

The Mediating Role of Usage Decision in the Relationship between Perceived Ease of Use, Consumer Trust, and Consumer Loyalty among DANA E-Wallet Users in Tangerang City

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ABSTRACT

Increasing competition among e-wallet providers in Indonesia has made consumer loyalty increasingly important for digital payment platforms. This study examines the effects of perceived ease of use and consumer trust on consumer loyalty, with usage decision as a mediating variable among DANA users in Tangerang City. A quantitative approach was applied using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. Data were collected from 200 active DANA users selected through purposive sampling. The findings show that usage decision has the strongest direct effect on consumer loyalty ($\beta = 0.356$, $p < 0.001$). Usage decision also partially mediates the effects of perceived ease of use ($\beta = 0.111$, $p = 0.003$) and consumer trust ($\beta = 0.124$, $p = 0.001$) on consumer loyalty. These results suggest that e-wallet providers should strengthen consumer trust and continuously improve application usability to support stronger customer retention and sustainable long-term customer loyalty outcomes.

ABSTRAK

Persaingan yang semakin ketat antarpenyedia dompet digital di Indonesia menjadikan loyalitas konsumen semakin penting bagi platform pembayaran digital. Penelitian ini menganalisis pengaruh persepsi kemudahan penggunaan dan kepercayaan konsumen terhadap loyalitas konsumen dengan keputusan penggunaan sebagai variabel mediasi pada pengguna DANA di Kota Tangerang. Pendekatan kuantitatif digunakan dengan *Partial Least Squares Structural Equation Modeling* (PLS-SEM) melalui SmartPLS 4.0. Data dikumpulkan dari 200 pengguna aktif DANA yang dipilih menggunakan *purposive sampling*. Hasil penelitian menunjukkan bahwa keputusan penggunaan memiliki pengaruh langsung terkuat terhadap loyalitas konsumen ($\beta = 0,356$; $p < 0,001$). Keputusan penggunaan juga memediasi secara parsial pengaruh persepsi kemudahan penggunaan ($\beta = 0,111$; $p = 0,003$) dan kepercayaan konsumen ($\beta = 0,124$; $p = 0,001$) terhadap loyalitas konsumen. Temuan ini menunjukkan bahwa penyedia dompet digital perlu memperkuat kepercayaan konsumen dan terus meningkatkan kemudahan penggunaan aplikasi guna mendukung retensi pelanggan serta loyalitas konsumen jangka panjang yang berkelanjutan dalam persaingan layanan pembayaran digital nasional.



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1. INTRODUCTION

The rapid evolution of financial technology (fintech) has significantly transformed consumer behavior in conducting financial transactions. Digital payment instruments, particularly electronic wallets (e-wallets), have become one of the most widely adopted forms of non-cash payment due to their convenience, speed, accessibility, and integration with various digital services. The increasing penetration of smartphones and internet connectivity has further

accelerated the adoption of e-wallets across Indonesia, making digital payment systems an integral component of the country's digital economy (Aji et al., 2020).

Indonesia represents one of the largest and fastest-growing digital payment markets in Southeast Asia. According to Bank Indonesia, the value of electronic money transactions continues to increase annually, reflecting consumers' growing preference for cashless payment methods. Recent industry reports indicate that competition among e-wallet providers has intensified, with major platforms such as DANA, GoPay, OVO, ShopeePay, and LinkAja competing aggressively to expand their user base and strengthen customer retention. Although each provider offers similar payment functionalities, differences in user experience, security perception, promotional strategies, and ecosystem integration influence consumers' platform preferences and loyalty.

Among these providers, DANA has emerged as one of the leading e-wallet platforms in Indonesia since its launch in 2018. Supported by Ant Financial and Emtel Group, DANA has developed a broad digital payment ecosystem that includes online transactions, QRIS payments, money transfers, and bill payments. According to (Aji et al., 2020) the volume of non-cash digital transactions in Indonesia reached approximately IDR 52.5 trillion per month, indicating the rapid expansion of digital payment adoption. Despite this growth, DANA faces intense competition from other dominant platforms such as GoPay and ShopeePay, which continuously introduce new features, cashback programs, and merchant partnerships to attract and retain users. Consequently, maintaining consumer loyalty has become a critical challenge for DANA and other e-wallet providers.

Consumer loyalty refers to a consumer's commitment to continue using a particular service and to recommend it to others over time. In highly competitive digital markets, loyal consumers provide strategic value because they contribute to sustainable usage, positive word-of-mouth communication, and lower customer acquisition costs. However, loyalty in digital payment services is often vulnerable because users can easily switch between competing applications offering similar benefits. Therefore, understanding the factors that influence loyalty remains an important research issue in the fintech industry.

One factor frequently associated with technology adoption and continuance behavior is perceived ease of use. Derived from the Technology Acceptance Model (TAM), perceived ease of use refers to the extent to which individuals believe that using a particular technology requires minimal effort. In the context of e-wallet services, features such as intuitive navigation, transaction simplicity, and application accessibility can significantly influence users' willingness to repeatedly use the platform (Lee & Thoo, 2022). Users who perceive an application as easy to operate are more likely to develop favorable attitudes and maintain long-term usage behavior.

Another important determinant is consumer trust. Trust reflects consumers' confidence in the reliability, integrity, privacy protection, and security of a service provider. Because digital payment transactions involve sensitive personal and financial information, trust becomes a fundamental prerequisite for continued usage. Consumers who perceive a platform as secure and reliable are more likely to maintain long-term relationships with the provider and exhibit stronger loyalty behaviors (Kaur et al., 2020).

In addition to perceived ease of use and trust, the decision to use an e-wallet plays a crucial role in shaping consumer loyalty. Usage decision refers to a consumer's deliberate choice to adopt and continuously utilize a specific digital payment platform. This construct serves as a

behavioral mechanism through which consumers translate their perceptions and evaluations into actual usage behavior. Therefore, usage decision may function as a mediating variable linking perceived ease of use and consumer trust to consumer loyalty.

Tangerang City provides an important context for investigating these relationships. As one of the largest satellite cities in the Jakarta metropolitan area, Tangerang is characterized by high population density, rapid urbanization, extensive internet penetration, and a substantial proportion of young, technology-oriented consumers. The city's active digital economy and widespread adoption of cashless transactions make it a relevant setting for examining consumer behavior toward e-wallet services. Furthermore, the diversity of users and intense exposure to competing digital payment platforms provide a suitable environment for studying loyalty formation among DANA users.

Previous studies have extensively examined factors influencing the adoption and continued use of digital payment services. For example, (Raza et al., 2019) found that perceived ease of use significantly affects users' behavioral intentions toward mobile payment services. Similarly, (Lee & Thoo, 2022) reported that user-friendly application features positively influence consumers' willingness to continue using digital payment platforms. Studies by (Aji et al., 2020) and other researchers on Indonesian e-wallet users also confirmed that trust and perceived ease of use play important roles in encouraging technology adoption and usage continuity. Furthermore, (Kaur et al., 2020) demonstrated that consumer trust significantly contributes to customer retention and loyalty in digital financial services.

Despite these findings, several research gaps remain. First, most previous studies primarily focused on the direct relationships between perceived ease of use, trust, satisfaction, and behavioral intention, while the mediating role of usage decision has received relatively limited empirical attention. Second, many studies examined e-wallet services collectively or focused on major platforms such as GoPay, OVO, and ShopeePay, leaving platform-specific evidence regarding DANA comparatively underexplored. Third, previous research frequently investigated consumers in broader regional or national contexts, making it difficult to capture behavioral characteristics within specific urban markets. Finally, although Tangerang City represents one of Indonesia's most dynamic digital consumer markets due to its high population density, strong internet penetration, and proximity to Jakarta, empirical studies examining the determinants of DANA user loyalty in this area remain scarce.

Table 1. Summary of Previous Studies and Research Gap

Author	Object	Variables	Main Findings	Research Gap
(Raza et al., 2019)	Mobile Payment	PEOU, Trust, Intention	PEOU and trust positively influence intention	Loyalty not examined
(Lee & Thoo, 2022)	Digital Payment	PEOU, Continuance Intention	Ease of use affects continuance intention	No mediating variable
(Aji et al., 2020)	Indonesian E-wallet	Trust, Adoption	Trust influences adoption behavior	Not specific to DANA

(Kaur et al., 2020)	Fintech Services	Trust, Loyalty	Trust positively affects loyalty	Usage decision not tested
Current Study	DANA Users in Tangerang	PEOU, Trust, Usage Decision, Loyalty	Examines mediation effect of usage decision	Addresses identified gaps

Source: Author's compilation from previous studies (2026)

To address these gaps, this study contributes to the literature in three important ways. First, it conceptualizes usage decision as a behavioral mechanism linking perceived ease of use and consumer trust with consumer loyalty, an issue that has received limited empirical attention in previous e-wallet studies. Second, this study integrates the Technology Acceptance Model (TAM) and Commitment–Trust Theory into a unified mediation framework to provide a more comprehensive explanation of post-adoption consumer behavior. Third, unlike previous studies that investigated multiple e-wallet platforms collectively, this research provides platform-specific empirical evidence from DANA users in Tangerang City, one of Indonesia's most competitive urban digital payment markets where consumers are simultaneously exposed to GoPay, OVO, ShopeePay, and LinkAja. These contributions extend previous studies by explaining not only whether perceived ease of use and trust influence loyalty, but also how these perceptions are translated into long-term consumer loyalty through consumers' actual usage decisions.

Based on these gaps, this study aims to analyze the effects of perceived ease of use and consumer trust on consumer loyalty through usage decisions among DANA e-wallet users in Tangerang City. Using Structural Equation Modeling (SEM) with SmartPLS, this research seeks to provide empirical evidence regarding the relationships among these variables and to clarify the mediating role of usage decisions. The findings are expected to contribute to the development of Technology Acceptance Model and trust-based perspectives in fintech research while offering practical insights for DANA and other digital payment providers in designing strategies to strengthen customer retention and loyalty.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Technology Acceptance Model (TAM) and Perceived Ease of Use

The Technology Acceptance Model (TAM) developed by (D. Davis, 1998) is one of the most widely used theories to explain technology adoption behavior. TAM proposes that technology acceptance is influenced by two main factors, namely perceived usefulness and perceived ease of use. Perceived ease of use refers to the degree to which individuals believe that a technology is easy to understand and operate without requiring substantial effort (Taherdoost, 2018).

Although TAM includes perceived usefulness as a core construct, this study focuses specifically on perceived ease of use. In the Indonesian e-wallet industry, most providers offer similar basic functions such as QRIS payments, money transfers, bill payments, and online transactions (Hermawan & Paramita, 2020). Therefore, ease of use becomes a more important factor in differentiating one platform from another. Users are more likely to choose and continue using an e-wallet that offers a simple interface, clear navigation, and efficient transaction processes.

Previous studies have shown that perceived ease of use positively influences consumers' decisions to use digital payment services and contributes to long-term customer loyalty (Putri Ramadhanti et al., 2023). Therefore, perceived ease of use is expected to play an important role in shaping both usage decisions and consumer loyalty toward DANA.

2.2. Consumer Trust in Digital Financial Services

This study also adopts Trust Theory and the Commitment-Trust Theory proposed by (Morgan & Hunt, 1994). Trust refers to consumers' confidence that a service provider is reliable, secure, and capable of fulfilling its promises. In digital financial services, trust is particularly important because users conduct transactions involving personal information and financial resources.

The risk-trust perspective suggests that consumers are more willing to use digital services when they perceive lower risks and higher levels of trust. If users believe that DANA can securely process transactions, protect personal data, and provide reliable services, they will be more likely to choose the platform and continue using it in the future.

Previous research has consistently found that trust positively affects technology adoption, usage continuity, and customer loyalty in digital payment services (Talwar et al., 2020). Consequently, consumer trust is expected to influence both usage decisions and loyalty among DANA users.

2.3. Usage Decision in Digital Platforms

In this study, usage decision is defined as consumers' actual post-adoption decision to select DANA as their preferred digital payment platform after evaluating available alternatives for daily financial transactions. Unlike usage intention or continuance intention, which reflect future willingness to use a technology, usage decision represents an actual behavioral choice made during everyday payment activities. It captures consumers' preference for selecting DANA over competing e-wallet applications such as GoPay, OVO, ShopeePay, and LinkAja after evaluating convenience, security, and overall service performance. (Natalia et al., 2021).

Therefore, usage decision represents an actual behavioral selection process rather than a psychological intention or long-term commitment. This construct serves as the behavioral mechanism through which users translate positive perceptions into repeated platform selection, which subsequently contributes to the development of consumer loyalty.

Continuance intention reflects a user's willingness to continue using a service in the future, while consumer loyalty refers to a long-term commitment characterized by repeated usage, recommendations to others, and resistance to switching. In contrast, usage decision focuses on the consumer's actual decision-making process in selecting DANA for daily transactions.

Consumers generally evaluate a platform based on factors such as convenience, security, and reliability before deciding to use it (Yang et al., 2021). Therefore, usage decision serves as an intermediary process through which consumers' perceptions of ease of use and trust are translated into long-term loyalty. This position makes usage decision an appropriate mediating variable in explaining how consumer perceptions influence loyalty behavior.

2.4. Distinction Between Usage Decision and Consumer Loyalty

Although usage decision and consumer loyalty are conceptually related, they represent different stages of consumer behavior. Usage decision refers to consumers' immediate behavioral choice to select DANA for a particular transaction after evaluating available alternatives. It reflects a transactional decision that occurs at the point of use and may vary depending on consumers' current needs, available payment options, or situational factors.

In contrast, consumer loyalty represents a long-term psychological commitment that develops after repeated positive usage experiences. Loyalty is characterized by sustained patronage, willingness to recommend the platform to others, resistance to switching to competitors, and enduring preference for the service despite the availability of alternative e-wallet providers.

Therefore, usage decision captures the behavioral selection process, whereas consumer loyalty reflects the long-term relational outcome resulting from repeated satisfactory usage experiences. Within the proposed research model, usage decision is positioned as an intermediate behavioral mechanism linking consumers' cognitive evaluations—represented by perceived ease of use and consumer trust to the development of enduring consumer loyalty.

2.5. Consumer Loyalty in E-Wallet Context

Consumer loyalty refers to a strong commitment to continue using a particular service and to recommend it to others despite the availability of competing alternatives (Rather et al., 2019). In the highly competitive e-wallet industry, loyalty is important because users can easily switch to other platforms offering similar services.

Previous studies have shown that loyalty is influenced by various factors, including trust, ease of use, service quality, satisfaction, and positive user experiences (Aji et al., 2020). Loyal consumers are more likely to continue using the service, recommend it to others, and maintain their relationship with the platform over time.

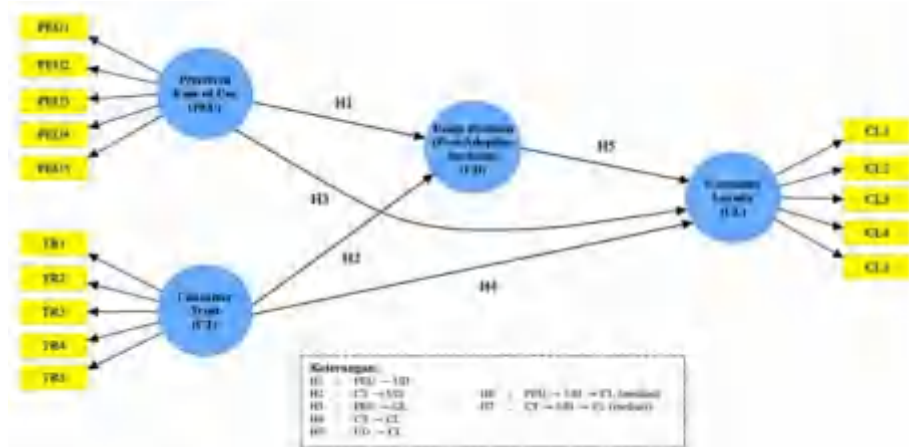
In the context of DANA, loyalty is expected to develop when users perceive the application as easy to use, trustworthy, and suitable for their transaction needs. Furthermore, repeated usage decisions may gradually strengthen consumers' commitment and loyalty toward the platform.

2.6. Hypothesis Development

Based on the Technology Acceptance Model and Trust Theory, consumers evaluate the ease of use and trustworthiness of a digital payment platform before deciding whether to use it. When users perceive DANA as easy to operate and trustworthy, they are more likely to choose the platform for their transactions. Repeated usage decisions may subsequently develop into long-term loyalty. Therefore, the following hypotheses are proposed:

- H1:** Perceived ease of use has a significant positive effect on usage decisions among DANA e-wallet users in Tangerang City.
- H2:** Consumer trust has a significant positive effect on usage decisions among DANA e-wallet users in Tangerang City.
- H3:** Perceived ease of use has a significant positive effect on consumer loyalty among DANA e-wallet users in Tangerang City.
- H4:** Consumer trust has a significant positive effect on consumer loyalty among DANA e-wallet users in Tangerang City.
- H5:** Usage decision has a significant positive effect on consumer loyalty among DANA e-wallet users in Tangerang City.
- H6:** Usage decision mediates the effect of perceived ease of use on consumer loyalty among DANA e-wallet users in Tangerang City.
- H7:** Usage decision mediates the effect of consumer trust on consumer loyalty among DANA e-wallet users in Tangerang City.

Figure 1. Research Conceptual Framework



Source: Author's elaboration (2026)

3. RESEARCH METHOD

Research Design and Approach

This study employed a quantitative research design using the Structural Equation Modeling (SEM) approach with Partial Least Squares (PLS-SEM) estimation through SmartPLS version 4.0. PLS-SEM was selected because it is suitable for analyzing complex models involving multiple latent variables and mediation relationships while requiring fewer assumptions regarding data normality (Hair & Alamer, 2022). The method is also appropriate for predictive and exploratory research in the fields of consumer behavior and financial technology. This study examines the relationships among perceived ease of use, consumer trust, usage decision, and consumer loyalty among DANA e-wallet users.

Population and Sample

The population of this study consisted of active DANA e-wallet users residing in Tangerang City, Banten Province, Indonesia. Tangerang City was selected because it is one of the largest urban areas in the Greater Jakarta region, characterized by high internet penetration, widespread adoption of digital payment services, and a large proportion of young technology-oriented consumers.

A purposive sampling technique was employed to ensure that respondents possessed sufficient experience using the DANA application. Respondents were required to meet the following criteria: (1) at least 17 years old, (2) active users of DANA for a minimum of six months, and (3) having conducted at least three transactions per month using the application.

The sample size was determined based on current recommendations for Partial Least Squares Structural Equation Modeling (PLS-SEM). Following (Hair & Alamer, 2022), an adequate sample should provide sufficient statistical power for estimating structural relationships and mediation effects. In addition, the adequacy of the sample was evaluated using the inverse square root method proposed by (Kock & Hadaya, 2018), which indicated that the minimum required sample for the proposed structural model was substantially lower than the final sample of 200 respondents. Therefore, the sample size was considered sufficient to achieve statistical power above the recommended threshold (0.80), generate stable parameter estimates, and produce reliable hypothesis testing results.

Because purposive sampling was employed, the findings should be interpreted within the context of active DANA users in Tangerang City who met the established inclusion criteria. Consequently, the results should not be generalized to all e-wallet users or to the broader Indonesian population without further empirical verification using probability sampling techniques.

Data were collected between September and October 2025 using a structured online questionnaire distributed through social media platforms, community groups, and digital networks within Tangerang City. Participation was voluntary, and respondents were informed of the academic purpose of the study before completing the questionnaire.

Because the survey was conducted online, several measures were implemented to reduce potential response bias. Screening questions were used to ensure that only eligible DANA users participated in the study. In addition, incomplete responses and duplicate submissions were removed during the data-cleaning process. Nevertheless, the use of non-probability sampling may limit the generalizability of the findings beyond the study population.

Measurement Instruments

All constructs were measured using multiple-item reflective scales adapted from validated prior studies. Perceived ease of use was measured using five items adapted from (To & Trinh, 2021), focusing on clarity, simplicity of interaction, flexibility, and ease of learning. Consumer trust was measured using five items adapted from (Humbani & Wiese, 2019) and (Tam et al., 2020), covering competence, integrity, and reliability dimensions.

Usage decision was measured using four items adapted from (Singh et al., 2020) and (Humbani & Wiese, 2019). In this study, usage decision was operationalized as consumers' actual decision to choose DANA as their primary payment option in daily transactions after evaluating available e-wallet alternatives. The construct measures actual platform selection behavior rather than future intention to use or long-term loyalty. Consumer loyalty was measured using five items adapted from (Natalia et al., 2021) and (Rather et al., 2019), covering repeat usage behavior, recommendation intention, and commitment to continue using the platform. All questionnaire items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data Analysis Procedure

Data analysis was conducted in two stages: (1) evaluation of the measurement model (outer model) and (2) evaluation of the structural model (inner model). Measurement model assessment included convergent validity using factor loadings (≥ 0.70), Average Variance Extracted ($AVE \geq 0.50$), and Composite Reliability ($CR \geq 0.70$). Discriminant validity was evaluated using the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio ($HTMT < 0.90$).

The structural model was assessed through path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Hypothesis testing was performed using the bootstrapping procedure with 5,000 subsamples to obtain t-statistics, p-values, and confidence intervals. The mediating effect of usage decision was evaluated through indirect effect analysis using bootstrapping confidence intervals, following the recommendations of (Guenther et al., 2023).

Table 2. Demographic Profile of Respondents (n = 200)

Characteristic	Category	Frequency (%)
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Gender	Male	97 (48.5%)
	Female	103 (51.5%)
Age	17–25 years	89 (44.5%)
	26–35 years	72 (36.0%)
	36–45 years	29 (14.5%)
	> 45 years	10 (5.0%)
Education	High School	52 (26.0%)
	Diploma (D3)	34 (17.0%)
	Bachelor (S1)	98 (49.0%)
	Postgraduate	16 (8.0%)
Usage Frequency	3–5 times/month	78 (39.0%)
	6–10 times/month	85 (42.5%)
	> 10 times/month	37 (18.5%)

Source: Authors' elaboration based on survey data (2026).

4. RESULTS AND DISCUSSION

4.1. Analysis Results

Measurement Model Assessment

Prior to evaluating the structural model, the reliability and validity of the measurement model were assessed through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Following the recommendations of (Hair & Alamer, 2022), internal consistency reliability was evaluated using Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR), while convergent validity was assessed using Average Variance Extracted (AVE).

All indicator loadings exceeded the recommended threshold of 0.70, ranging from 0.721 to 0.912. Furthermore, the values of Cronbach's Alpha, rho_A, and Composite Reliability for all constructs exceeded the minimum threshold of 0.70, indicating satisfactory internal consistency reliability. The AVE values ranged from 0.659 to 0.711, exceeding the recommended threshold of 0.50 and confirming convergent validity.

Convergent Validity

Convergent validity was assessed through indicator loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). As presented in Table 2, all indicator loadings exceeded the recommended threshold of 0.70 (Guenther et al., 2023), with values ranging from 0.721 to 0.912. All CR values surpassed the minimum threshold of 0.70, ranging from 0.871 to 0.924, and all AVE values exceeded 0.50, indicating satisfactory convergent validity for all constructs.

Table 3. Reliability and Convergent Validity Assessment

Construct	CA	rho_A	CR	AVE
Perceived Ease of Use	0.871	0.879	0.906	0.659
Consumer Trust	0.889	0.895	0.918	0.693
Usage Decision	0.849	0.857	0.898	0.689
Consumer Loyalty	0.898	0.904	0.924	0.711

Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

Discriminant Validity

Discriminant validity was assessed using the Fornell-Larcker criterion and the HTMT ratio. As shown in Table 3, the square root of AVE for each construct (diagonal values) consistently exceeded the inter-construct correlations, satisfying the Fornell-Larcker criterion. All HTMT values were below the recommended threshold of 0.90 (Purwanto & Sudargini, 2021), indicating satisfactory discriminant validity among all constructs.

Table 4. Fornell-Larcker Criterion

Construct	PEU	CT	UD	CL
PEU	0.812			
CT	0.554	0.832		
UD	0.501	0.534	0.830	
CL	0.441	0.511	0.572	0.843

Note: Diagonal values represent the square root of AVE.

Table 5. HTMT Ratio

Construct	PEU	CT	UD	CL
PEU	-			
CT	0.531	-		
UD	0.487	0.512	-	
CL	0.423	0.489	0.553	-

Note: All HTMT values are below 0.90.

Collinearity Assessment

Before evaluating the structural relationships, collinearity among predictor constructs was examined using the Variance Inflation Factor (VIF). According to Hair et al. (2022), VIF values below 5.0 indicate that collinearity is not a concern. As shown in Table 3C, all VIF values ranged from 1.421 to 2.317, well below the recommended threshold. Therefore, multicollinearity was not present in the structural model.

Table 6. Collinearity Assessment (VIF)

Relationship	VIF
PEU → Usage Decision	1.421
CT → Usage Decision	1.421
PEU → Loyalty	1.876
CT → Loyalty	1.932
Usage Decision → Loyalty	2.317

Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

Structural Model Assessment

Table 7. Structural Model Results and Hypothesis Testing

Hypothesis	Relationship	Path Coefficient (β)	t-Value	p-Value	Decision
H1	Perceived Ease of Use → Usage Decision	0.312	4.231	0.000	Supported
H2	Consumer Trust → Usage Decision	0.348	4.876	0.000	Supported
H3	Perceived Ease of Use → Consumer Loyalty	0.234	3.105	0.002	Supported
H4	Consumer Trust → Consumer Loyalty	0.287	3.892	0.000	Supported

Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

After confirming that the measurement model met the required validity and reliability criteria and that no collinearity issues were present, the structural model was evaluated using the bootstrapping procedure with 5,000 subsamples. The results of hypothesis testing are presented in Table 7.

As shown in Table 7, all proposed direct relationships were found to be positive and statistically significant. Perceived ease of use significantly influenced usage decision ($\beta = 0.312$, $t = 4.231$, $p < 0.001$), supporting H1. Likewise, consumer trust exhibited a significant positive effect on usage decision ($\beta = 0.348$, $t = 4.876$, $p < 0.001$), supporting H2.

The results further indicate that perceived ease of use significantly affects consumer loyalty ($\beta = 0.234$, $t = 3.105$, $p = 0.002$), thereby supporting H3. Consumer trust also demonstrated a significant positive influence on consumer loyalty ($\beta = 0.287$, $t = 3.892$, $p < 0.001$), supporting H4.

Moreover, usage decision was found to be a significant predictor of consumer loyalty ($\beta = 0.356$, $t = 5.124$, $p < 0.001$), supporting H5. Among all direct relationships, the strongest effect was observed in the relationship between usage decision and consumer loyalty, indicating that users' decisions to choose and utilize DANA play a crucial role in fostering long-term loyalty.

Coefficient of Determination and Predictive Relevance

Table 8. Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Endogenous Construct	R^2	Interpretation	Q^2	Interpretation
Usage Decision	0.563	Moderate	0.387	Predictive relevance
Consumer Loyalty	0.621	Substantial	0.429	Predictive relevance

*Note: R^2 values of 0.75, 0.50, and 0.25 indicate substantial, moderate, and weak explanatory power, respectively (Hair et al., 2022). Q^2 values greater than zero indicate predictive relevance.

*Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

The coefficient of determination (R^2) was examined to assess the explanatory power of the structural model. As presented in Table 8, the R^2 value for Usage Decision was 0.563, indicating that perceived ease of use and consumer trust jointly explained 56.3% of the variance in usage

decision. According to (Hair et al., 2017), this value can be considered moderate, suggesting that the model possesses satisfactory explanatory power.

Furthermore, the R^2 value for Consumer Loyalty was 0.621, indicating that perceived ease of use, consumer trust, and usage decision collectively explained 62.1% of the variance in consumer loyalty. This result demonstrates substantial explanatory power and suggests that the proposed model effectively explains consumer loyalty among DANA users in Tangerang City.

Predictive relevance was assessed using the blindfolding procedure. The Q^2 values for Usage Decision and Consumer Loyalty were 0.387 and 0.429, respectively. Since both values exceed zero, the model demonstrates adequate predictive relevance, indicating that the endogenous constructs can be accurately predicted by the exogenous variables included in the model. These findings confirm that the structural model possesses both satisfactory explanatory capability and predictive accuracy.

Effect Size Assessment (f^2)

Table 9. Effect Size (f^2)

Relationship	f^2	Effect Size
Perceived Ease of Use → Usage Decision	0.127	Small
Consumer Trust → Usage Decision	0.156	Medium
Perceived Ease of Use → Consumer Loyalty	0.081	Small
Consumer Trust → Consumer Loyalty	0.118	Small
Usage Decision → Consumer Loyalty	0.204	Medium

*Note: f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effect sizes, respectively

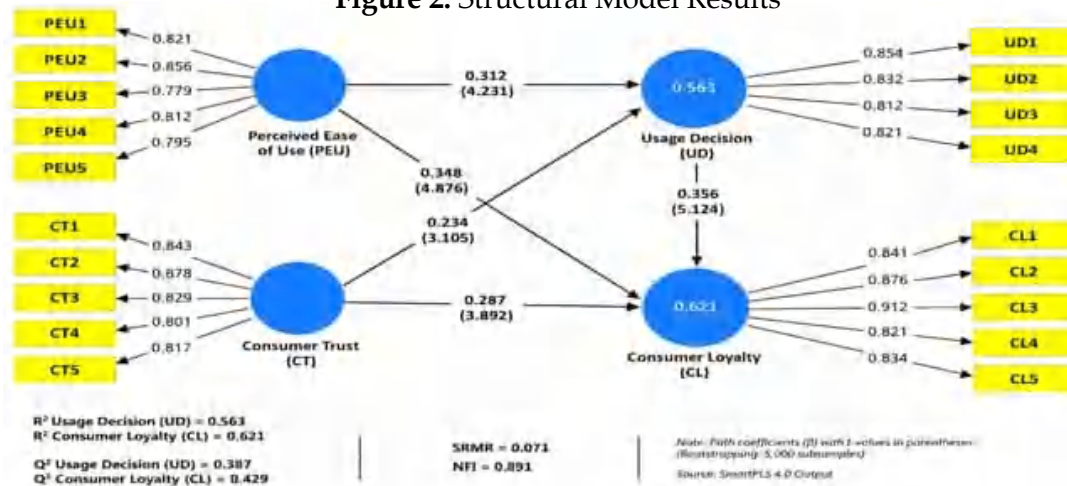
*Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

The effect size (f^2) was evaluated to determine the relative contribution of each exogenous construct to the endogenous constructs in the model. As presented in Table 9, consumer trust exhibited a medium effect on usage decision ($f^2 = 0.156$), indicating that trust plays an important role in influencing users' decisions to utilize DANA. In comparison, perceived ease of use demonstrated a small effect on usage decision ($f^2 = 0.127$).

Regarding consumer loyalty, usage decision showed the largest contribution with a medium effect size ($f^2 = 0.204$), suggesting that consumers' decisions to choose and use DANA substantially contribute to the formation of loyalty. Meanwhile, perceived ease of use ($f^2 = 0.081$) and consumer trust ($f^2 = 0.118$) exhibited small effects on consumer loyalty.

Overall, the findings indicate that although perceived ease of use and consumer trust significantly influence consumer loyalty, their effects are partially transmitted through usage decision (Rababa & Ali, 2024). This result further supports the mediating role of usage decision in the relationship between perceived ease of use, consumer trust, and consumer loyalty.

Figure 2. Structural Model Results



Source: Structural model output generated using SmartPLS 4.0 based on authors' survey data analysis (2026).

Mediation Analysis

Table 10. Direct, Indirect, and Total Effects

Relationship	Direct Effect (β)	Indirect Effect (β)	Total Effect (β)	t-Value	p-Value	95% CI	Mediation Type
PEU → UD							
→ CL	0.234	0.111	0.345	3.012	0.003	[0.041, 0.193]	Partial Mediation
CT → UD → CL	0.287	0.124	0.411	3.451	0.001	[0.053, 0.208]	Partial Mediation

*Note: PEU = Perceived Ease of Use; CT = Consumer Trust; UD = Usage Decision; CL = Consumer Loyalty.

*Source: Authors' estimation results using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with SmartPLS 4.0 based on survey data (2026).

The mediating role of usage decision was evaluated through indirect effect analysis using the bootstrapping procedure with 5,000 subsamples. The results are presented in Table 6.

For H6, the indirect effect of perceived ease of use on consumer loyalty through usage decision was found to be positive and statistically significant ($\beta = 0.111$, $t = 3.012$, $p = 0.003$). The 95% bootstrapped confidence interval ranged from 0.041 to 0.193 and did not include zero, confirming the significance of the mediation effect. Furthermore, the direct effect of perceived ease of use on consumer loyalty remained significant ($\beta = 0.234$, $p = 0.002$). The total effect was 0.345. Since both the direct and indirect effects were significant, usage decision partially mediates the relationship between perceived ease of use and consumer loyalty. Therefore, H6 is supported.

Similarly, for H7, consumer trust exerted a significant indirect effect on consumer loyalty through usage decision ($\beta = 0.124$, $t = 3.451$, $p = 0.001$). The corresponding 95% confidence interval ranged from 0.053 to 0.208, excluding zero and confirming the presence of mediation. In addition, the direct effect of consumer trust on consumer loyalty remained significant ($\beta = 0.287$, $p < 0.001$). The total effect was 0.411. These findings indicate that usage decision partially mediates the relationship between consumer trust and consumer loyalty. Consequently, H7 is also supported.

Overall, the mediation analysis demonstrates that usage decision serves as an important behavioral mechanism through which perceived ease of use and consumer trust contribute to the development of consumer loyalty. Nevertheless, the persistence of significant direct effects suggests that both perceived ease of use and consumer trust continue to influence loyalty independently of usage decision, indicating a pattern of partial mediation rather than full mediation.

4.2. Discussion

The findings of this study provide important insights into the determinants of consumer loyalty toward the DANA e-wallet in Tangerang City. While all proposed relationships were found to be significant, the relative strength of the effects offers a deeper understanding of digital consumer behavior in the fintech context (Lin et al., 2019).

First, perceived ease of use significantly influenced both usage decision and consumer loyalty, confirming the relevance of the Technology Acceptance Model (TAM) in explaining post-adoption behavior. However, the relatively smaller effect size compared with consumer trust suggests that ease of use has become a basic expectation rather than a distinctive competitive advantage in Indonesia's digital payment industry. Most major e-wallet providers, including DANA, GoPay, OVO, ShopeePay, and LinkAja, currently offer comparable interfaces, QRIS functionality, and transaction processes. Consequently, consumers no longer differentiate platforms primarily based on usability. Instead, ease of use functions as a hygiene factor that supports continued usage but is insufficient by itself to establish enduring customer loyalty.

Second, consumer trust emerged as the strongest determinant of usage decision and one of the strongest predictors of consumer loyalty. This finding reflects the current maturity of Indonesia's digital payment ecosystem, where technological features among competing e-wallet providers have become increasingly similar. Under these conditions, transaction security, data privacy, platform reliability, and institutional credibility become the primary considerations when consumers select an e-wallet for daily financial transactions. For DANA users in Tangerang City, trust reduces perceived transaction risk and strengthens confidence that the platform can securely manage personal information and financial assets. Consequently, trust evolves from merely facilitating technology adoption into becoming a strategic source of long-term customer retention.

Third, the significant effect of usage decision on consumer loyalty indicates that loyalty develops through repeated behavioral choices rather than immediate positive perceptions. Consumers who repeatedly choose DANA for QRIS payments, money transfers, bill payments, and online purchases gradually establish habitual usage patterns that strengthen psychological attachment to the platform. This finding suggests that usage decision functions as the behavioral bridge connecting cognitive evaluations of technology with enduring consumer loyalty. Therefore, repeated platform selection plays an essential role in transforming favorable perceptions into sustainable customer relationships.

The mediation results further demonstrate that both perceived ease of use and consumer trust affect consumer loyalty through direct and indirect pathways. The presence of partial mediation indicates that while usage decision plays an important role in loyalty formation, consumers may also develop loyalty directly from their perceptions of convenience and trustworthiness. This

finding highlights the complexity of loyalty formation in digital payment ecosystems, where both cognitive evaluations and behavioral experiences jointly contribute to customer retention.

The finding that usage decision only partially mediates the relationships between perceived ease of use, consumer trust, and consumer loyalty further reinforces the conceptual distinction between usage decision and consumer loyalty. Usage decision represents consumers' immediate behavioral choice to select DANA during a particular transaction after evaluating available alternatives. In contrast, consumer loyalty reflects a deeper and more enduring psychological commitment that develops through repeated satisfactory experiences with the platform. Therefore, usage decision should not be interpreted as loyalty itself but rather as an intermediate behavioral stage through which consumers' cognitive evaluations are translated into long-term loyalty. The persistence of significant direct effects from perceived ease of use and consumer trust to consumer loyalty also suggests that loyalty is influenced not only by transactional decisions but also by consumers' enduring perceptions of usability and trustworthiness.

From a practical perspective, the results suggest that DANA should continue improving application usability while simultaneously strengthening trust-building initiatives. Investments in cybersecurity, transaction transparency, fraud prevention systems, and customer protection mechanisms are likely to have a substantial impact on consumer retention. Furthermore, efforts to encourage habitual usage through integrated payment features, merchant partnerships, and personalized promotions may strengthen consumers' decisions to use DANA as their primary digital payment platform, thereby increasing long-term loyalty.

Overall, this study contributes to the fintech literature by demonstrating that consumer loyalty is shaped not only by technological factors such as ease of use but also by relational factors such as trust, with usage decision serving as an important intermediary mechanism in the loyalty formation process.

The present findings are generally consistent with previous studies examining technology acceptance and consumer behavior in digital payment services. The significant influence of perceived ease of use on usage decision supports the findings of (Lee & Thoo, 2022), who reported that user-friendly application features encourage consumers to continue using digital wallets. Likewise, the positive effect of consumer trust on consumer loyalty is in line with (Kaur et al., 2020), who emphasized that trust serves as a fundamental determinant of customer retention in mobile financial services. These results also corroborate the study of (Aji et al., 2020), which found that trust and ease of use play important roles in promoting the adoption of e-wallet services in Indonesia.

However, this study extends previous research in several important respects. Unlike (Raza et al., 2019), (Lee & Thoo, 2022), and (Aji et al., 2020), which primarily focused on direct relationships between technology acceptance variables and behavioral intention or adoption, the present study demonstrates that usage decision functions as an intermediate behavioral mechanism linking consumers' cognitive evaluations to long-term loyalty. The evidence of partial mediation indicates that consumer loyalty is not formed solely through favorable perceptions of usability and trust but also through repeated behavioral decisions to choose DANA over competing e-wallet platforms. This finding provides additional empirical support for integrating the Technology Acceptance Model with Commitment-Trust Theory in explaining post-adoption consumer behavior within highly competitive digital payment markets.

The findings should be interpreted within the competitive landscape of Indonesia's digital payment industry, particularly in Tangerang City. As one of the largest urban areas surrounding Jakarta, Tangerang is characterized by high smartphone penetration, extensive QRIS implementation, and widespread cashless transactions across retail stores, transportation services, food delivery platforms, and e-commerce. Consumers are continuously exposed to competing e-wallet providers, including DANA, GoPay, ShopeePay, OVO, and LinkAja, all of which offer relatively similar payment functions. Consequently, switching costs are relatively low because users can easily move from one platform to another depending on cashback programs, merchant partnerships, or promotional campaigns. Under these market conditions, maintaining consumer loyalty requires more than attractive incentives; providers must continuously strengthen transaction security, privacy protection, service reliability, and overall customer trust.

Within this highly competitive environment, consumer trust emerged as a stronger determinant than perceived ease of use in encouraging consumers to select DANA for everyday financial transactions. Although most competing e-wallet applications now provide comparable interfaces and transaction processes, users increasingly differentiate platforms based on perceived security, institutional credibility, and confidence in digital financial services. Furthermore, the significant mediating role of usage decision indicates that loyalty is not established immediately after favorable perceptions are formed but develops gradually through repeated behavioral choices. Consumers who repeatedly choose DANA for QRIS payments, money transfers, bill payments, and online purchases gradually develop habitual usage patterns that reinforce long-term commitment despite the availability of competing alternatives.

Furthermore, the significant mediating role of usage decision suggests that loyalty is gradually developed through repeated behavioral choices rather than being formed immediately after users perceive the application as easy to use. Consumers who repeatedly choose DANA for QRIS payments, bill payments, money transfers, and online purchases are more likely to develop habitual usage, stronger platform preference, and ultimately long-term loyalty despite the availability of competing alternatives.

Despite the satisfactory statistical power achieved in this study, the use of purposive sampling may limit the external validity of the findings. Therefore, future studies are encouraged to employ probability sampling techniques involving broader geographical areas to enhance the generalizability of the proposed model.

5. CONCLUDING REMARKS AND RECOMMENDATION

Conclusions

This study examined the effects of perceived ease of use and consumer trust on consumer loyalty among DANA e-wallet users in Tangerang City, with usage decision acting as a mediating variable. The findings demonstrate that perceived ease of use and consumer trust significantly influence both usage decision and consumer loyalty. Consumer trust exerts a stronger influence than perceived ease of use, highlighting that security, reliability, and confidence in the platform are critical factors in sustaining long-term customer relationships. Furthermore, usage decision significantly influences consumer loyalty and partially mediates the relationships between perceived ease of use, consumer trust, and consumer loyalty. These findings indicate that

positive perceptions regarding usability and trust encourage consumers to repeatedly choose DANA, which subsequently strengthens long-term loyalty.

This study contributes to the fintech literature by extending the Technology Acceptance Model and Commitment-Trust Theory through the incorporation of usage decision as an intermediate behavioral mechanism linking consumers' cognitive evaluations with long-term consumer loyalty. Unlike previous studies that primarily examined direct relationships between technology acceptance variables and loyalty, this study demonstrates how repeated behavioral decisions translate favorable perceptions into enduring customer commitment within a highly competitive digital payment ecosystem.

From a managerial perspective, the findings suggest that improving application usability alone is insufficient to sustain consumer loyalty. DANA and other e-wallet providers should prioritize initiatives that strengthen consumer trust through enhanced transaction security, privacy protection, fraud prevention systems, and reliable customer support. At the same time, providers should encourage habitual platform usage by expanding merchant partnerships, integrating additional financial services, and offering personalized promotional programs that motivate consumers to repeatedly select DANA as their primary payment method.

Future studies are encouraged to incorporate additional variables, such as perceived usefulness, customer satisfaction, service quality, promotional attractiveness, habit, switching costs, and perceived security, to provide a more comprehensive explanation of consumer loyalty. Future research may also employ probability sampling techniques, longitudinal research designs, larger sample sizes, or comparative analyses across different e-wallet platforms and geographical regions to enhance the generalizability of the proposed model.

Recommendations

Based on the findings of this study, several recommendations can be proposed for both practitioners and future researchers.

From a managerial perspective, DANA should prioritize initiatives aimed at strengthening consumer trust, as trust was found to have a stronger influence on usage decisions and consumer loyalty than perceived ease of use. Efforts may include enhancing transaction security systems, improving fraud detection mechanisms, increasing transparency regarding data privacy policies, and providing responsive customer support services. These measures can reinforce users' confidence in the platform and encourage long-term engagement.

In addition, DANA should continue improving the user experience by maintaining a simple, intuitive, and efficient application interface. Although perceived ease of use exhibited a smaller effect than trust, it remains an important factor influencing consumers' decisions to use the platform. Continuous interface optimization, feature simplification, and accessibility improvements may further enhance user satisfaction and retention.

To strengthen consumer loyalty, DANA is also encouraged to develop strategies that increase habitual usage, such as expanding merchant partnerships, offering personalized promotions, integrating additional financial services, and encouraging the use of DANA as a primary payment method in everyday transactions.

For future research, it is recommended to incorporate additional variables that may explain consumer loyalty more comprehensively, including perceived usefulness, customer satisfaction, service quality, perceived security, promotional attractiveness, habit, and switching costs.

Future studies may also employ longitudinal designs, larger sample sizes, or comparative analyses across different e-wallet platforms to provide broader insights into digital payment adoption and loyalty behavior in Indonesia.

STATEMENT OF USE OF GENERATIVE AI

During the preparation of this manuscript, the authors used generative artificial intelligence (AI) tools, specifically ChatGPT developed by OpenAI, to assist with language refinement, grammar correction, academic writing enhancement, and manuscript organization. The AI tool was used solely to improve the clarity and readability of the text.

The authors reviewed, revised, and verified all generated content and take full responsibility for the accuracy, originality, interpretation, and integrity of the manuscript. No AI tool was used for data collection, data analysis, interpretation of research findings, or generation of research results.

REFERENCE

- Aji, H. M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1804181>
- D. Davis, F. (1998). Perceived Usefulness, Perceived Ease Of Use, and User Acceptance of Information Technology. *Management Information Systems*, Vol 13(03), 319-334. <http://links.jstor.org/sici?sici=0276-7783%28198909%2913%3A3%3C319%3APUPEOU%3E2.0.CO%3B2-E>
- Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G., & Cartwright, S. (2023). Improving PLS-SEM use for business marketing research. *Industrial Marketing Management*, 111(March), 127-142. <https://doi.org/10.1016/j.indmarman.2023.03.010>
- Hair, F. J., William, Rolph, J., B. B., & Babin. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In *Sage*.
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 1-16. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hermawan, V. K., & Paramita, E. L. (2020). Trust dan Perceived Usefulness dan Pengaruhnya Terhadap Preferensi Konsumen Dalam Menggunakan E-wallet. *Jurnal Ekobis: Ekonomi Bisnis & Manajemen*, 10(2), 223-236. <https://doi.org/10.37932/j.e.v10i2.131>
- Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing*, 37(2), 646-664. <https://doi.org/10.1108/IJBM-03-2018-0072>
- Kaur, P., Dhir, A., Bodhi, R., Singh, T., & Almotairi, M. (2020). Why do people use and recommend m-wallets? *Journal of Retailing and Consumer Services*, 56, 102091. <https://doi.org/10.1016/j.jretconser.2020.102091>
- Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, 28(1), 227-261. <https://doi.org/10.1111/isj.12131>
- Lee, W. Q., & Thoo, A. C. (2022). Extended Technology Acceptance Model for Digital Wallet Usage. *International Journal of Academic Research in Business and Social Sciences*, 12(8), 1416-

1429. <https://doi.org/10.6007/ijarbss/v12-i8/14416>
- Lin, H.-Y., Wang, M.-H., & Chen, H.-T. (2019). Determinants for Consumer Adoption of Mobile Payment Technology. *International Journal of E-Education, e-Business, e-Management and e-Learning*, 9(3), 146–159. <https://doi.org/10.17706/ijeeee.2019.9.3.146-159>
- Morgan, R. M., & Hunt, S. D. (1994). *The Commitment-Trust Theory of*. 58(July), 20–38.
- Natalia, D., Elgeka, H. W. S., & Tjahjoanggoro, A. J. (2021). Consumer-Brand Identification and Brand Loyalty: Analysis on Customer Satisfaction and Brand Trust as Mediators. *Psikostudia : Jurnal Psikologi*, 10(3), 283. <https://doi.org/10.30872/psikostudia.v10i3.5529>
- Purwanto, A., & Sudargini, Y. (2021). Partial Least Squares Structural Squation Modeling (PLS-SEM) Analysis for Social and Management Research: A Literature Review. *Journal of Industrial Engineering & Management Research*, 2(4), 114–123. <http://www.jiemar.org>
- Putri Ramadhanti, S., Dharmawan Buchdadi, A., & Fawaiq, M. (2023). Determinan Adopsi Dompnet Digital: Perceived Ease Of Use, Trust, dan Perceived Usefulness. *Jurnal Bisnis, Manajemen, Dan Keuangan*, 4(1), 75–85.
- Rababa, B. W., & Ali, A. (2024). The influence of cultural factors on mobile banking adoption. *International Journal of Academic Research in Progressive Education and Development*, 13(3), 2723–2740. <https://doi.org/10.6007/IJARPED/v13-i3/22282>
- Rather, R. A., Tehseen, S., Itoo, M. H., & Parrey, S. H. (2019). Customer brand identification, affective commitment, customer satisfaction, and brand trust as antecedents of customer behavioral intention of loyalty: An empirical study in the hospitality sector. *Journal of Global Scholars of Marketing Science: Bridging Asia and the World*, 29(2), 196–217. <https://doi.org/10.1080/21639159.2019.1577694>
- Raza, S. A., Shah, N., & Ali, M. (2019). Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model. *Journal of Islamic Marketing*, 10(1), 357–376. <https://doi.org/10.1108/JIMA-04-2017-0038>
- Singh, N., Sinha, N., & Liébana-Cabanillas, F. J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use and social influence. *International Journal of Information Management*, 50(May 2019), 191–205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia Manufacturing*, 22, 960–967. <https://doi.org/10.1016/j.promfg.2018.03.137>
- Talwar, S., Dhir, A., Khalil, A., Mohan, G., & Islam, A. K. M. N. (2020). Point of adoption and beyond. Initial trust and mobile-payment continuation intention. *Journal of Retailing and Consumer Services*, 55, 102086. <https://doi.org/10.1016/j.jretconser.2020.102086>
- Tam, C., Santos, D., & Oliveira, T. (2020). Exploring the influential factors of continuance intention to use mobile Apps: Extending the expectation confirmation model. *Information Systems Frontiers*, 22(1), 243–257. <https://doi.org/10.1007/s10796-018-9864-5>
- To, A. T., & Trinh, T. H. M. (2021). Understanding behavioral intention to use mobile wallets in vietnam: Extending the tam model with trust and enjoyment. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1891661>
- Yang, M., Al Mamun, A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability (Switzerland)*, 13(2), 1–18. <https://doi.org/10.3390/su13020831>