevertheless, it is important to complement convenience with strong trust and security measures to promote broad adoption and long-term use of digital payment technologies (Kim & Wang, 2024; Nida & Alfirdaus, 2024).

The rapid development of technology in supporting payment transactions in the digital era has made people start to be flooded with many products and services, and digital payments have become commonplace in users' daily experiences. This finding is consistent with previous studies conducted by Suryono (2019), which states that the development of digital payment methods is relatively fast. TAM, introduced by Davis (1985), explains individual acceptance of the use of digital payments. An efficient digital payment infrastructure can facilitate trade, services, and fund transfers and encourage economic interaction by reducing market costs (Ravikumar et al., 2019). It encourages individuals to use digital payments more than cash payments—the development of payment digitalization results in people's behavior shifting from conventional to digital transaction activities. Payment digitalization is a transformation of the development of electronic money offered to the public as a catalyst for economic development in the banking sector, in realizing an inclusive cashless society.

CONCLUSION

This research utilized a refined approach based on the Technology Acceptance Model (TAM) to identify what drives people to accept and use digital payment services. Digitalization of payments changes transactions from traditional cash to online and encourages people's behavior. The digital payment system is innovative and also involves technology. Transactions using digital payments are seen from the perspective of usefulness, such as increasing the efficiency and correctness of transaction processes, accelerating the process of executing a transaction, increasing transactions effectively and efficiently, and reducing transaction risks. The perception of usefulness is key in affecting the adoption of digital payments in Indonesian urban communities. A positive user attitude towards technology will increase user intentions in the future, and the ease of using digital payments can increase user intentions indirectly through attitudes of use. It is recommended that stakeholders highlight the usefulness of digital payments and consider the risks and assessments of the community in making digital payments.

The findings highlight the critical implications for digital payment systems, emphasizing the intertwined roles of perceived usefulness and ease of use in shaping user attitudes and behavior intentions. Although Perceived Usefulness (PU) does not directly shape Attitude, it still exerts a direct effect on Behavior Intention, suggesting that the

development of digital payment features should not focus solely on technical benefits. Users may recognize the value of the system, but the benefits alone are insufficient to foster a positive attitude. Therefore, clear communication of advantages, combined with an engaging and enjoyable user experience, is essential to make features more effective in influencing behavioral decisions and directly encouraging adoption.

At the same time, Perceived Ease of Use has been shown to significantly shape Attitude, even if it does not directly influence Behavior Intention. This condition underscores the importance of designing user-friendly and intuitive interfaces, as ease of use serves as a foundation for cultivating positive attitudes toward digital payments. Attitudes developed through seamless and straightforward user experiences then translate into stronger intentions to adopt the system. Consequently, digital payment providers should focus on strategies that simultaneously enhance perceived usefulness to drive direct adoption and improve ease of use to build supportive attitudes. By integrating these elements, such as Performance Improvement, easy to learn and user-friendly, providers can foster stable, sustainable, and long-term adoption while maximizing user satisfaction.

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