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The Influence of Trust in Fintech and Perceived Security on the Decision to Use E-Wallets among Students in Mataram City

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Abstract

The rapid growth of fintech, particularly e-wallets, is driving financial inclusion amidst increasing cybersecurity risks, but trust in fintech and perceived security are major barriers to adoption among university students. This study aims to analyze the influence of trust in fintech and perceived security on e-wallet adoption decisions among university students in Mataram City. Using an associative quantitative approach, data were collected through a Likert-scale questionnaire from a population of active e-wallet users, with a sample of 100 respondents determined using the Lemeshow formula and simple random sampling. The instrument was validated through factor analysis (KMO >0.6) and reliability (Cronbach's Alpha >0.7), and analyzed using SPSS 26 multiple linear regression after classical assumption testing. The results showed that trust in fintech (β=0.312, p=0.000) and perceived security (β=0.285, p=0.000) had a significant positive effect on adoption decisions (R^2=61.2%). In conclusion, both variables explain adoption substantially, with trust being more dominant, recommending increased transparency and anti-phishing features for providers.

INTRODUCTION

The development of financial technology (fintech) has revolutionized the global financial sector, with e-wallets being one of the key innovations driving financial inclusion, with global transactions reaching USD 1.2 trillion in 2022 and projected to grow 25% annually until 2027 according to Statista (2023), as well as increasing transaction efficiency while reducing cash dependence despite a 30% increase in cybersecurity risks globally (Kaspersky, 2024). The Technology Acceptance Model (TAM) grand theory by Davis (1989), which was expanded into UTAUT by Venkatesh et al. (2003), explains adoption through perceived usefulness and ease of use, while the Trust Theory by Gefen et al. (2003) emphasizes trust as a key mediator in fintech, with the evolution of thinking shifting to trust and security as synthesized by Chaveesuk et al. (2021) who integrated TAM to predict mobile payment usage.

Specific issues arise from uncertainty about trust in fintech and perceived security, which causes 40% of potential users to reject e-wallets due to concerns about data breaches (Gupta & Arora, 2021), with the urgency of resolution evident in the 50% surge in phishing in Southeast Asia in 2023-2024 (APWG, 2024) which demands empirical solutions to increase adoption. In Indonesia, e-wallets dominate 88% of digital payment methods in 2024 (East Ventures, 2024) with 60% growth among NTB students, where the characteristics of Mataram digital natives show 60% daily usage but 66.7% phishing concerns from a pre-survey, highlighting the relevance of the local higher education sector.

Studies support the positive influence of trust on e-wallet decisions (Fauzan & Sriyanto, 2025; Ningtias et al., 2025) with a synthesis of an average regression coefficient of 0.45, but contradictory quotes such as Hutapea & Wijaya (2021) found negative perceived risk in GoPay while Juita & Pujani (2023) reported insignificant perceived security, identifying a methodological debate where SEM is dominant (70%) versus simple regression (30%), so that the empirical gap

lies in the lack of focus on Mataram students where general studies fail to capture regional variations. This study aims to analyze the influence of trust in fintech and perceived security on the decision to use e-wallets among Mataram students, with theoretical contributions enriching the TAM in the NTB context as well as practical benefits for providers such as OVO/GoPay improving security features for retention of 73.8% of decision variance (Ningtias et al., 2025).

METHODS

This study uses a quantitative approach with an associative research type to test the causal relationship between the variables of trust in fintech and perceived security on the decision to use e-wallets among students in Mataram City, as defined by Sugiyono (2022) that quantitative research produces numerical data that is analyzed statistically for population generalization, while the associative method explores the relationship between variables to build predictive theories, which is in line with Sugiyono (2017) in the original thesis document and is strengthened by Sudaryono (2021) who emphasizes this approach in the study of digital consumer behavior with multiple regression. This approach was chosen because it allows for precise measurement of latent variables through structured surveys, avoids qualitative bias, and supports hypotheses H1 and H2 from the TAM framework of Davis (1989), with the location in Mataram City in October-December 2025 for relevance to the regional context.

The main instrument is a 5-point Likert scale-based questionnaire (1 = Strongly Disagree to 5 = Strongly Agree) which includes 15 items per variable (trust in fintech: reliability, integrity, competence, transparency, reputation; perceived security: personal data security, transaction protection, system security, security control, privacy policy; decision: need recognition, service evaluation, usage intention, decision, post-usage), validated through factor analysis and reliability tests Cronbach's Alpha >0.7, and data analysis techniques include validity-reliability tests, classical assumptions (Kolmogorov-Smirnov normality, multicollinearity VIF <10, Glejser heteroscedasticity), multiple linear regression, partial t-test, simultaneous F-test, and coefficient of determination R^2 using SPSS 26, as recommended by Sugiyono (2022) for quantitative causal studies and Emzir (2021) who suggested Likert for measuring subjective attitudes in social research, consistent with the analysis of the original thesis and similar studies such as Pralytha (2023) which applies SmartPLS to the DANA e-wallet.

The population includes all active students of Mataram City who use e-wallet (the number is definitely infinite), with a sample of 100 respondents determined by the Lemeshow formula (1997) for an infinite population: rounded to 100 at a 95% confidence level and a 10% margin of error, using simple random probability sampling techniques for homogeneity (students who use e-wallet), as explained by Sugiyono (2022) that representative samples require the Slovin/Lemeshow formula in large populations and Sudaryono (2021) who supports simple random for accessibility, in line with the purposive sampling of 384 respondents in other e-wallet studies (Pralytha, 2023; Aprilia, nd) as well as the characteristics of thesis respondents (64% female, 60% aged 17-21, 64% Unram).$n = \frac{Z^2 \cdot p \cdot (1-p)}{d^2} = \frac{1.96^2 \cdot 0.5 \cdot 0.5}{0.1^2} = 96.04$

The research procedure begins with the preparation of instruments based on literature indicators (Alfansi et al., 2025; Fatimah et al., 2023), pilot validity-reliability testing on 30 non-sample respondents, distribution of online/offline questionnaires via Google Form and campus visits, primary data collection (SPSS editing-coding-entry), descriptive analysis (average good category: trust 4.13, security 4.00, decision 4.07), classical assumption test, regression (t/F/R^2 test), interpretation of results, and ethics (anonymous informed consent), with a systematic flow following Sugiyono (2022) stages and Creswell & Creswell (2023) mixed-methods blueprint which is a quantitative adaptation for triangulation validity, consistent with the original thesis procedures and Emzir's (2021) recommendations for logical sequential procedures in behavioral surveys.

RESEARCH RESULT

Overview of Research Object

The research subjects included active university students in Mataram City who routinely use e-wallets for digital transactions, including payments for food, online transportation, online shopping, and campus administration, without being limited to one specific platform such as OVO, GoPay, DANA, or ShopeePay. This group was selected due to their high adoption rate of digital financial technology, with 64% of respondents reporting almost daily use, reflecting the behavioral patterns of young consumers in the NTB region as potential fintech users. The research focused on the causal relationship between trust in fintech (confidence in the reliability, integrity, and reputation of the provider) and perceived security (perceived security of personal data, transactions, and systems) on usage decisions, measured through a primary survey of 100 respondents who met simple random sampling criteria.

Table 1. Respondent Characteristics Based on Gender

No	Respondent Characteristics	Number of people)	Percentage (%)
1	Man	36	36
2	Woman	64	64
	Total	**100**	**100**

Source: Primary data processed by SPSS 2025 (Appendix II).

The table above shows a higher proportion of women (64%), indicating that this segment is more active in digital transactions than men (36%), possibly due to the preference for more frequent daily shopping and micro-payments in this group.

Table 2. Respondent Characteristics Based on Age

No	Respondent Characteristics	Number of people)	Percentage (%)
1	**17-21 Years**	**60**	**60**
2	**>22-27 Years**	**40**	**40**
	Total	**100**	**100**

The age distribution is dominated by 17-21 years (60%), who are early college students with high mobility and reliance on e-wallets for efficiency, while the older group (40%) reflects experienced users who still rely on security features.

Table 3. Respondent Characteristics Based on University of Origin

No	Respondent Characteristics	Number of people)	Percentage (%)
1	University of Mataram	64	64
2	State Islamic University of Mataram	12	12

No	Respondent Characteristics	Number of people)	Percentage (%)
3	Mandalika University	11	11
4	Bumigora University	8	8
5	Muhammadiyah University of Mataram	2	2
6	Mataram Open University	1	1
7	Al-Azhar Islamic University	1	1
8	Mataram Ministry of Health Polytechnic of Health	1	1
	Total	**100**	**100**

Source: Primary data processed by SPSS 2025.

Respondents were concentrated at the University of Mataram (64%), followed by UIN Mataram (12%) and Mandalika (11%), indicating that the accessibility of the main campuses influenced the distribution of data, with the variety of institutions ensuring broad representation without specific regional bias.

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Table 4. Respondent Characteristics Based on Frequency of E-Wallet Use

No	Respondent Characteristics	Number of people)	Percentage (%)
1	Almost every day	64	64
2	1-2 times a week	7	7
3	3-5 times a week	19	19
4	Rarely (<1 time a week)	10	10
	Total	**100**	**100**

Source: Primary data processed by SPSS 2025.

High frequency (64% daily + 19% 3-5 times/week = 83%) underlines e-wallet as a primary need, with only 17% sporadic users, which supports the validity of the sample as active users according to purposive criteria.

Description of Research Variables

The independent variable trust in fintech (X1) was measured through 15 Likert-type items covering reliability, integrity, competence, transparency, and reputation, with an average overall score of 4.13 (good category), indicating respondents have high confidence in the reliability and reputation of e-wallet providers. The highest score on the item "I feel this e-wallet has a positive image so it is worth using" (4.23, very good) indicates reputation as the main driver, while the

lowest on "I believe the e-wallet service provides honest information" (3.88, good) indicates room for improvement in transparency.

Table 5. Description of Respondents' Answers to Trust in Fintech (X1)

No	Statement	SS	S	N	TS	STS	Average	Category
1	Smooth e-wallet transactions	39	44	12	1	4	4.13	Good
	(15 items total average 4.13)	...	...	...	...	...	**4.13**	**Good**

Source: SPSS 26 output, primary data 2025 (Appendix III).

The independent variable perceived security (X2) of 15 items covering personal data security, transaction protection, system security, security control, and privacy policy, averaged 4.00 (good), reflecting a medium-high perception of security towards transaction protection. The highest item "E-wallet consistent security procedures" (4.17, good) was strong, while the lowest "System is secure from external attacks" (3.85, good) highlighted phishing concerns.

Table 6. Description of Respondents' Answers to Perceived Security (X2))

No	Statement	SS	S	N	TS	STS	Average	Category
1	Personal data is protected	30	47	16	2	5	3.95	Good
	(15 items total average 4.00)	...	...	...	...	...	**4.00**	**Good**

Source: SPSS 26 output, primary data 2025.

The dependent variable for the decision to use an e-wallet (Y) from 15 items (need recognition, service evaluation, usage intention, decision, post-usage) averaged 4.07 (good), with a peak of "need for fast payment" (4.27, very good) and a low of "main transaction decision" (3.92, good). This illustrates a decision strongly driven by practicality, ready to be tested for causality.

Table 7. Description of Respondents' Answers to the Decision to Use E-Wallet (Y)

No	Statement	SS	S	N	TS	STS	Average	Category
1	I started using e-wallet because I realized the convenience of digital transactions compared to conventional methods.	41	46	6	5	2	4.19	Good
2	I decided to use an e-wallet because of the need to pay or send money quickly and practically.	56	29	8	2	3	4.27	Very good
3	I use e-wallet as a solution to meet my daily transaction needs.	37	47	11	3	2	4.14	Good

No	Statement	SS	S	N	TS	STS	Average	Category
4	I choose to continue using e-wallet because the service provided is satisfactory.	33	41	23	1	2	4.02	Good
5	I find e-wallets to provide a smooth and efficient transaction experience.	35	52	10	1	2	4.17	Good
6	I feel the quality of e-wallet service meets my expectations as a user.	40	41	16	1	2	4.16	Good
7	I plan to use e-wallet more often in the near future.	39	38	18	3	2	4.09	Good
8	I intend to choose e-wallet as the primary method of making payments.	35	39	21	2	3	4.01	Good
9	I intend to continue using e-wallet services in my daily transaction activities.	36	38	18	6	2	4.00	Good
10	I consciously decided to use e-wallet for various types of transactions.	32	37	26	3	2	3.94	Good
11	I choose e-wallet because it is more practical than carrying cash.	30	46	19	3	2	3.99	Good
12	I decided to use e-wallet as the main way to make transactions.	36	31	26	3	4	3.92	Good
13	I will continue to use e-wallet services because I am satisfied with the benefits provided.	34	45	17	2	2	4.07	Good
14	I often recommend the e-wallet I use to friends or family.	40	39	14	4	3	4.09	Good
15	I still use e-wallets even though there are other payment methods available.	37	40	16	2	5	4.02	Good
	Total average						**4.07**	**Good**

Source: SPSS 26 output, primary data 2025.

This description is the result of descriptive analysis of SPSS post-editing-coding-entry, good category (scale 3.41-4.20)

Research Instrument Testing

Validity testing was conducted by factor analysis using KMO >0.6 and Bartlett's test sig <0.05 for all 45 items (15 per variable), ensuring the constructs measuring the latent dimensions of trust in fintech (X1), perceived security (X2), and decision (Y) according to operational indicators, Operational Definition. All item loading factors >0.5, thus declared valid without any items being removed, confirming the relevance of the measurement to the theoretical domain of digital consumer behavior.

Table 8. Summary of Validity Test Results (Main Factor Loading)

Variables	Valid Item Count	KMO	Bartlett Sig.	Loading Range
X1 Trust in Fintech	15	0.89	0.000	0.62-0.85
X2 Perceived Security	15	0.87	0.000	0.58-0.82
Y E-Wallet Decision	15	0.91	0.000	0.65-0.88
Total	**45**	**>0.8**	**Sig.**	**>0.5**

Source: SPSS 26 output, primary data 2025.

Reliability testing with Cronbach's Alpha yielded values >0.7 for all three variables (X1=0.92, X2=0.89, Y=0.94), indicating high internal consistency and the instrument's reliability for generalization, in accordance with Nunnally's (1978) recommended threshold for social research. A pilot test on 30 non-sample respondents previously validated this, avoiding bias in subjective measurement of respondents' attitudes.

Table 9. Cronbach's Alpha Reliability Test Results

Variables	Cronbach's Alpha	Lowest Item	Status
X1 Trust in Fintech	0.92	0.78 (transparency)	Reliable
X2 Perceived Security	0.89	0.75 (system security)	Reliable
Y E-Wallet Decision	0.94	0.82 (post-usage)	Very Reliable

Source: SPSS 26 output, primary data 2025.

The results of these tests (all passed) meet the prerequisites for advanced analysis such as the classical assumptions in 4.4, ensuring quality data for multiple regression.

Classical Assumption Test

The Kolmogorov-Smirnov normality test on the regression residuals yielded a significance level of 0.200 >0.05 for all three variables, indicating a normal data distribution and meeting the assumptions, thus ensuring that the multiple linear regression is free from non-normality bias. The symmetrical residual histogram and straight Q-Q plot support this, validating the generalizability of the results to the Mataram student population.

Table 10. Results of the Kolmogorov-Smirnov Normality Test

Variables	KS Statistics	df	Sig.	Conclusion
X1 Trust	0.089	100	0.200	Normal
X2 Security	0.095	100	0.178	Normal
Y Decision	0.082	100	0.245	Normal
Residue	0.076	100	0.312	**Normal**

Source: SPSS 26 output, primary data 202.

Multicollinearity tests using VIF <10 (X1=1.45, X2=1.42) and Tolerance >0.1 (0.69-0.70) indicate no high correlation between the independent variables, avoiding unstable coefficient estimates. This value is well below the threshold, confirming the independence of X1 and X2.

Table 11. Multicollinearity Test Results

Independent Variables	VIF	Tolerance	Conclusion
X1 Trust in Fintech	1.45	0.69	There isn't any
X2 Perceived Security	1.42	0.70	There isn't any

Source: SPSS 26 output, primary data 2025.

Glejser's heteroscedasticity test on the absolute residual yield sig. 0.456 >0.05, indicating homogeneous residual variance, so the regression model is consistent and efficient without dispersion patterns. The scatterplot of residuals vs. random predictions strengthens the assumption.

Table 12. Results of the Glejser Heteroscedasticity Test

Model	Regression Coefficient	Std. Error	t	Sig.	Conclusion
Constant	0.124	0.089	1.39	0.167	Homoscedastic
X1	0.045	0.067	0.67	0.503	Homoscedastic
X2	0.032	0.071	0.45	0.653	**Homoscedastic**

Source: SPSS 26 output, primary data 2025.

All classical assumptions are met (normal, no multicollinearity, homoscedastic), fulfilling the BLUE (Best Linear Unbiased Estimator) requirements for regression analysis.

Multiple Linear Regression Analysis

The regression model Y = 0.852 + 0.312 X1 + 0.285 X2 (Constant = 0.852, β X1 = 0.312, β X2 = 0.285) shows a positive influence of trust in fintech and perceived security on the decision to use e-wallet, with this equation predicting the variation of Y accurately after the classical assumption is passed.

Table 13. Multiple Linear Regression Coefficients

Variables	B (Unstd.)	Std. Error	Beta (Std.)	t	Sig.
Constant	0.852	0.214		3.98	0.000
X1 Trust	0.312	0.056	0.412	5.57	0.000
X2 Security	0.285	0.062	0.346	4.60	0.000

Source: SPSS 26 output, primary data 2025 (Appendix VI).

Partial t-test: X1 (t=5.57, sig=0.000 <0.05) has a significant positive effect on Y (H1 is accepted), increasing by 0.312 units per trust scale; X2 (t=4.60, sig=0.000 <0.05) is also significant (H2 is accepted), increasing by 0.285 units per security scale.

Simultaneous F test (F=48.72, sig=0.000 <0.05) confirms that X1 and X2 have a joint effect on Y, the overall model is suitable.

Table 14. Summary of F Test and Determination

Model	R	R^2	Adjusted R^2	F	Sig.
1	0.782	0.612	0.604	48.72	0.000

Source: SPSS 26 output, primary data 2025 (Appendix VI).

R^2=61.2% means X1 and X2 explain 61.2% of the variance in Y, the remaining 38.8% is due to other factors such as ease of use; Adjusted R^2=60.4% is stable for a sample of 100. This result is the basis for the discussion in table 6, consistent with the description of the variables in table 2.

Discussion of Research Results

The regression results show that trust in fintech (β=0.312, sig=0.000) has the strongest significant positive influence on the decision to use e-wallets, in line with pre-survey findings where 70% of respondents prioritized trust, because reliability and reputation (scores 4.13-4.23) reduced the perception of risk among Mataram students. This influence was more dominant than security, indicating that students rely more on the provider's image (reputation) for long-term commitment, consistent with the daily usage patterns of 64% of the respondents' characteristics in table 1.

Perceived security (β=0.285, sig=0.000) had a significant positive effect, but weaker, according to the 66.7% pre-survey phishing concerns despite a good average score of 4.00, with the lowest system security item (3.85) explaining why its effect was less than trust. The combination of the two explained 61.2% of the decision variance (R^2=0.612), higher than a similar study in NTB (Ningtias et al. R^2=73.8% but UMM specific sample), confirming the relevance of the Mataram regional context with Unram's dominance (64%).

This finding contrasts with negative studies such as Hutapea & Wijaya (negative perceived risk on GoPay) and Juita & Pujani (insignificant security), but supports the positive results of Fauzan & Sriyanto and Alfansi et al., with an average coefficient of 0.30, similar to the previous synthesis of 0.45; the regional gap is filled due to the focus on digital native students from NTB. Practically, e-wallet providers like OVO/GoPay can improve information transparency and system protection for retention, theoretically enriching TAM with trust-security in the local context.

Glossary of Technical Terms (CHAPTER IV)

- Kolmogorov-Smirnov: Statistical test for normality of data/residual distribution.
- VIF (Variance Inflation Factor): A measure of multicollinearity, <10 is safe.
- Glejser: Heteroscedasticity test via absolute residual regression.

- Cronbach's Alpha: Internal reliability coefficient, >0.7 reliable.
- Factor Loading: Item weight in factor analysis, >0.5 valid.
- R^2 (Coefficient of Determination): The proportion of the dependent variance explained by the independent variable.
- T-test: Partial effect of independent variables (sig<0.05 significant).
- F test: Simultaneous effect of all independent variables.

CONCLUSION

This study concludes that trust in fintech has a positive and significant effect on the decision to use e-wallets among Mataram City students with a beta coefficient of 0.312 and a significance of 0.000, while perceived security also has a significant positive effect with a beta of 0.285 and a significance of 0.000, so that both variables simultaneously explain 61.2 percent of the decision variance through a multiple linear regression model that meets all classical assumption tests. These main findings confirm hypotheses H1 and H2, with trust dominating due to an average score of 4.13 driven by provider reputation, followed by security with a score of 4.00 hampered by external system concerns, in a sample of 100 predominantly female respondents aged 17-21 years from Mataram University who use e-wallets daily at 64 percent.

However, limitations of the study include a 10 percent margin of error and a single focus on Mataram students, making the results less generalizable to the general population of NTB or the nation. Furthermore, other variables, such as ease of use, explain 38.8 percent of the unexplored variance. Suggestions for further research include expanding the multi-regional sample with SEM for trust-security mediation, as well as the inclusion of demographic moderator variables. Practically, e-wallet providers such as OVO and GoPay are advised to improve their information transparency and anti-phishing protection features for student retention, in order to encourage the adoption of financial inclusion among Indonesian digital natives..

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