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Collaboration technology usage for decision in utilising e-wallet in the new normal society: evidence from Greater Jakarta, Indonesia

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Abstract: The analysis suggests a research conceptual model for determining the digital technology approach in the application of e-wallet financial technology by customers, particularly after COVID-19 in Indonesia. E-wallets, a critical digital technology within Fintech, collaborate with various industries, such as online transportation and e-commerce marketplaces to help companies in Indonesia meet customer needs despite government restrictions during the pandemic. This study's participants were millennials who use commonplace digital wallet applications in the urban area of Greater Jakarta. The findings show that all variables significantly impacted people's decisions to purchase digital wallet technology in the pre-new normal of the COVID-19 pandemic. The power of e-wallet digital applications linked to the internet, big data, smartphones, and secure and comfortable technology power has encouraged urban society to employ them. Finally, the digital wallet industry and other information urban ecosystems offer various business options for the post-era of COVID-19.

Keywords: credibility; decision; digital wallet; ease of use; subjective norms; usefulness; Indonesia.

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1 Introduction

There has been an increase in technology and the internet in world society, about 73.7% (Kemp, 2023). Based on our social survey, there was an increase in smartphone users' access to the internet, and reached 191.4 million users in 2022 (Kemp, 2022). Since the pandemic of COVID-19 had happened globally, including in Indonesia, urban society's shopping lifestyle has changed from traditional to online shopping (Suwantika et al., 2022). The Indonesian Government imposed several level restriction movements on society from March 2020 until January 2022. Within this time frame, the community is encouraged to use online payment to finalise online and offline purchases (Purba et al., 2021; Rendana, 2020). Online payment has become one of the methods, including bank transfers, scanning QR codes provided by the bank and electronic wallet (e-wallet) transactions (Foster, 2022).

An e-wallet is an electronic money storage application usually used by the urban community. The e-wallet application can be used to pay for various things, including games, music, parking, transportation tickets and purchased pay applications (Aktas and Duarte, 2022; Varma et al., 2022). In this country, multiple applications have provided e-wallet services, such as DANA, OVO, Go-Pay, Shopee Pay, Linkaja, Atome, and many other e-wallet applications. Nowadays, e-wallets have become daily scenes to be used by everyone (Gupta et al., 2023; Purba et al., 2020a). However, there is still great potential and opportunity for the growth of the e-wallet market (D'Acunto and Rossi, 2023). The use of Fintech in Indonesia has accelerated to more than 158.67 million users (Statista, 2022). This number has escalated from the previous year, and the predictive users until the end of 2023 will be around 178.96 million users (Mikhaylov et al., 2023; Statista, 2022).

The initial reason to start the research on electronic payment is that the pandemic has happened around the globe, especially in Indonesia. Many restrictions have been imposed by the government regulation about avoiding face-to-face transactions and limiting the touch of personal things, including money, to minimise virus transmissions (Odei-Appiah et al., 2022). Therefore, the pandemic has changed society's behaviour and habits, including millennials, in utilising online payment rather than traditional payment (Gheitarani et al., 2023; Samuel et al., 2022).

The millennial generation is well known for using online transactions through electronic payment methods, and in their daily life, they have utilised online transactions to fulfil their needs. The following reason is the availability of technology and applications for online transactions organised by some big operator companies, both the public and private sectors, where the application can be easily downloaded and utilised by society. Furthermore, many shops have implemented online payment methods using various platforms, including OVO, DANA, LinkAja, GoPay and Shopee Pay.

The Statista research development centre mentioned that GoPay is one of the most used e-wallets in Indonesia, with total users of around 245.24 million of the population or about 88% of the total residents in Indonesia. In contrast, DANA ranked as the top two e-wallet payments with total users of around 231.31 million of the population or about 83% of the total population in Indonesia (Statista, 2023). Moreover, an online platform that provides various benefits that attract millennial generations is DANA (Asian Banking of Finance, 2023). As an online platform, DANA will be utilised as an object of research. The advantages of DANA as an online e-wallet payment provide many benefits and features that can attract societies to use DANA. The users of DANA can transact

safely and efficiently. DANA provides all-in-one services, including sending money, buying smartphone credit, withdrawing money, paying bills, e-commerce payments, linking credit cards, and many other varieties of payments that can be used over DANA. The DANA application is linked through automatic teller machines (ATM Bersama) and BPJS Kesehatan. Therefore, the DANA application differs from other applications and provides flexible service.

Moreover, DANA has advanced systems and guaranteed security. DANA has advanced systems. The advanced system furnished a superior quality security system with 24-hour guards for all network systems. In addition, about guaranteed security, DANA guarantees complete security and a money-back guarantee. At the same time, DANA security precautions are provided by DANA (2023), including PIN, one-time password codes, dynamic QR codes, security systems, two-factor security, and facial recognition identification verification. DANA partnered with the store merchants to provide various cash back to the users. Recently, DANA has also implemented parking systems where societies can utilise DANA to pay parking fees (Yustara, 2023).

According to Hassan and Shukur (2019), the use of an e-wallet can replace the use of cash under the following conditions:

- 1 e-wallets must enable transactions without requiring the user to carry thick and heavy cash
- 2 e-wallets must decrease the number of calculations users must perform to speed up payments
- 3 e-wallets must improve security, lower the risk of theft, and ensure the anonymity of payments.

An e-wallet is an application described in this study about DANA. DANA is one of the digital wallet applications that have obtained permission from Bank Indonesia as a digital financial institution and a provider of electronic money and e-wallet services (Tan et al., 2019). The unique feature of DANA is the application's connection to the society and civil registration office via a smartphone device, which speeds up the account verification process.

There is a vital urgency to discuss DANA as an online payment e-wallet because there is a need to evaluate online transactions and learn and observe consumer behaviour who utilise online method payment transactions, specifically DANA. There are positive and negative progress and perceptions from society about online payment using DANA e-wallet as an online transaction technology ecosystem. There are many studies about online digital wallets such as GoPay and Shopee; however, just a few focused on online payment, especially for the DANA application in Indonesia. This investigation explored the connection of ease of use, usefulness, credibility, norm factors, and the decision to use Fintech of DANA. The pilot study of the research respondents is the users of Fintech in Jakarta, who adopted Fintech during the pandemic and post-pandemic. The broadening of online payment in Indonesia is highly affected by internet connections and online payment experience. It is essential to examine the customer experience and decision to use e-wallet payment as a competitive advantage. A discussion of the findings and an assessment of the relevant literature followed the study. The research then offers recommendations for further research and its findings, conclusions, limitations and work.

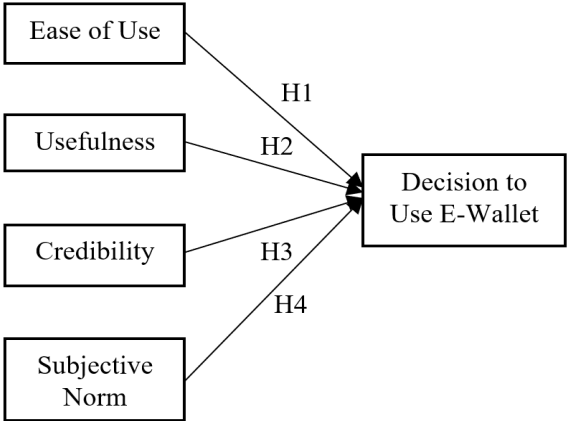
2 Literature review

2.1 Technology acceptance model

The study’s primary purpose is to forecast the aspects that impact society’s decision to use online digital payment, particularly for DANA. The background part discusses society’s decision to use digital payment e-wallets in favour of the DANA application. DANA application offers numerous advantages and conveniences to attract society. However, it is essential to recognise that online stores entail integrating technology, requiring society to adapt to a new technological payment method for finalising transactions over the internet.

Therefore, this study adopts the technology acceptance model (TAM), where the primary intention of TAM was to illuminate the mechanisms underlying technology acceptance, aiming to forecast behaviour and provide a theoretical rationale for the successful integration of technology (Marikyan et al., 2023). Davis (1989a) initiated the development of the TAM by outlining the processes that mediate the connection between external factors, information system characteristics, and the actual utilisation of systems (Kamboj et al., 2023). This model was constructed upon the theory of reasoned action, a psychological framework for comprehending human behaviour that was absent in the information system literature at that time (Davis, 1989b, 1993). The model was developed using past factual investigation on human behaviour and information system management; multi-item ratings for perceived ease of use and usefulness were developed (Adel, 2023; Wings and Harkonen, 2023). These scales were screened, trialled, and validated across numerous studies. It was hypothesised that these two constructs were fundamental drivers of user acceptance, consistent with evidence from previous research (Larsen et al., 2009; Payne, 1982). The research indicated that an individual’s decision to engage in behaviour results from evaluating the anticipated benefits against the effort or costs required for the behaviour (Payne, 1982). Consequently, the utilisation of an information system hinges on assessing the balance between its perceived usefulness and its perceived complexity (Bandura, 1999; Davis, 1989a).

Figure 1 Conceptual framework



TAM encompasses two key aspects. The first is usability, assessing how the new approach enhances performance. The second is ease of use, considering how readily users can adopt the new method (Davis, 1989a). Additionally, this research examines other variables influencing consumer decisions to use a digital wallet, specifically subjective norms, and credibility associated with online shopping. It is noteworthy that consumers' subjective norms significantly shape their decisions regarding the use of digital payment. The proposed model, depicted in Figure 1, presents a framework that explores the direct connections between usefulness, ease of use, credibility, and subjective norms towards the decision to use digital payment while shopping. Furthermore, this study delves into the direct correlation between attitudes and consumers' purchasing decisions within online stores.

2.2 Decision to use

Due to its simplicity of use and low cost, consumers are interested in digital payment technology. Consumers will first analyse the total service provided during their experience before selecting to use a product (Chin and Ahmad, 2015; Sarkam et al., 2022). Consumers will act in a particular way toward the product or service if the experience is enjoyable. So, in addition to ensuring that the product is of high quality, the supplier company must also consider how the product will make users happy and encourage them to utilise it.

Perceived enjoyment is an internal incentive that concentrates on consumption and reflects the pleasure and enjoyment connected to product utilisation. Perceived satisfaction is a significant and reliable factor in online purchasing decisions (Bergel et al., 2019). According to Kar (2021), consumer satisfaction must be considered when evaluating prospective uses of electronic payments to increase efficiency.

2.3 Ease of use

The TAM is a study framework used to examine and comprehend the variables affecting public acceptance of the usage of information technology (Davis, 1989b). The primary objective of TAM is to create a foundation for investigating how external influences affect computer users' beliefs, attitudes (personalisation) and goals (Davis, 1989b). Ease of use is included in this TAM model. Ease of use can be described as free of hassle to navigate the application (Bandura, 1999).

Ease of use is examined as the most effortless to utilise online mobile payment, such as the simple feature of an e-wallet application for the users to use to make a payment and access some information or services in the platform (Zeithaml, 2002). Additionally, some authors have highlighted the simplicity of use as a crucial aspect of service quality and information quality since it allows users to evaluate their behaviour before adopting an electronic payment method (Agrawal et al., 2021). Moreover, ease of use is broadly discussed as a readiness from society to adopt the technology or online service (Frick et al., 2021; Panday and Purba, 2015). At the same time, ease of use refers to the degree to which someone believes that utilising the technology will be free from difficulty (Aljukhadar and Senecal, 2015; Samuel et al., 2022).

Furthermore, ease of use for an e-commerce platform is the extent to which customers feel about how easy it is to do online shopping, receive online product information, and

make online payments over the phone (Han and Li, 2020). Additionally, the higher degree of ease of use of the online application escalates the customer's decision to use a digital wallet. In the meantime, when customers have a good experience and an easy-to-use e-wallet application, society will use the e-wallet application without concern (Wei et al., 2009). Therefore, creating ease of use for digital wallet application users is essential for e-commerce platforms to escalate their purpose to utilise digital wallet payments. According to the prior literature, we hypothesise as shown:

H1 Utilising an e-wallet correlates with the variable's ease of use.

2.4 *Usefulness*

Usefulness is how much a person believes utilising a specific technology would improve performance (Davis, 1989b). Usefulness is considered one of the decisive factors in shaping behaviour intention (Al-Maghrabi et al., 2011; Khuong et al., 2022). One of the scholars argues that user behaviour and intent to use can depend on the user's reliance on the usefulness of a specific system (Daragmeh et al., 2021; Venkatesh, 2000). Customers also expressed interest in utilising e-wallets if they felt beneficial (Hu et al., 2019; Palmié et al., 2020).

Prior studies showed that use affects the intention to use mobile payment (Gupta et al., 2023; Rahi et al., 2021; Rahi and Abd. Ghani, 2019). Furthermore, TAM and the theory of mental usefulness have a more significant effect on user attitude and customers' attitude to using mobile payment shaped by the effectiveness of services and satisfaction (Daragmeh et al., 2021; Purba et al., 2020b; Samuel et al., 2022; Morande and Vacchio, 2022). Rahi et al. (2021) mentioned that the most important factors influencing a customer's decision to use an e-wallet application are their utility and expectations for their online experience (He et al., 2018). Therefore, we hypothesise as shown:

H2 There is a connection between usefulness and choosing to use an e-wallet that is favourable.

2.5 *Credibility*

Credibility is a factor that reflects the security and privacy of users (Gao et al., 2015). Prior studies showed that customers are very concerned about the safety of their money in the bank (Gao et al., 2015; Qibtiyah et al., 2021). Gao et al. (2015) showed that privacy and security hurt relationships with trust and satisfaction. When society feels e-wallet service is highly credible, it will increase confidence and satisfaction (Masrek et al., 2018; Zhang et al., 2020).

Moreover, credibility is a behaviour in which a person believes that their transactions and information privacy are maintained securely, affecting their acceptance of a technological system (Wang et al., 2003). The similar opinion of Lee et al. (2023) about that is also the same. Credibility must be added because it has been empirically proven to affect user acceptance (Wang et al., 2003). Additionally, a customer's opinion of the privacy and security issues associated with using an e-wallet payment service can be used to define legitimacy (Wan and Che, 2004). Credibility can be classified into three parts: system security, transaction and legal (Mun et al., 2017). Digital e-wallet payment systems can be treated as personal when all transactions are competent to satisfy customers' needs and expectations about security (Wan and Che, 2004).

Some scholars pointed out that credibility influences customers' decision to use digital mobile payment (Crnjak-Karanović et al., 2023; Luarn and Lin, 2005). Moreover, their prior studies suggested that credibility has more control over customer decisions to use e-wallets from their smartphone (Mun et al., 2017). This type of issue is difficult to ignore in this research because of how strongly credibility affects usage decisions and internet technologies. The author developed the following hypotheses based on the study's findings:

- H3 There is a favourable effect between credibility and the decision to use a digital wallet variable.

2.6 Subjective norms

An individual's behavioural intentions/intentions are formed by attitude and subjective norms (Ham et al., 2015; Muller, 2022; Park, 2000; Yan et al., 2009). Subjective norms are the belief that a person or group will accept and encourage an unusual action (Mun et al., 2017). Subjective norm comes from the theory of reasoned action (Ajzen, 1991). This theory proposes that behavioural intention is a function of attitudes and subjective norms toward behaviour. Moreover, it suggests that a person's behaviour is anticipated by their attitude toward it and that others will judge a person based on how they behave in public.

Subjective norms are established by an individual's perception of external social pressure to behave in a particular way and their desire to submit to such pressures (Huang and Cheng, 2022; Turyahikayo et al., 2021). According to earlier studies, attitude generally had a more substantial impact on intention formation than subjective norms. Moreover, the prior research stated that the intention of people to start their firms is not connected with subjective criteria; as a result, the authors recommend additional research and improvements to the current metrics (Ham et al., 2015; Huang and Cheng, 2022). In addition, one possible explanation for the inconsistent significance of the subjective norm's variable is that some of its information is already available in the variable measuring how desirable it is to engage in a specific behaviour.

Continuously, subjective norms result from normative views and the desire to please significant others (Park, 2000). Ajzen (1991) added that individual characteristics, such as attitudes and perceived behavioural control, greatly influence intentions. Based on the prior findings, the following hypotheses:

- H4 The decision to use an e-wallet variable and the subjective norm has a positive relationship.

3 Methodology

3.1 Population and sample

The DANA is a digital wallet used for payments in Indonesia. The study's sample comprised persons who used a DANA e-wallet to make payments. A minimum age requirement of 17 years old, installation of the DANA e-wallet programme on a smartphone, and use of the application by respondents at least twice in the previous month are all requirements. The population in this study is the millennial generation and

Z generations because they are very familiar with and adaptive to the newest technology transactions (Gheitarani et al., 2023; Adirinekso et al., 2021; Putranto and Sartono, 2021).

The study was conducted in the Greater Jakarta Area. In addition, the study set the criteria for the respondents, including minimum age requirement, DANA application, frequency of use of DANA application, and utilisation of DANA for online payment. Next, purposive sampling is the method of choosing samples. Purposive sampling is a sample selection technique with predetermined criteria (Sugiyono, 2018). The sample was taken at least ten times the indicator items (Shmueli et al., 2019). Therefore, the minimal sample size for this study is ten multiplied by 25 indicator items or up to 250 respondents. The criteria of 458 respondents were used to collect the sample findings.

3.2 Data collections

Quantitative research uses a questionnaire with several written questions to collect data (Sekaran and Bougie, 2019). On this occasion, the researchers used the questionnaire using available digital technology. Google Forms technology is used to distribute the questionnaires. In Jakarta, Indonesia, questionnaire distribution occurred from September 2022 to January 2023. Likert scale responses ranged from strongly disapproving to strongly agreeing on a scale of one to five. The current research adopted the measurement of usability and usefulness from a previous study (Davis, 1989b; Kanojia and Lal, 2019). Next, credibility measurement for item indicators was adapted from a previous study on digital payment (Chaddha et al., 2021; Kanojia and Lal, 2019). Specifically, the measurement items of the subjective norm were adapted from Sun (2013) and Yang et al. (2007), and the measurements of the decision to use were adapted from Shetu et al. (2022) and Zhou (2011).

3.3 Data analysis

The AMOS programme is a tool for analysis that uses structural equation modelling (SEM) analysis approaches to analyse this study. A second-generation data tool called SEM is used to gauge the complexity of various buildings (Ghozali, 2017). SEM differs from traditional statistical methods (such as ANOVA, regressions and LOGIT). While SEM creates latent variables, abstract ideas that cannot be directly evaluated, traditional statistical methods can only analyse the connection between the paired observable variables. SEM also generates complicated causal linkages (hierarchical, recursive) between these variables (Hair et al., 2019; Shmueli et al., 2019). The result enables evaluation of the target. Due to this, the social sciences have recently begun to use SEM analysis techniques more frequently (Gefen et al., 2000; Ghozali, 2018).

3.4 Respondent characteristics

Table 1 describes the traits of the respondents who responded to this study's survey. Most respondents (32.51%) are between 17 and 25. Males make up the bulk of respondents (67.55%). Only about one-fourth of the responses are 26 years old. Most typically, respondents make their online digital payments with the DANA application. Many respondents reported using the relevant online e-wallet application once a month.

Restaurants receive 32.14% of the respondent's DANA e-wallet payments, with online e-commerce marketplaces receiving up to 25.98%.

Table 1 Respondent character

<i>Characteristics</i>	<i>Category</i>	<i>Percentage %</i>
Age	17–25	32.51%
	26–35	43.48%
	36–45	17.40%
	46–55	6.61%
Gender	Male	67.45%
	Female	32.55%
Most use of online e-wallet platforms	DANA	45.65%
	Go-Pay	24.83%
	ShopeePay	10.09%
	Ovo	15.66%
	LinkAja	3.77%
Frequency of using e-wallet per month	One time	47.28%
	Two times	25.31%
	Three times	13.69%
	More than three times	13.72%
Payment items	Food and beverages	20.43%
	Restaurant	32.14%
	Groceries	17.45%
	E-commerce marketplace	25.98%
	Other product	4.00%

In addition, the characteristics are consistent with the study. The study targeted generations of millennials and Z who were included in the survey, with a majority of 32.51% aged 17 and 25 years old. The other reason is that the respondents are utilising DANA as a digital wallet to make payments with 45.65% of the respondents.

4 Results and discussion

4.1 Reliability and validity analysis

Validity is a gauge of the accuracy of the data on a study's questionnaire object (Sekaran and Bougie, 2019). The instrument is considered legitimate if the loading factor amount is less than 0.50, which is used to run the validity test of each item in the questionnaire (Ghozali, 2018). Every item in the study's questionnaire was loaded adequately on each latent structure, according to standard factor loading, and the correlation between constructions ranged from 0.50 to 0.82. This output implies that all indications will be shown to be accurate and usable in subsequent testing.

Table 2 Reliability and validity findings

<i>Variable</i>	<i>Items</i>	<i>SFL</i>	<i>Error</i>	<i>Reliability</i>	<i>AVE</i>
Ease of use	EU1	0.650	0.422	0.863	0.500
	EU2	0.726	0.527		
	EU3	0.733	0.537		
	EU4	0.767	0.589		
	EU5	0.637	0.405		
	Total	3.513	2.480		
Usefulness	USE1	0.686	0.435	0.824	0.526
	USE2	0.807	0.517		
	USE3	0.734	0.538		
	USE4	0.786	0.518		
	USE5	0.648	0.423		
	Total	3.660	2.431		
Credibility	CRE1	0.698	0.487	0.947	0.500
	CRE2	0.741	0.549		
	CRE3	0.804	0.647		
	CRE4	0.617	0.38		
	CRE5	0.657	0.431		
	Total	3.517	2.494		
Subjective norm	SN1	0.658	0.433	0.726	0.500
	SN2	0.541	0.293		
	SN3	0.671	0.451		
	SN4	0.651	0.423		
	SN5	0.715	0.511		
	Total	3.236	2.111		
Decision to use	DU1	0.541	0.292	0.724	0.630
	DU2	0.691	0.478		
	DU3	0.713	0.509		
	DU4	0.738	0.544		
	DU5	0.573	0.329		
	Total	3.256	2.152		

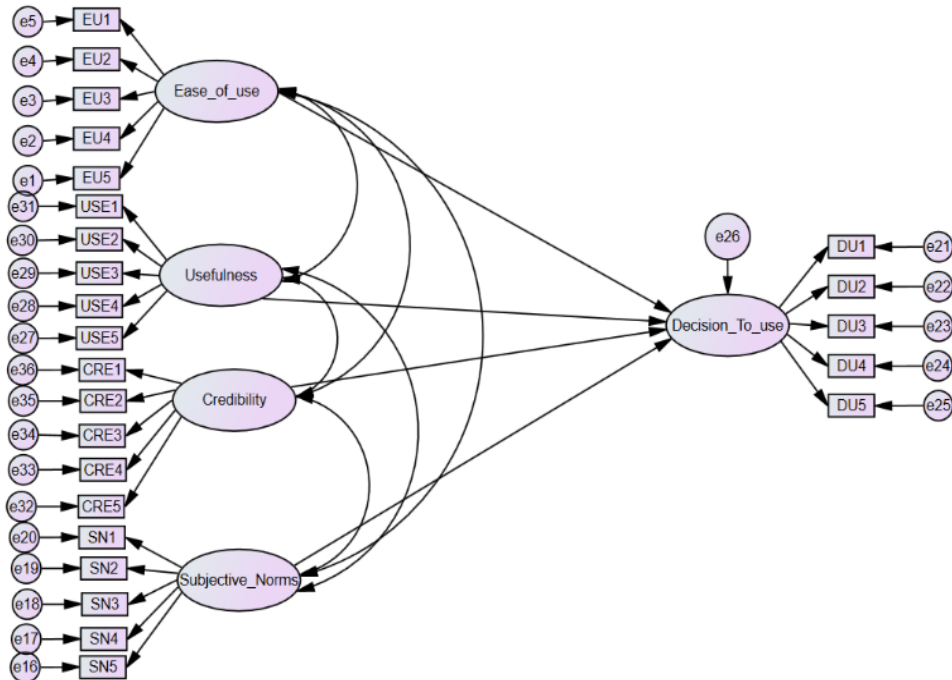
Note: SFL: standardised factors loading.

The reliability of each construct met the results where the value was higher than the rule of thumb figure of 0.70, according to the output of the reliability and variance extracted tests. The nominal average variance extracted (AVE) findings are above 0.50. In other words, the SEM model can be used to investigate the study's latent variables, which are trustworthy.

4.2 Test of model fit

A path diagram represents a model that demonstrates how each of its variables interacts with the others (Restianto et al., 2018). In order to make it simpler for researchers to see the causality linkages they want to examine, a graphical path provides more information about the proposed theoretical model (Kline, 2016; Shmueli et al., 2019; Sugiyono, 2018). Figure 2 illustrates how the path diagram evolved.

Figure 2 SEM model (see online version for colours)



The fundamental objective of SEM is to determine how well the model fits the data sample by evaluating the goodness of fit. The findings of model goodness of fit are shown in Table 3.

Table 3 Outputs of model goodness of fit analysis

<i>The goodness of fit guide</i>	<i>Rule of thumb</i>	<i>Value</i>	<i>Results</i>
Chi-square	$1 < \text{normed } \chi^2 \leq 2$ or $2 < \text{normed } \chi^2 \leq 3$	997.606	Acceptable fit
Probability chi-square	≤ 0.05	0.000	Acceptable fit
RMS	≤ 0.08	0.008	Acceptable fit
GFI	≥ 0.90	0.978	Acceptable fit
AGFA	≥ 0.90	0.930	Acceptable fit
TLI	≥ 0.95	0.954	Acceptable fit
CFI	≥ 0.95	0.916	Acceptable fit

The output of good of fit analysis on the structural equation model is shown in Table 3 based on that table. Therefore, hypothesis testing is possible. The output is examined for the critical ratio (CR) to perform hypothesis tests.

4.3 Hypothesis results

Table 4 displays the hypothesis results' value.

Table 4 Results of hypotheses value

<i>Hypothesis</i>	<i>Variable connection</i>	<i>Estimate value</i>	<i>SE</i>	<i>CR</i>	<i>P-value</i>	<i>Result</i>
H1	DU → EU	-0.185	0.049	-3.748	***	Accepted
H2	DU → USE	-0.140	0.042	-3.320	***	Accepted
H3	DU → CRE	0.354	0.111	3.201	0.001	Accepted
H4	DU → SN	0.360	0.117	3.086	0.002	Accepted

CR value of $-3.748 > 1.96$ and a p-value of $0.001 < 0.05$, usefulness negatively and significantly influenced users' decisions to use e-wallets. The ease of use has negatively and heavily influenced the decision to utilise an e-wallet. A CR value of $-3.748 > 1.96$ and a p-value of $0.001 < 0.05$ were derived from the data processing findings, indicating that the first hypothesis was accepted. The third supposition is thus approved, with a CR $3.201 > 1.96$ result and a p-value of $0.001 < 0.05$; credibility has a positive influence and is statistically significant. The fourth theory was approved, with a CR $3.086 > 1.96$ result and a p-value of $0.002 < 0.05$; subjective norms have a positive and significant impact. H4 is thus approved.

4.4 Discussion

Five indicators are utilised to measure the ease-of-use variable. The indicator for the user-friendly DANA e-wallet digital payment platform was judged to have the highest value. Additionally, it is well known that ease of use in the e-wallet payment service significantly impacts online shopping. Next, the result of this research variable, ease of use, has shown an effect on the decision to use digital e-wallet payment. This research needed to be more consistent with prior studies in South Korea about online classes, where ease of use does not influence the decision to use online education classes (Han and Sa, 2021). In addition, a study by Restianto et al. (2018) described that enjoyable ease of use does not influence digital payment in Indonesia.

Furthermore, other studies by Shin and Lee (2014) confirmed that the ease of use factor significantly affects the use of NFC mobile payments. Moreover, other scholars discussed that Mobile Suica payment had successfully penetrated the market in Japan. The decision to use Mobile Suica in Japan has been influenced by the ease of use, usefulness, facilitating conditions, attitude toward using, perceived value, security and privacy factors, social influence, trust, behavioural intention to use, perceived risk and attractiveness of alternatives (Amoroso and Magnier-Watanabe, 2012). The study outcome was consistent with the prior study despite a difference between culture and age range distribution. For example, current research has been done in Indonesia, with millennials as the majority of respondents; however, prior research was done in Japan, with respondents over 35–45 years old.

At the same time, the ease of use of the DANA digital payment significantly affects the decision to use the payment method. Nowadays, digital wallets' ease of use is a crucial requirement for both online and traditional stores; in the end, it does not give any unique value to society using digital wallets. Easiness of accessing a digital wallet does not make users automatically utilise it to make a payment because society is concerned about security issues (Sarkam et al., 2022). In mid-year 2022, there was news about thousands of customer data being hacked at one online platform in Indonesia; this situation affected responses when users filled in the survey (Protego, 2022). Therefore, the results of the first hypothesis showed a negative effect.

According to respondent assessments of the user variable, the measurement of increased productivity has the highest value. There are still many respondents who feel digital payment has raised their productivity. Consistently, in this research, the outcome of questionnaire data displayed that the user variable has influenced customers' decision to use electronic digital wallet payment. According to Liu et al. (2022), usefulness does not affect e-payment decisions in Taiwan. These prior findings are inconsistent with the present study that the user does not influence using e-wallet payment. Even though the research was done in a different country, the results contradict each other. The respondents have different characteristics in age range. In Jakarta, they are between 21 and 35 years old; in Taiwan, respondents are dominantly 45–54 years old; most occupations are business professionals, while in Jakarta, they are university students.

In contrast, a prior study supported the current results, and the user has impacted the use of e-payment in the Jordanian hotel industry (Rawashdeh et al., 2021). Jordanian and Indonesia are continuously located on different continents; however, according to Hofstede (2016), Jordanian and Indonesia have similar characteristics; both countries avoid uncertainty, are collectivistic, and are more feminine. Instantly, usefulness will affect the decision to use depending on services, where customers access from a smartphone device or the web. Other factors, including trust, security, and privacy, significantly impact the decision to use an e-wallet payment service (Hanafi and Toolib, 2020).

Furthermore, the usefulness of the DANA digital payment influences the decision to make online payments. Indeed, the DANA digital wallet provides many benefits for users. However, users assume usefulness one of the digital wallets must have multiple functions to support other transactions, not only to pay online transactions but can be used widely (Gupta et al., 2023). Thus, usefulness could lead to some decisions to use digital wallets simultaneously (Khuong et al., 2022). Continuedly, the effect of the results has shown a negative effect. Therefore, there is a need to determine what could be the leading cause of societies to adopt digital wallet payment because they are aware of the valuable benefit that digital wallets bring into their daily life.

Five indications are used to determine if participants believe that confidence in e-wallet payment is crucial in the credibility variable that influences digital technology transactions (Nguyen et al., 2022). This factor has an appreciable influence on choosing an online payment system. The result is research by Xiao et al. (2019), which discussed that credibility associated with trustees to the information provided by the company would increase intention to use digital e-payment, in addition to customers expanding the company's brand image. In addition, the outcome of the current study is supported by a previous study, where credibility has a favourable effect on the use of e-payment in India (Chaddha et al., 2021). The prior research showed that celebrity credibility had

influenced society to use e-payment. Furthermore, a previous study aligns with the current study, where credibility has impacted the community to use digital payment affected by attitude and behaviour (Kanojia and Lal, 2019). The total number of respondents in the prior study was 414 responses, dominantly female and aged around 54.5 % by 25–50 years old.

Regarding the subjective norm variable, participant evaluation places a high value on measuring how many individuals who influence their decisions think should use the system indication. Many still occasionally question whether someone believes it will affect their behaviour in deciding to use digital online payment. According to recent studies, survey data showed that customers' decisions to use digital wallet payments were typically affected by subjective norms. Venkatesh et al. (2003) found that subjective norms will not influence the behaviour of using technology, especially for men. On the contrary, subjective norms impacted women's use of technology. Current research finds a coincidental relationship between subjective criteria and the decision to use digital payment (Azman Ong et al., 2023; Zhu et al., 2023). It is because of the different characteristics of the respondents, other countries of origin (the USA and Indonesia), and the age range of respondents.

The findings from four hypotheses have shown a significant impact on the decision of digital wallet payment users for both online shopping and traditional shopping in Indonesia, especially in Greater Jakarta during the post-pandemic. In deciding to use the e-wallet payment variable, they intend to use e-wallet payment to manage payment information in the future indicator with a high-rank value when taking measurements. The variable decision to use has also been shown to significantly impact satisfaction and future purchase intention. The result is consistent with Zeithaml et al. (2017) findings that using e-wallets in the future influences satisfaction when shopping online. Recently, the decision to use digital wallets was affected by behaviour and attitude intention to use the e-wallet platform payment (Ming and Jais, 2022; Świecka et al., 2021). Customers will pay close attention to DANA e-wallet payment features and promotion activities provided by the firms before deciding whether to utilise e-wallet payment in high demand in the intended e-commerce.

5 Conclusions

In conclusions, this study evaluates the ease of use, usefulness, credibility, subjective norms and decision to use. This analysis examines how these factors may impact customers' decisions to adopt electronic digital wallets in urban society. Online questionnaires were used during the pilot project. Questionnaires were distributed and gathered in the Indonesian market based on sampling strategies. Only 458 of the 500 participants who completed the questionnaires' findings can be used as a sample for this study. As a result of the pilot study, it was determined that four hypotheses had a substantial impact on people's decisions to use digital wallets in urban society. The study established that the ease of use, usefulness, credibility, and subjective norms of everyone influenced the decision to use an electronic digital wallet.

Additionally, service providers who created electronic digital wallets should adapt them to the constantly shifting global demand and behaviour. The investigation was restricted to urban millennial generations. To determine whether e-wallet payment application is preferred in Indonesia, an additional study is anticipated to compare digital

wallet interests on online purchasing platforms. Furthermore, research on supplier satisfaction can be conducted for the owners of each e-wallet application when they work with their chosen e-wallet payment platform.

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