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Article

A study intention, implementation and adoption of e-wallet in Indonesia

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Abstract: Using the unified theory of acceptance and use of technology (UTAUT), this study investigated the effect of perceived usefulness, perceived ease of use, social influence, facilitating condition, lifestyle compatibility, and perceived trust on both the intention to use and adoption of an e-wallet among adults. This quantitative study employed a cross-sectional research technique to collect data from 501 respondents via Google Form. The acquired data was assessed using partial least squares structural equation modelling (PLS-SEM). Therefore, perceived usefulness, perceived simplicity of use, social influence, lifestyle compatibility, and perceived trust all had a strong positive impact on both intentions to use and adoption of an e-wallet. This study demonstrated that the intention to use an e-wallet mediated the links between predictors and e-wallet adoption. Respondents' age and gender moderated the effect of lifestyle compatibility on their intention to use an e-wallet. The study's findings can assist managers and policymakers establish successful ways that capture customers' intention to use and experience with employing an e-wallet amid a tumultuous market. Finally, such well-crafted policies may stimulate the digital platform and web-based apps, as well as raise e-wallet acceptance rates in undeveloped countries.

Keywords: perceived usefulness; perceived ease of use; social influence; facilitating condition; compatibility; perceived trust; intention; adoption; e-wallet

1. Introduction

The growth of e-commerce is a global phenomenon affecting poor countries. Nonetheless, its development has not exceeded all expectations, as major discrepancies between online and offline e-commerce purchases remain. Data-based transmission and electricity are critical support systems for improving the security of personal data used in e-commerce. According to Bibri (Abdekhoda et al., 2023), blockchain technologies could be useful in providing secure databases and securing data distribution. Smart technology networks and internet-based operation devices are required to investigate e-commerce with specialized capabilities, especially when the gadget is embedded in society to capture consumers' intentions. Cashless payment via digital systems, a recent e-commerce deployment, is a smart payment alternative used in some developing nations to acquire a sustained competitive advantage (Afolabi et al., 2021). Consumption and consumer behavior are critical in communities, especially during the coronavirus disease 19 (COVID-19) outbreak in 2020 (Faeni et al., 2023). Digitalization has been a primary driver of consumer behavior, resulting in new ways of life.

Electronic payment has become increasingly trustworthy as online services have grown in popularity, as have the number of suppliers and delivery networks available (Veettil et al., 2021). The rise of digitalization via the Internet has expedited the

transition of globalization and payment systems from paper to electronic transactions. As a result, transactions have become increasingly dependent on electronic money (e-money). To date, digital wallets and internet transactions have addressed concerns such as cash management and long-distance transactions. Furthermore, e-wallets can be recharged with money from another comparable device using any means of transaction (Mutambik et al., 2023).

The use of e-wallets (AEW) is related with digital currency by utilizing internet banking, debit or credit cards, and a variety of other payment platforms to improve the point of sale anytime and anywhere. Furthermore, e-wallets ease purchasing and selling transactions by utilizing smartphone apps, allowing for quick and easy online shopping. Despite these advantages, e-wallets entail security issues, need device charging, and may lead to impulsive spending (Alshami et al., 2022). This study looked into the elements that influenced Indonesian youth's intention to use and adoption of e-wallets. Previous research has investigated perceived usefulness, adoption of digitalization to perceived usage (Fan et al., 2021), social influence (Firdausa and Wahyudi, 2022), facilitating condition (Bisnis Fintech Tumbuh Pesat, 2019), lifestyle compatibility (Liu et al., 2021), Perceived trust (Calvo-Porral and Otero-Prada, 2020), and intent to adopt an e-wallet (Hwa, 2021). In this regard, the unified theory of acceptance and use of technology (UTAUT) was developed as the first conceptual model for evaluating various technology adoptions (Hwa, 2021). The UTAUT is an important theory for understanding an organization's behavior and intention to use technology. As a result, it is important to investigate the causes of e-wallet usage during this outbreak, as well as to predict customers' attitudes about utilizing the Internet during unpredictable economic upheavals.

Context of the adoption of e-wallets in Indonesia

From 2013 to 2020, Indonesia's Internet expansion drove e-commerce. E-commerce consumers in Indonesia grew from 34% of the total population in 2015 to 53% by 2020 (Ryu and Ko, 2020). Indonesian customers are very open to innovative items in the digital economy sector. The market for fintech goods in Indonesia has grown steadily, as indicated by increases in transaction value and the number of start-ups (Cosmo et al., 2021). According to recent data, digital payment transactions have increased over the last three years, reaching Rp 56 trillion in 2019, Rp 47 trillion in 2018, and Rp 12 trillion in 2017 (Kar, 2021).

E-money or e-wallet payments are the most common type of fintech service in Indonesia, followed by web-based investing and pay-later services. E-money transactions in the Indonesian retail industry increased by 173% in January 2020 over the previous year, owing to the rapid adoption of a cashless environment. Surprisingly, e-money transactions totaling Rp 15.8 trillion in January 2020 alone (Afolabi et al., 2021). Retail (28%), online transportation (27%), restaurant orders (20%), e-commerce (15%), and bill payments (7%) are the industries with the most digital transactions in Indonesia (Delone and McLean, 2003).

According to the 2019 World Payment Report, the number of digital users in Indonesia increased from 64 million to 102 million between 2017 and 2018, accounting for nearly half of the total population. The increasing number of digital

consumers is expected to boost online retail transactions by 3.7 times, from USD 13.1 billion in 2017 to USD 48.3 billion in 2025. From 2017 to 2019, the top four e-wallet platforms in Indonesia in terms of active users were Go-Pay, OVO, DANA, and Linkaja. OVO's consistent growth can be attributed to its partnerships with Grab, Southeast Asia's largest taxi hailing service, and Tokopedia, the main player in Indonesia's online e-commerce sector.

Next, DANA, which was introduced in 2018, increased its popularity and replaced Linkaja in third place in the second quarter of 2019. Meanwhile, Linkaja already has an advantageous position because it has integrated payment services provided by state-owned banks—Telkomsel's T-Cash (Flavián et al., 2020). This demonstrates Indonesia's enormous potential for employing e-wallets as a smart payment method for local and international transactions in the future.

Constraints of e-wallet in Indonesia are Financial Inclusion and Regulatory Obstacles: E-money has surfaced as a viable alternative to improve financial inclusion in Indonesia. Nonetheless, considerable obstacles remain. A significant segment of the population lacks access to conventional banking services, impeding widespread adoption. Secondly, regulatory constraints—such as transaction and balance limitations—can hinder the expansion of e-money platforms. Moreover, limits on foreign ownership may hinder access to expertise and investment. Surmounting these obstacles necessitates cooperation among regulators, financial institutions, and electronic money providers.

Furthermore, User Behaviour and Security Concerns: Altering user behaviour is essential. Notwithstanding the convenience of electronic currency, numerous Indonesians continue to favour cash transactions owing to familiarity and perceived security. Establishing trust in digital payment systems is crucial. Furthermore, stringent security protocols are essential to safeguard users from fraud and cyber threats. The viability of e-money adoption in Indonesia will hinge on addressing infrastructure deficiencies, cultural norms, and security issues.

2. Literature review

Theoretical Framework Ajzen's theory of planned behavior (Zhou and Liu, 2023) has been extensively employed to examine individual adoption of information technologies. This hypothesis posits that attitudes, social influence, and perceived behavioural control can accurately forecast intentions to participate in activities based on diverse customer perspectives. Venkatesh et al. (2024) expanded the theory of planned behaviour to the UTAUT framework, highlighting the essential elements and conditions in predicting the intention to adopt technology, especially from the customers' viewpoint. The four essential UTAUT constructs that influence an individual's desire to utilize technology are performance expectancy, effort expectancy, social influence, and facilitating conditions.

Performance expectancy is defined as the degree to which the utilization of a technology aids customers in accomplishing particular tasks. Effort expectancy denotes the simplicity with which individuals utilize technology. Social influence pertains to the extent to which consumers perceive that significant individual in their lives, such as family and friends, advocate for the adoption of a particular technology.

Ultimately, facilitating conditions denote customers' perceptions of the resources and support accessible to execute the intended action (Faeni, 2024). UTAUT posits that performance expectancy, effort expectancy, and social influence affect the behavioural intention to adopt a technology, whereas behavioural intention and facilitating conditions dictate its actual usage. This concept considers individual variances, including age, gender, and experience, in determining the utilization of technology.

Extensive studies on consumer adoption of information and communication technology (ICT) within the framework of the Fourth Industrial Revolution (IR 4.0), encompassing e-wallets, internet banking, mobile phones, and virtual technology for online purchasing intentions, have employed this concept (Faeni, 2024; Faeni et al., 2023). Concurrently, Firdausa and Wahyudi (2022) asserted that UTAUT facilitates the identification of the diverse factors that affect user acceptance of new technology. This study investigated various dimensions of consumer intention to use e-wallets, considering customer intention as a mediating variable influenced by age, gender, and education, within the framework of UTAUT.

In the current era of IR 4.0, cash spending will eventually be surpassed by e-wallets, which have emerged as the preferred method of payment in this digital century. Because of its convenience and usability, the digital market has quickly become the standard for online payment (Flavián et al., 2020). Because of this, e-wallet providers need to be aware of how crucial it is to assess how consumers feel about e-wallets in order to influence behavioral outcomes like intention, retention, and loyalty to make additional purchases. Additionally, e-wallets provide a simple way to store electronic money and execute online transactions. Mo et al. (2023) claimed that the UTAUT was started because an individual's attitude toward ICT use can directly impact their intention to utilize technology, which can then impact their actual use of IT.

For example, Chua et al. (2024) suggested several antecedents, such as perceived social impact, perceived usefulness, perceived ease of use, perceived trust, and personal innovativeness, to examine the adoption of e-wallets.

When Faeni et al. (2023) investigated the underlying elements influencing management students' intention to use e-wallets, they found that behavioral intention to use mobile banking services was influenced by perceived usefulness, perceived ease of use, social influence, and trust tendency. In order to enhance consumers' intention to adopt e-wallets, e-commerce providers should take into account internal factors such as perceived usefulness, perceived ease of use, and perceived trust, as well as external factors like social influence, facilitating conditions, and lifestyle compatibility (Faeni et al., 2023). In order to ascertain consumers' intention to adopt an e-wallet, while being moderated by age, gender, and education, the current study looked at perceived usefulness, perceived ease of use, social influence, facilitating condition, lifestyle Sustainability 2021, 13.831 of 18 compatibility, and perceived trust.

Factors affecting intention to use e-wallet

Sensational Utility is the idea that utilizing the technology will enhance work performance is known as Perceived Usefulness, or PU (Zhou and Liu, 2023). It basically explains the user's cognitive expectations regarding the functionality of the

technology. Because of this, users think that utilizing such a system will help them achieve their lifestyle and financial goals in addition to making a variety of transactions more efficient. Furthermore, PU has been demonstrated to have a favorable impact on the intention to employ electronic payments in ambiguous circumstances (Hair et al., 2019). To ensure that users enjoy using e-wallets as an alternative payment method, particularly to stop the spread of COVID-19, this usefulness may include other services. According to earlier research, perceived usefulness is a highly reliable indicator of consumers' intention to behave (Wang and Choi, 2022).

The digital infrastructure strengthens the impact of the system's perceived utility on technology adoption by supporting the information delivery system. In light of this, the following theory is put forth: First hypothesis (H1). The intention of adults to utilize e-wallets is significantly positively impacted by perceived utility. 2.2.2. Effortless Experience Perceived ease of use is a key factor in determining a user's attitude and behavior, including their intention to adopt and utilize a technology (Hepola et al., 2020). It has been demonstrated that a key factor influencing consumers' purchase intentions is perceived ease of use, or PE.

The perceived ease of use of e-wallets by a consumer may be influenced by their previous purchasing experiences. Many users of the e-wallet software reported finding it to be simple to use (Hsu and Chen, 2016). The ease with which technology may be used to browse a website and make purchases online is reflected in perceived ease of use (Jiao et al., 2021). For online users, using technology is more profitable; put another way, when a technology is used more easily, customers would choose it as their preferred means of payment when conducting transactions. Thus, the following conjecture is put forth: Second hypothesis (H2). Adults' inclination to use e-wallets is strongly positively impacted by perceived ease of usage. 2.2.3. In order to gauge consumers' inclination to use mobile payments, Social Influence (SI) has been considerably developed (Kar, 2021).

Family, friends, coworkers, and neighbors are possible influencers for customers to use AEW (Pahlevi, 2022). SI stands for the impact of external elements that persuade customers to buy or sell new goods (Liu et al., 2021). Similarly, Smith (2020) observed that social influence changed everyone's perspective on the use of new innovative products through technological services, while Kato (2021) found that social influence had an impact on online users' intention to use Internet services. The impact of social and subjective norms on behavior intention to use e-money in UTAUT is a source of social influence (SI). On the basis of the illustration above, the following theory is put forth: Third Hypothesis (H3).

Adults' intentions to utilize e-wallets are significantly positively impacted by social influence. 2.2.4. Conducive Environments The technical infrastructure and elements that support mobile banking, such as customer resources and capability or instruction on how to utilize mobile banking, are known as facilitating conditions (FC) (Hepola et al., 2020). Facilitating settings had a considerably beneficial impact on consumers' propensity to acquire a product, according to Li and Shang (2020). Following their satisfaction with the simplicity with which they can make payments and conduct transactions thanks to the facilities offered by service providers, customers are likely to stick with Sustainability 2021, 13.831 of 18.

According to Hwa (2022), enabling conditions let users use the e-learning system creatively, making them smarter and constantly updating new menus in the app. Furthermore, Fan et al. (2021) verified that favorable settings had an impact on the technology-assisted knowledge-sharing behavior in this digital age. These results highlight the fact that when supportive environments are present, users frequently engage in virtual communities. Consequently, the following theory is put forth by this study:

Privacy concerns play a role in application use so they must be considered carefully because they can influence adoption and use FinTech (Alshami et al., 2022). E-Wallet companies must be supported by excellent Privacy in the transaction process so that they can increase the adoption and use FinTech (Hwa, 2022). Understanding privacy influences users to adopt and use FinTech (Flavián et al., 2020). Research results (Hwa, 2022; Peng and Dutta, 2022; Zhou and Liu, 2023) show that privacy concerns have a positive influence and significant impact on adoption and use of FinTech.

H1: Privacy concerns have a positive and substantial influence on the adoption and use of FinTech on E-Wallets in Indonesia.

According to Kar (2021), it is explained that quality content information is based on three important indicators, namely accuracy, completeness, and consistency. Research by Ryu and Ko (2020) stated that accurate, complete, and consistent content information in the E-Wallet Platform will influence the adoption and use of FinTech. Content information is a hardware and software design to store E-Wallet user database information. Content information is also considered very important in the success of each transaction (Wang and Choi, 2022). Research results (Kar, 2021; Ryu and Ko, 2020; Shahzad et al., 2021; Wang and Choi, 2022) shows that content information has a positive and substantial influence on adoption and use FinTech.

H2: Content information has a positive and substantial influence on the adoption and use of FinTech on E-Wallets in Indonesia.

Functional value reliability reflects the tradeoffs with benefits that influence FinTech adoption and use (Kato, 2021). Functional value reliability is an influencing factor in the adoption and use FinTech (Hwa, 2022). Research results (Firdausa and Wahyudi, 2022; Flavián et al., 2020; Jiao et al., 2021; Li and Shang, 2020; Liu et al., 2021; Wang and Choi, 2022; Xie et al., 2021) shows that functional value reliability has a positive and significant influence on the adoption and use FinTech.

H3: Functional value reliability has a positive and substantial influence on the adoption and use of FinTech in E-Wallets in Indonesia.

Users decide whether to continue to increase privacy concerns by assessing the functional value reliability of the services they use (Zhou and Liu, 2023). The E-Wallet Platform must be able to provide good protection and all customer personal information must be stored in a secure database so that the E-Wallet Platform has functional value reliability (Hepola et al., 2020). Ryu and Ko (2020) suggests that companies must ensure that user privacy is maintained. E-Wallet service companies that can maintain the privacy of their users will have the functional value reliability on the E-Wallet platform.

H4: Privacy concern has a positive and substantial influence on the functional value reliability of E-Wallets in Indonesia.

E-Wallet services can create information content regarding semantic instruments that measure relevance and accuracy so that these services can have functional value reliability for users (Wang and Choi, 2022). Content information includes measures of information system output, namely the quality of content information offered by a system so that supporting content information can influence of functional value reliability (Firdausa and Wahyudi, 2022).

H5: Content information has a positive and substantial influence on the functional value reliability of E-Wallets in Indonesia.

To inspire visitors' interest in adoption and use the E-Wallet application, E-Wallet platform service companies need to ensure privacy so that it is not misused. Hwa (2022) suggests that companies must ensure that all users' privacy is maintained. E-Wallets that can maintain the privacy of their users can have the functional value reliability. According to Liu et al. (2021), functional value reliability is a rational user assessment because value is linked to service function and efficiency for users. According to Kato (2021), the of functional value reliability is directly related to the function provided by the service to users, so E-Wallet companies that maintain user privacy will have good functional value reliability so that E-Wallet users have trust in the E-Wallet company. E-Wallet then adoption and use FinTech the E-Wallet application (Li and Shang, 2020).

H6: Privacy concerns have a positive and significant impact on the adoption and use FinTech through functional value reliability of E-Wallets in Indonesia.

Content Information generates semantic instruments with relevance, correctness, timeliness, aggregation, and format metrics (Wang and Choi, 2022). The perceived benefit obtained by the alternative capability for functional, useful, or physical performance is defined by Kar (2021) as functional value reliability. Adoption indicates if users intend to utilize the technology (Shahzad et al., 2021). Content information will have the usefulness of functional value reliability, which will have a direct effect on E-Wallet application adoption and use (Wang and Choi, 2022).

H7: Content information has a positive and significant impact on the adoption and use of FinTech through of the functional value reliability of E-Wallets in Indonesia.

3. Methodology

This is a causal research study, and the data was collected using survey methods and observation methods on E-Wallet objects (Malhotra and Kaur, 2024). The questionnaire was given online via Google Forms to everyone who had downloaded and used the E-Wallet application. (Gopay, Dana, OVO, Shopee pay, and Linkaja) in Northern Sumatra, Indonesia. The sampling technique was carried out using the Snowball Sampling Technique, namely the researcher sent questionnaires to 5 initial respondents, and then these respondents were asked to send links to 5 potential respondents who according to them had adopted and used E-Wallet and so on. The data collection period begins in May and ends in August. This study had 420 respondents at the end of the data-gathering period. A Structural Equation Model (SEM) is employed in the analysis to answer hypothesis testing. Analysis of the data obtained in this research will use the help of computer technology, namely Partial least squares (PLS) and Statistical Package for the Social Sciences (SPSS).

The results of respondent characteristics show that female respondents dominate, namely 51.9%, while men are 48.1%. The generation of respondents who use e-wallets is 70% consisting of Generation Z (aged < 24 years) and 30% Generation Y (aged 25–40 years). Based on the respondents' occupations, 37.6% were private employees, 15.5% were entrepreneurs, and so on. The e-wallets used by respondents are Dana (64%), Shopeepay 60%, Gopay (44%), Ovo (38.8%), and Just Link (29.3%). Respondents got information about E-Wallets as much as 68.3% from electronic media, 31% from friends' recommendations, and 0.7% from print media. The results of respondents' answers to the purpose of using E-Wallet were transfer facilities (71.4%), credit purchases (61%), culinary payments (56.2%), fashion purchases (56%), ticket purchases (27.1%) and bill payments (23.6%). **Figure 1** shows the conceptual framework used in this study.

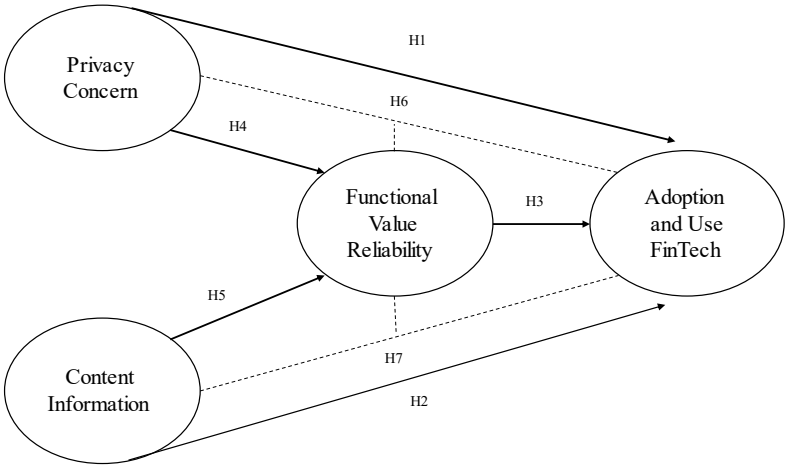

Figure 1. Conceptual framework.

3.1. Construct research instruments and measurements

The questionnaire was graded on a five-point Likert scale, with 1 being strongly disagree and 5 being strongly agree. Privacy concern was measured using 3 statement items (Alshami et al., 2022; Cosmo et al., 2021; Hwa, 2022; Peng and Dutta, 2022; Velicia-Martin et al., 2021). Content information 5 statement items (Kar, 2021; Ryu and Ko, 2020; Shahzad et al., 2021; Wang and Choi, 2022). Functional value reliability 9 item statement (Jiao et al., 2021; Kar, 2021; Li and Shang, 2020; Liu et al., 2021; Wang and Choi, 2022; Xie et al., 2021; Zang et al., 2022). Adoption and use FinTech 3 item statement (Calvo-Porral and Otero-Prada, 2020; Flavián et al., 2020; Smith, 2020). Before conducting the survey, a pilot study was carried out on 30 respondents from the population to test the validity and reliability of the research instrument.

3.2. Data analysis

In this study, the PLS-SEM analysis approach is employed since it is a full multivariate statistical analysis strategy that can evaluate every interaction between variables in the conceptual framework, including measurements and structural aspects, at the same time (Hair et al., 2024). The Smart PLS 3.2.9 program is also included in this investigation. A two-step technique, based on the literature on PLS-SEM analysis,

was adopted, namely assessing the measurement model and the structural model (Hair et al., 2024). The validity and reliability of the reflective construct were evaluated for the measurement model, while the path coefficients were evaluated for the structural model (Hair et al., 2024). After that, IPMA is used to identify the performance of each independent construct as well as which constructions are highly relevant to the target construct (dependent constructs) (Hauff et al., 2024).

4. Findings

4.1. Measurements model

When assessing the measurement model, first, carry out validity and reliability testing for each construct. Validity is achieved if the indicators of a particular variable group into one component with a Cronbach's Alpha ($CA > 0.7$), Dijkstra–Henseler's rho ($\rho A > 0.7$) value (Hair et al., 2024). A questionnaire has reliability if it has a Composite Reliability value ($CR > 0.7$) and Average Variance Extracted ($AVE > 0.5$) (Hair et al., 2024). The results of the validity and reliability tests are shown in **Table 1**.

Table 1. Validity and reliability test.

Indicator	**Loading Factor**	**Cronbach' Alpha**	**Dijkstra–Henseler's rho (ρA)**	***CR***	***AVE***
Privacy Concern		0.748	0.775	0.857	0.668
Digital wallets protect personal data when system errors occur	0.705				
My account can be used for other transactions as appropriate	0.881				
Digital wallets process every transaction carefully	0.854				
Content Information		0.873	0.877	0.909	0.666
The information content available is according to user needs	0.781				
The information content available is actionable	0.76				
The language in the information content is easy to understand	0.802				
The available information content is consistent in providing benefits	0.876				
Information content always follows developments in information technology	0.854				
Functional Value Reliability		0.932	0.94	0.944	0.653
Digital wallets are able to process every transaction quickly	0.714				
Digital wallets have proof of valid transaction history	0.904				
Digital wallets can be trusted in transactions	0.802				
Digital wallets can help make the transaction process more practical	0.811				
Digital wallets make transactions possible anywhere	0.69				
Digital wallets are a lifestyle today	0.779				
Digital wallets can accommodate all types of transactions	0.839				
Digital wallets provide benefits in transactions	0.931				
Digital wallets provide satisfaction in transactions	0.776				

Table 1. (*Continued*).

Indicator	Loading Factor	Cronbach' Alpha	Dijkstra–Henseler's rho (ρA)	*CR*	*AVE*
Adoption and Use FinTech		0.778	0.783	0.781	0.693
I'm using a digital wallet in the future	0.805				
I tell other people positive things about the benefits of digital wallets	0.875				
I convince others to use digital wallets	0.816				

The content information variable, which relates to the research variable, is related to the material's relevance for E-Wallet application users. In general, Cronbach's Alpha shows that the final measurement model fits the criteria for external model validity and reliability. ($CA > 0.7$), Dijkstra-Henseler's rho ($\rho A > 0.7$), Composite Reliability ($CR > 0.7$), and Average Variance Extracted ($AVE > 0.5$). To strengthen the validity of the model, an evaluation was carried out based on (Malhotra and Kaur, 2024).

Following the analysis of reliability, convergent validity was examined using the extracted average variance (*AVE*), which should be larger than 0.5 (Malhotra and Kaur, 2024). The Fornell-Larcker criteria are used to do discriminant validity analysis. The square root of each *AVE* construct score must be bigger than the construct's association with other latent variables (Malhotra and Kaur, 2024). **Table 2** shows the findings of the Fornell-Larcker Criteria and HTMT study.

Table 2. Fornell-Larcker criterion and HTMT analysis.

		Adoption and Use Fintech	Content Information	Functional Value Reliability	Privacy Concern
Fornel-Larcker Criterion	Adoption and Use FinTech	0.833			
	Content Information	0.463	0.816		
	Functional Value Reliability	0.522	0.708	0.808	
	Privacy Concern	0.358	0.622	0.636	0.817
Heterotrait-monotrait (HTMT) Ratio	Adoption and Use FinTech				
	Content Information	0.600			
	Functional Value Reliability	0.611	0.789		
	Privacy Concern	0.476	0.796	0.742	

Table 2 shows that the measurement model (outer model) has met the criteria for good validity and reliability, where the diagonal value (*AVE* root) of each variable has a value that is stronger than the correlation between these variables. In addition, the HTMT levels were all <1.0 indicating good discriminant validity for each construct.

4.2. Structural model

Collinearity must be confirmed before evaluating structural relationships to guarantee the regression findings are not skewed. Ideally, the variance inflation factor (VIF) should be less than three (Hair et al., 2024). **Table 3** displays the Inner Model

test results.

Table 3. Inner model test.

Criteria	Estimated Model	Conclusion
SRMR	0.075	Good Fit
Chi-Square	1620.775	Marginal Fit
NFI	0.750	Marginal Fit

This research model, in general, fits the criteria for a competent analysis model. In the following testing stage, the structural model will be examined. The VIF value of each independent variable for each dependent variable does not exceed 5.0. An evaluation of the model's quality is performed before testing the hypothesis. Model suitability testing was carried out with the level of determination coefficient shown in the R-squared of each construct. **Table 4** shows the model suitability findings.

Table 4. Fit test model.

Variance Inflation Factor (VIF)	Functional Value Reliability	Adoption and Use FinTech
Content Information	1.631	2.229
Privacy Concern	1.631	1.863
Functional Value Reliability		2.292

The VIF value of each independent variable for each dependent variable is no more than the limit value of 5.0, so it can be said that this model is free from multicollinearity problems between variables (Hair et al., 2024). Model suitability testing was carried out with the coefficient of determination level shown in the *R*-squared of each variable construct. Although there is no standard measure regarding *R*-squared where this depends on the type of study and study group, in the context of research in the social humanities scope it is believed that *R*-squared > 0.2 indicates the ability to explain variance in strong endogenous variables (Hair et al., 2024).

The *R*-Square value for the endogenous construct adoption and use FinTech is 0.303 and FVR is 0.569. Both of these values exceed 0.2, which indicates that the model in social studies is quite good. Apart from that, the magnitude of the role of each construct is evaluated through the effect size (*f*-square). The standard effect size value is 0.02 for a weak influence, 0.15 for a medium effect, and 0.35 for a high effect. The effect size value in forming functional value reliability shows that content information has a relatively strong influence ($f2 = 0.385$) and privacy concern has a moderate influence ($f2 = 0.123$). On the endogenous variable adoption and use FinTech, the content information construct has a weak influence ($f2 = 0.043$), functional value reliability also has a weak influence ($f2 = 0.78$) and Privacy Concern has no direct influence ($f2 = 0.001$). **Figure 2** also displays the outcomes of hypothesis testing.

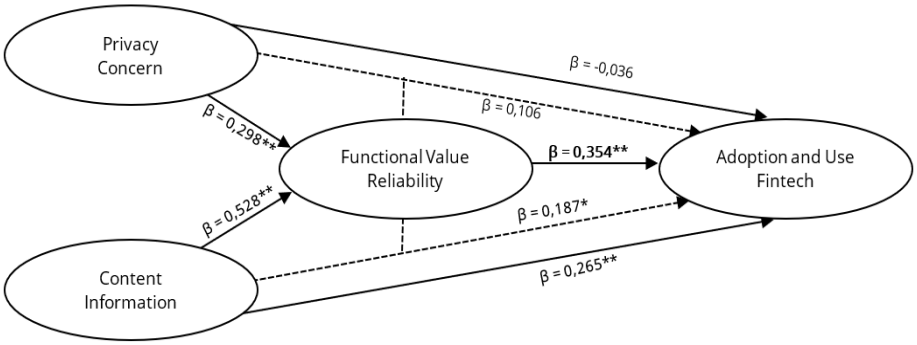

Figure 2. Hypothesis testing.

Figure 2 indicates that the main factor in building the adoption and use of FinTech is functional value reliability. Privacy concerns and content information play a role in forming the functional value reliability of these respondents. **Table 5** also displays the outcomes of hypothesis testing.

Table 5. Hypothesis testing.

No	Hypothesis/relationships	β	*T*-value	Supported
	Direct Effect			
H_1	Privacy Concern → Adoption and Use Fintech	−0.036	0.278	No
H_2	Content Information → Adoption and Use Fintech	0.265	1.651*	Yes
H_3	Functional Value Reliability → Adoption and Use Fintech	0.354	1.725*	Yes
H_4	Privacy Concern → Functional Value Reliability	0.298	1.647*	Yes
H_5	Content Information → Functional Value Reliability	0.528	3.231*	Yes
	Indirect Effect			
H_6	Privacy Concern → Functional Value Reliability → Adoption and Use Fintech	0.106	1.109	No
H_7	Content Information → Functional Value Reliability → Adoption and Use Fintech	0.187	1.462*	Yes

Note: * means the value is rounded to three digits.

Directly, Privacy concerns do not influence FinTech acceptance and use but the variables that play a big role in FinTech adoption and use are respondents' perceptions of information content and functional value reliability. Privacy concerns and content information play a significant role in the formation of functional value reliability. This builds the indirect influence of privacy concerns and content information on the adoption and use of FinTech through functional value reliability. However, this indirect influence is only felt from content information alone. In general, the public (which is the population) does not consider privacy issues when it comes to using E-Wallets. However, this privacy factor still plays an important role in forming perceptions of functional value reliability.

4.3. Impact–performance map analysis

The objective of IPMA is to find constructions that are relatively important for the target construct but also reasonably important yet perform weakly (Hauff et al.,

2024). The research results of the IPMA model used in this research is the Unstandardized IPMA model. **Figure 3** shows the results of the Unstandardized IPMA model.

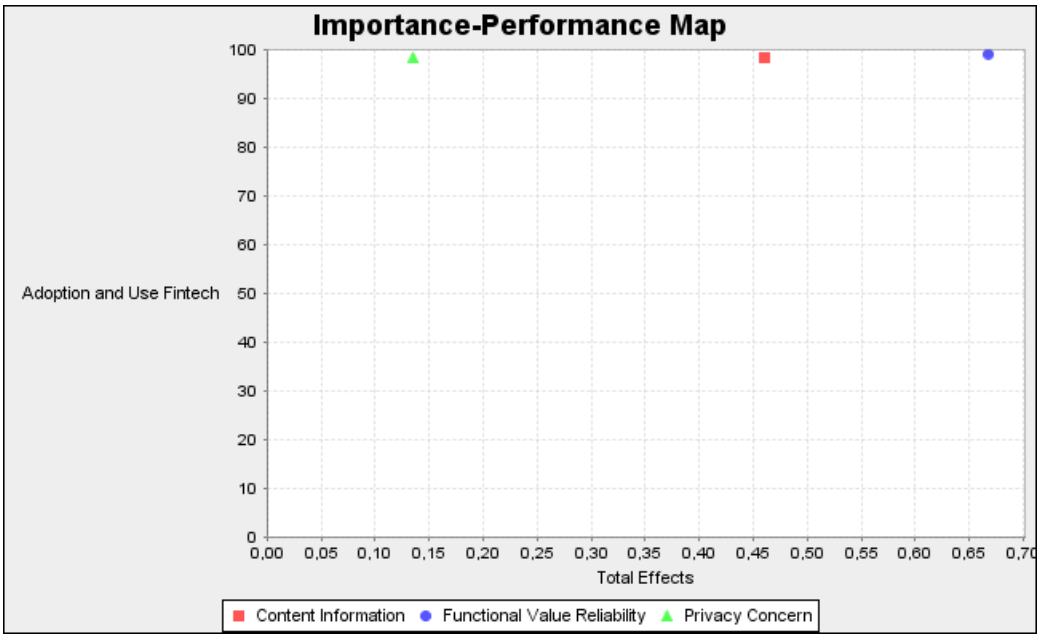

Figure 3. IPMA model.

In the unstandardized model, it can be seen that the functional value of reliability is felt to play a much greater role than Content Information, which previously was relatively the same in the standardized model. Hair et al. (2024) emphasizes that the use of unstandardized coefficients is more accurate when spreading effects under ceteris paribus conditions. In this case, to strengthen the adoption and use FinTech, E-Wallet management must pay attention to how to increase the functional value reliability of users. Next, to find out the results of the variable constructs in this research, you can see **Table 6**.

Table 6. Construct variables.

Construct	**LV Performance (%)**	**Importance (Total Effect)**	
		Adoption and Use Fintech	**Functional Value Reliability**
Adoption and Use Fintech	97.77		
Content Information	98.25	0.452	0.528
Functional Value Reliability	99.22	0.354	
Privacy Concern	98.39	0.070	0.298

The construction variables in this research provide very little room for improvisation in future applications. However, based on IPMA, the variable that needs attention is content information which still has 1.75% room for improvisation with a large effect in shaping the of functional value reliability and adoption and use FinTech.

5. Conclusions

The findings of hypothesis testing research suggest that privacy concerns have a

negative result with no significant impact on the adoption and use of FinTech on E-Wallets in Indonesia, which is corroborated by prior research (Afolabi et al., 2021; Alshami et al., 2022; Cosmo et al., 2021; Fan et al., 2021; Velicia-Martin et al., 2021) that respondents who use E-Wallets do not consider privacy issues when it comes to adoption and use FinTech.

Content information has a significant and beneficial effect on the adoption and use of FinTech on E-Wallets in Indonesia, according to previous research (Kar, 2021; Shahzad et al., 2021; Wang and Choi, 2022) that in general respondents who use E-Wallet feel that relevant content information is considered very important in the success of every E-Wallet transaction (Bani, 2024).

The hypothesis testing research results suggest that functional value reliability has a favorable and substantial influence on the adoption and usage of FinTech on E-Wallets in Indonesia. This is corroborated by prior research, which shows that the functional value reliability in E-Wallets is the most significant predictor of FinTech uptake and use, with E-Wallet users always choosing the choice with the highest degree of perceived value (Srivastava et al., 2024).

Privacy issues have a good and important impact on the functional value reliability of E-Wallets in Indonesia, this is supported by previous research (Hepola et al., 2020; Hwa, 2022; Ljubi and Groznik, 2023) that the E-Wallet Platform must be able to provide good protection and all customer personal information is stored in a secure database so that the E-Wallet Platform has functional value reliability (Hepola et al., 2020).

The results of further hypothesis testing state that content information has a positive and significant influence on the functional values reliability on E-Wallets in Indonesia, this is supported by previous research (Kar, 2021; Lv et al., 2024; Shahzad et al., 2021; Wang and Choi, 2022) that the match between content information and user needs influences the subjective value of information, including the assignment of relevance, information richness, and closeness (Jourdan et al., 2023).

The results of indirect hypothesis testing show that privacy concerns regarding the adoption and use FinTech through the functional value reliability do not have a positive significant influence. This is supported by previous research (Hwa, 2022; Liu et al., 2021; Li and Shang, 2020) that E-Wallet users do not consider privacy issues in terms of adoption and use FinTech through the functional value reliability, respondents who use E-Wallet play a different role. very positive in building functional value reliability.

Content information has a positive and significant influence on the adoption and use FinTech through the functional value reliability of E-Wallets in Indonesia. This is supported by previous research (Shahzad et al., 2021; Wang and Choi, 2022) that content information is either will have utility from functional value so it will have a direct effect on adopting and using E-Wallet (Wang and Choi, 2022).

5.1. Managerial implications

Privacy concern is not significant to the adoption and use FinTech in this case the company does not need to focus too much on allocating resources to build privacy concern, the company's existing resources are better off focusing on other things that

can support the adoption and use FinTech. Content information has a positive and significant influence on the adoption and use Fintech, so in this case companies need to focus on providing relevant content information in the E-Wallet application.

Based on the results of this research, one of the things that support the adoption and use of E-Wallets is the functional value reliability, in this case, companies must focus on E-Wallets that are accurate, trustworthy, functional, and utility. The results of hypothesis testing in this study state that privacy concerns have a positive and significant influence on functional value reliability, in this case, companies need to focus on allocating company resources to building functional value reliability, such as E-Wallet supporters who can control their users and the use of E-Wallets. Wallet effectively. precise and careful. Information content has a positive and significant effect on functional value reliability, so companies must remain focused on providing relevant content information to build functional value reliability.

In this research, it is stated that privacy concerns do not influence the adoption and use Fintech through the of functional value reliability, so companies do not need to focus on building privacy issues through the of functional value reliability because, in this research or the E-Wallet user community, they do not worry about privacy when using the E-Wallet application. Furthermore, content information has a good and significant influence on the adoption and use of FinTech by establishing functional value reliability. This research can assist businesses in remaining focused on providing content information to sustainably adopt and use E-Wallet applications in the future. forward, communicating nice things to others, and convincing others to use the E-Wallet.

5.2. Limitations and future research

This study has the advantage of expanding understanding of the challenges surrounding the adoption and use of FinTech in Indonesian E-Wallet apps. However, there are significant flaws in this study. (1) This research focuses on Generation X and Z respondents only as users of the E-Wallet application so it can only be applied to Generations X and Z. In future research, it is necessary to develop research with a wide sample, namely by using the baby boomer generation as adopter respondents and using the E-Wallet application. (2) The research does not differentiate the characteristics of each E-Wallet use so it can still be explored based on each E-Wallet used. (3) This study is focused on E-Wallet app users in Northern Sumatra, Indonesia. Furthermore, further research is needed that invites a wider range of respondents, such as conducting other research in Indonesia and other countries that have higher or lower technological readiness.

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