

TAM-BASED ANALYSIS OF E-WALLET USAGE INTENTIONS WITH RISK PERCEPTION AS A MODERATING VARIABLE

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Abstract. This study aims to analyze the determinants of e-wallet usage intention using the Technology Acceptance Model (TAM) with perceived risk as a moderating variable. The independent variables include perceived ease of use, perceived usefulness, and perceived complexity. The study employs a quantitative approach with a sample of 120 Accounting Education students at Universitas Negeri Semarang. Data were collected through questionnaires and analyzed using multiple linear regression and moderated regression analysis. The results indicate that perceived ease of use has a positive and significant effect on usage intention, while perceived usefulness, perceived complexity, and perceived risk show significant negative effects. The model explains 32.5% of the variance in intention, increasing to 35.4% after incorporating interaction variables. Moderation analysis reveals that perceived risk significantly moderates the relationship between perceived ease of use and perceived usefulness on usage intention, but not the relationship involving perceived complexity. These findings highlight the importance of usability and risk perception in shaping fintech adoption behavior.

Keywords: TAM; E-Wallet; Perceived Ease; Perceived Usefulness; Perceived Risk; Usage Intention

I. INTRODUCTION

The advancements in digital financial technology have profoundly transformed the transaction behaviors within society, particularly among students who actively engage with digital services. By 2022, Indonesia saw internet penetration reach 66.48% of its 275 million population, with 67.88% of individuals owning or using at least one mobile phone, laying a solid groundwork for the rise of e-wallet usage (Underdown & Tamara, 2025). E-wallets, or electronic wallets, are services that enable users to store money, make payments, and perform financial transactions electronically via digital devices (Apriani & Wuryandari, 2022). Research by John et al. (2024) reveals that college students, as representatives of Generation Z who have grown up within the digital ecosystem, are the demographic most actively engaging with e-wallet services in their daily transactions, including tuition payments, purchasing books, and making purchases in campus cafeterias. A study conducted among college students in Central Java indicated that trust and social influence significantly impacted students' intentions to adopt e-wallets, with trust being a crucial driving force alongside other factors (Jihad & Mustofa, 2024). Additionally, research findings by Wawo et al. (2023) and Yesica et al. (2021) further establish that the utilization of e-wallets significantly influences student behavior, highlighting that college students, in particular, exhibit a high frequency of e-wallet usage in their academic and daily lives. This trend is particularly relevant when examined in the context of the 2022 cohort of the Accounting Education Study Program at the State

University of Semarang (UNNES), who are future educators in accounting and are expected to possess a solid understanding and skills in leveraging digital financial technology.

To comprehend the technology acceptance behavior among college students, the Technology Acceptance Model (TAM), initially proposed by Davis in 1989, serves as the most pertinent theoretical framework and has undergone extensive validation in numerous information systems studies, including e-wallet adoption (Ayu et al., 2023). TAM posits that the intention to use technology is chiefly influenced by two main constructs: the perception of ease of use and the perception of usefulness, which collectively shape the user's attitude toward technology (Sunarya, 2022). Research conducted on undergraduate students within the Faculty of Economics and Business at the University of Jambi demonstrated that ease of use positively and significantly affected the intention to use the DANA e-wallet, indicating that a user-friendly application interface is a primary determining factor for this student demographic (Hutabarat et al., 2026). In a more focused context, findings from Alhusna et al. (2024) concerning FEBI UINSU Sharia Accounting students confirmed that perceived usefulness positively and significantly influenced their intention to use DANA e-wallets, suggesting that accounting students view the practical advantages of e-wallets in facilitating their academic and financial activities as pivotal in their adoption decisions. An empirical investigation involving university students in Malaysia also corroborated that perceived ease of use and perceived usefulness positively impact students' willingness to

adopt e-wallets, in conjunction with lifestyle conformity factors (Seng et al., 2023). These findings underscore that TAM continues to be a relevant analytical framework for examining e-wallet usage intentions among college students, including UNNES Accounting Education students who possess a financial education background that enhances their comprehension of the advantages of financial technology (Goh et al., 2025).

In addition to the two fundamental components of the Technology Acceptance Model (TAM), the factor of perceived complexity is gaining acknowledgment as an essential element in exploring technology adoption among students, particularly for those encountering digital innovations for the first time. Perceived complexity denotes the degree to which an individual views an innovation as relatively challenging to comprehend and utilize, which can directly diminish the likelihood of adopting that technology (Salma & Permatasari, 2025). This dimension of complexity holds particular significance for students as they engage intensively with various e-wallet functionalities upon entering their academic journey, leading to diverse perceptions regarding interface complexity, verification processes, and payment methods (Rahman & Oktaryani, 2025). Research conducted by Th. Susetyarsi (2023) among students in Semarang City revealed that ease of use and practicality positively influenced the interest in e-wallet usage, while implicitly suggesting that the perception of system complexity could pose a challenge, especially for new users unfamiliar with the digital payment landscape [14]. Investigations into Generation Z students in Indonesia have more clearly highlighted that low digital literacy exacerbates the perception of complexity, thereby hindering the acceptance of new financial technologies (Boufounou, 2025). Consequently, incorporating perceived complexity as an independent variable in this research model is anticipated to enhance the understanding of the factors influencing e-wallet usage intentions among students in the UNNES Accounting Education class of 2022.

Risk perception constitutes another vital variable that has consistently demonstrated an impact on the adoption decisions of digital financial services among college students. An investigation involving Sharia accounting students at UINSU empirically validated that risk perception negatively and significantly affected the interest in utilizing the DANA e-wallet; as perceived risk increased, interest in using the service correspondingly decreased (Alhusna et al., 2024). The findings from Laloan et al. (2023), who examined e-wallet users within the Faculty of Economics at Sam Ratulangi Manado University, also indicated that risk influenced the interest of QRIS e-payment users, albeit with varying effects depending on the context and characteristics of the respondents. What makes risk perception particularly intriguing to explore as a moderating variable in this study is its potential to alter the strength and direction of the relationships between TAM constructs and usage intention; the impact of ease of use, effectiveness, and complexity on usage intention can be either amplified or diminished based on the level of risk perceived by students (Jamshaid, 2025). This situation is particularly relevant for students in the UNNES Accounting Education class of 2022, who, as future educators in accounting, exhibit heightened sensitivity to financial risks and data security in digital

transactions due to their academic training. Recent systematic research by Wei et al. (2025) affirms that risk perception acts as a moderator that influences fintech adoption decisions in a nuanced manner, both reinforcing and mitigating the relationships between TAM variables and user intentions.

While the exploration of e-wallet adoption among college students has surged significantly, there remain several research gaps that warrant attention. Firstly, investigations that specifically focus on students within the Accounting Education study program, who possess distinct characteristics as future educators with a solid grasp of accounting principles, are still scarce. This demographic constitutes a crucial segment of the digital finance education landscape in Indonesia. Consistent with the insights of Wardiyah et al. (2026), which highlighted the significance of demographic factors and academic backgrounds in shaping financial technology adoption behaviors, it is posited that students with well-defined accounting skills may exhibit different patterns of e-wallet acceptance and usage compared to their peers in other disciplines. Secondly, the majority of studies have primarily analyzed the direct effects of Technology Acceptance Model (TAM) variables, often neglecting to incorporate perceived complexity as a significant third predictor, particularly regarding students adapting to various technologies, as noted in the findings of Arini et al. (2024). Thirdly, the influence of risk perception as a moderating variable has not been thoroughly examined; it should not merely be viewed as an independent variable that affects the relationship between the TAM constructs and the intention to utilize e-wallets, especially within the college context at UNNES in Central Java. The research conducted by Tripathi (2021) on undergraduate students in Indonesia affirmed that TAM models enhanced with moderation variables offer a more nuanced and precise understanding compared to conventional TAM models. Consequently, this study intends to investigate the impact of ease of use, perceived usefulness, and perceived complexity on the intention to adopt e-wallets, with risk perception serving as a moderating variable among the 2022 cohort of Accounting Education students at Semarang State University, aiming to contribute both theoretically to the enhancement of the TAM model and provide practical insights for university administrators, e-wallet platform developers, and stakeholders in financial vocational education in Indonesia.

A. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) serves as a theoretical framework that elucidates the degree to which the public embraces technological advancements, such as the adoption of e-wallets. This model has emerged as one of the most prevalent methodologies for forecasting individual interest in utilizing information technology systems. Formulated by Fred D. Davis in 1989, TAM highlights two essential constructs that affect technology adoption: the perception of utility and the perception of ease of use. The perception of utility pertains to an individual's belief that a system can enhance the performance or efficiency of their activities, while the perception of ease of use concerns how effortlessly the individual finds it to comprehend and operate the technology without undue effort. The TAM model elucidates that both perceptions significantly influence users' present attitudes, intentions, and behaviors towards a technology.

Research by Jihad & Mustofa (2024) indicates that in the realm of financial technologies, particularly regarding e-wallets, the ease of access and the practical advantages recognized by users emerge as pivotal factors in the decision to incorporate such technology into daily transactional practices. Consequently, TAM offers insight into the causal connections between user perceptions, needs, and the application of information technology systems in everyday life.

B. Intention to Use E-Wallet

The intention to utilize technology is characterized as an individual's behavioral inclination to engage with a specific system (Venkatesh et al., 2000). The intention to use is a crucial factor in the acceptance of digital payment technologies, where favorable views of the technology will enhance individuals' likelihood of continued usage in the future (Nadia & Wiryawan, 2022). Within this research, the intention to employ e-wallets signifies the acceptance of non-cash payment technologies, as indicated by the user's aspiration and strategy to use e-wallets during transaction activities. These intentions are shaped by perceptions of usability and perceived convenience; the simpler and more advantageous a system appears, the greater the individual's likelihood of adopting and utilizing it. Fariantin et al. (2024) outline indicators of intention to use as follows:

- Intention to utilize e-wallets for daily transactions
- Plans to employ e-wallets in the future
- The aspiration to consistently use e-wallets.

C. Customer convenience

The perception of usability pertains to an individual's belief that a technology can be comprehended and utilized with minimal effort. When a system is regarded as user-friendly, individuals generally adopt a favorable attitude toward the technology and exhibit a propensity to engage with it. The perception of usability stands as a crucial factor that affects the intention to adopt e-wallets. Research conducted by Desvronita (2021), Susanti & Putra (2023), Aziz (2021), Aprilyani et al. (2022), and Jihad & Mustofa (2024) indicates that ease of use has a positive impact on the interest in utilizing e-wallets. Conversely, Suhendri (2021) reported a contrasting finding, revealing no substantial influence. These varying outcomes imply that the perceived effect of usability on the intention to use e-wallets has not been uniform and remains affected by user context along with other elements within the Technology Acceptance Model framework. Robaniyah & Kurnianingsih (2021) delineate the indicators of perceived benefits in technology utilization as follows:

- Simplicity in learning it
- User-friendly
- Clear and comprehensible.
- Enhancing their proficiency.

H1: Ease of use has a positive and significant effect on e-wallet usage intention among Accounting Education students, Class of 2022, Semarang State University.

D. expediency

The research conducted by Desita (2022), Panasea (2021), and Darma & Devi (2022) indicates that perceptions of convenience positively influence interest in utilizing e-wallets. Conversely, the results from Violinda & Khorunnisya (2022) reveal that perceptions of convenience do not have a significant impact and tend to detract from usage behavior. These

contrasting findings imply that the benefits perceived by users do not necessarily translate into actual e-wallet use, as their impact can be affected by various other factors including trust, risk perception, system complexity, and user characteristics. Fariantin et al. (2024) outline the indicators of perceived benefits associated with technology use as follows:

- Simplifying payment transactions
- Accelerating payment transactions
- Offering additional advantages during transactions
- Providing a sense of security when conducting payment transactions
- Enhancing efficiency in payment processes
- Making payments more convenient
- Saving time.

H2: Usefulness has a positive and significant effect on e-wallet usage intention among Accounting Education students, Class of 2022, Semarang State University.

E. Perceived Complexity

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Perceived complexity serves as a significant factor affecting the acceptance of technology, particularly within digital payment systems like e-wallets. This notion pertains to the extent of difficulty that users experience when trying to comprehend and utilize technology. An increase in perceived complexity correlates with a heightened effort required from the user, which may lead to psychological barriers and a reduction in the intention to consistently use e-wallets. Muliadi et al., (2023) discovered that user-perceived complexity adversely impacts the interest in utilizing digital payments, as challenges in grasping features and transaction processes diminish the likelihood of usage. Comparable conclusions were presented by Babu, (2024), who asserts that complexity has emerged as a significant obstacle to e-wallet adoption, particularly among users with limited technological skills. Babu, (2024) identifies three indicators of perceived benefits associated with technology usage as follows:

- Limited technological literacy
- The intricacy of the interface design and the functionality of e-wallet features
- Users feeling overwhelmed in comprehending e-wallet services.

H3: Perceived complexity has a negative and significant effect on e-wallet usage intention among Accounting Education students, Class of 2022, Semarang State University.

F. Risk Perception

Risk perception refers to an individual's personal evaluation of the chances of incurring losses or facing adverse outcomes from utilizing digital financial services. This concept of risk perception includes various dimensions such as financial, performance, privacy, psychological, and social risks. Research conducted by Alhusna et al. (2024) involving UINSU FEBI Shariah Accounting students demonstrates that risk perception has a significantly negative impact on the willingness to use the DANA e-wallet. In this research, risk perception is treated as a moderating variable that either amplifies or diminishes the effects of ease of use, utility, and perceived complexity on intentions to use e-wallets. Apriani & Wuryandari (2022)

outline the indicators related to the perceived benefits of technology use as follows:

- Monetary risk Performance risk
- Psychological risk
- Physical risk Social risk
- Temporal risk

H4: Perceived risk moderates (weakens) the effect of ease of use on e-wallet usage intention.

H5: Perceived risk moderates (weakens) the effect of usefulness on e-wallet usage intention.

H6: Perceived risk moderates (strengthens) the negative effect of perceived complexity on e-wallet usage intention.

II. RESEARCH METHODS

This research is a quantitative investigation employing an associative approach that seeks to evaluate the impact of perceptions regarding ease of use, perceptions of convenience, and perceived complexity on the intentions to utilize e-wallets, incorporating one moderating variable within the context of the Technology Acceptance Model (TAM). The target population consists of students from the Accounting Education Class of 2022 at Semarang State University, with a sample size of 120 respondents. The data utilized is primary data collected through the online dissemination of a questionnaire via Google Forms. The research instruments are meticulously designed based on the indicators of each variable and are assessed using a Likert scale ranging from 1 to 5. The sampling method employed is non-probability sampling with a purposive approach, specifically targeting respondents who have experience using e-wallets. Data analysis encompasses tests for the research instruments (including validity and reliability assessments), classical assumption tests, multiple linear regression analyses, and hypothesis testing through t-tests, F-tests, and moderation tests. Data processing is executed using SPSS software, version 26.

III. RESULT AND DISCUSSION

This research is a quantitative investigation employing an associative approach that seeks to evaluate the impact of perceptions regarding ease of use, perceptions of convenience, and perceived complexity on the intentions to utilize e-wallets, incorporating one moderating variable within the context of the Technology Acceptance Model (TAM). The target population consists of students from the Accounting Education Class of 2022 at Semarang State University, with a sample size of 120 respondents. The data utilized is primary data collected through the online dissemination of a questionnaire via Google Forms. The research instruments are meticulously designed based on the indicators of each variable and are assessed using a Likert scale ranging from 1 to 5. The sampling method employed is non-probability sampling with a purposive approach, specifically targeting respondents who have experience using e-wallets. Data analysis encompasses tests for the research instruments (including validity and reliability assessments), classical assumption tests, multiple linear regression analyses, and hypothesis testing through t-tests, F-tests, and moderation

tests. Data processing is executed using SPSS software, version 26.

A. Reliability Test

Table 1. Reliability Test

Variable	Total	Cronbach's Alpha	Alpha Standardized
Perceived Ease of Use (X1)	8	0,879	0,881
Perceived Usefulness (X2)	14	0,823	0,821
Perceived Complexity (X3)	8	0,925	0,924
Perceived Risk (Z)	8	0,854	0,853
Intention to Use E-Wallet (Y)	6	0,726	0,709

Overall, the findings from the reliability assessment indicated that all study variables achieved Cronbach's Alpha scores exceeding the minimum threshold of 0.70, thereby confirming their adequate internal consistency for subsequent analysis. The Perceived Complexity variable exhibited the highest level of reliability (0.925), signifying very strong consistency, although it may also suggest a high degree of item homogeneity. The Perception of Ease of Use (0.879) and Risk Perception (0.854) variables also fall within the highly reliable category, while the Perception of Effectiveness (0.823) is deemed sufficiently reliable despite containing a relatively large number of items. Conversely, the Intention to Use E-Wallet variable recorded the lowest score (0.726), yet it still satisfied the reliability criteria, albeit with signs of variability in between-item consistency. Therefore, the research instruments are generally considered suitable for use, but ongoing assessment of item quality is essential to ensure the precision of construct measurements.

B. Validity Test

Table 2. Normality Test

Test	Indicator	Value	Criteria
Normality (Kolmogorov-Smirnov)	Asymp. Sig. (2-tailed)	0,066	> 0,05

The findings from the Kolmogorov-Smirnov test reveal a significance value of 0.066 (>0.05), indicating that the residuals within the regression model can be regarded as normally distributed. This suggests that the normality assumption holds, ensuring that the parameter estimation remains unbiased due to any irregular error distribution. The normality of the residuals further enhances the credibility of statistical tests, particularly the t-test and the F-test, which rely on the assumption of a normal distribution. Consequently, the regression model employed has fulfilled one of the essential criteria in inferential analysis.

Table 2. Multicollinearity Test

Test	Indicator	Value	Criteria
Multicollinearity VIF	Tolerance (X1)	0,511	> 0,10
	VIF (X1)	1,958	< 10
	Tolerance (X2)	0,455	> 0,10
	VIF (X2)	2,199	< 10
	Tolerance (X3)	0,975	> 0,10
	VIF (X3)	1,026	< 10
	Tolerance (Z)	0,824	> 0,10
	VIF (Z)	1,214	< 10

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Table 3. Model Fit

R Square	Adj. R Square	F	Sig.
0.570	0.325	13.869	0.000

Regression models demonstrate a satisfactory level of qualification. An R value of 0.570 signifies an existing correlation between independent variables and the intention to utilize e-wallets. An R Square of 0.325 reveals that the model can account for 32.5% of the variation in the dependent variable, while the remainder is affected by external factors not included in the model. After accounting for the number of variables and the sample size, the Adjusted R Square of 0.302 confirms that the model's apparent strength remains consistent. An F value of 13.869 with a significance level of 0.000 suggests that the model is significantly relevant as a whole. Therefore, the combination of variables employed is sufficiently pertinent to elucidate the phenomenon being investigated, although its impact is still moderate and allows for further refinement of the model.

C. Regression

Table 4. Ordinary Least Square

Variable	Coeff	t	Sig.
(Constant)	26.521	10.543	0.000
Perceived Ease of Use	0.418	6.066	0.000
Perceived Usefulness	-0.154	-2.921	0.004
Perceived Complexity	-0.064	-2.285	0.024
Perceived Risk	-0.160	-2.759	0.007

The findings from the regression coefficient analysis indicate that:

- The Ease of Use Perception possesses a beta coefficient value of 0.650 with a significance level of 0.000 ($p < 0.05$). This indicates that the Ease of Use Perception exerts a positive and significant influence on the Intention to Use E-Wallet. In other words, as the perception of ease of use increases, so does the intention to utilize the E-Wallet.
- The Perception of Effectiveness has a beta coefficient value of -0.332 with a significance level of 0.004 ($p < 0.05$). This implies that the Perception of Effectiveness significantly impacts the Intention to Use E-Wallet, albeit in a negative direction within the multiple regression framework. This suggests the potential influence of interactions or relationships affected by other variables included in the model.

- Perceived Complexity is associated with a beta coefficient value of -0.177 and a significance level of 0.024 ($p < 0.05$). This indicates that an increased perception of complexity correlates with a decreased intention to use the E-Wallet.
- Risk Perception has a beta coefficient value of -0.233 with a significance level of 0.007 ($p < 0.05$). This suggests that as the perception of risk perceived by the user rises, the intention to utilize the E-Wallet diminishes.

Consequently, all independent variables in the primary model have been shown to exert a significant effect on the Intention to Use E-Wallet.

Table 5. Moderating Effect

Variable	Coeff	t	sig
(Constant)	19.972	8.159	0.000
Perceived Ease of Use	-0.661	-1.270	0.207
Perceived Usefulness	0.503	1.509	0.134
Perceived Complexity	0.138	0.730	0.467
Perceived Ease of Use × Perceived Risk	0.033	2.075	0.040
Perceived Usefulness × Perceived Risk	-0.019	-1.991	0.049
Perceived Complexity × Perceived Risk	-0.006	-1.027	0.306

The findings from the test results indicated that:

- The interplay between Ease of Use Perception and Risk Perception yielded a significance value of 0.040 ($p < 0.05$), leading to the conclusion that Risk Perception acts as a moderator in the relationship between Perception of Ease and the Intention to Use E-Wallet.
- The interaction between Appropriateness Perception and Risk Perception produced a significance value of 0.049 ($p < 0.05$), indicating that Risk Perception similarly moderated the relationship between Perception of Expediency and the Intention to Use E-Wallet.
- However, the interaction between Perceived Complexity and Risk Perception resulted in a significance value of 0.306 ($p > 0.05$), suggesting that Risk Perception did not moderate the relationship between Perceived Complexity and the Intention to Use E-Wallet.

From the regression analysis results, it can be inferred that Perception of Ease of Use, Perception of Efficacy, Perceived Complexity, and Perception of Risk significantly influence the Intention to Use E-Wallet. Furthermore, it was demonstrated that Risk Perception serves as a moderating variable in the relationship between Perception of Ease and Perception of Appropriateness regarding the use of E-Wallet, but it did not moderate the relationship between Perceived Complexity and Intention to Use E-Wallet.

The findings from the research indicated that the perception of ease of use significantly and positively impacted the intention to utilize e-wallets. These results align with the Technology Acceptance Model (TAM) established by Fred D. Davis, which posits that the perception of convenience is a critical factor in influencing individuals' behavioral intentions regarding technology usage. In the realm of digital payments, ease of use mitigates cognitive barriers for users, thereby enhancing their confidence and convenience when conducting

transactions. Alalwan (2020) and Chong et al. (2021) further corroborated that perceived ease of use directly and significantly affects behavioral intentions related to mobile payment and e-wallet adoption across various developing nations. This suggests that the more user-friendly and intuitive the system is, the greater the likelihood of user adoption.

Moreover, the perception of effectiveness was found to significantly influence the intention to use e-wallets. Theoretically, the perception of expediency refers to how much an individual believes that utilizing a system will enhance its performance or efficiency. As noted by Venkatesh et al. (2022), the ongoing evolution of technology acceptance models indicates that functional advantages remain a strong predictor of intentions to use financial technology. Sharma and Singh (2021), within the context of fintech, also discovered that perceived usefulness is the primary factor propelling the adoption of digital payment services. While negative coefficients were observed in simultaneous models, this could be attributed to multivariate effects or interactions among variables, particularly when considering risk perception as a moderating factor.

The results also indicated that perceived complexity negatively and significantly influenced the intention to utilize e-wallets. Specifically, as users perceive higher levels of complexity, their intention to use the service diminishes. These results align with Ryu's (2020) study, which highlighted that technological complexity poses a significant barrier to fintech adoption. Complexity elevates users' cognitive load and generates discomfort during use, thereby reducing their willingness to adopt. In the context of diverse digital users, intricate systems can hinder technology penetration among segments of society that are less technologically savvy.

In this study, the perception of risk was found to negatively and significantly affect the intention to use e-wallets. This implies that fears regarding data security, the possibility of fraud, or system malfunctions can diminish users' willingness to engage in digital transactions. Featherman and Pavlou (2021) emphasized that perceived risk is a vital psychological element that shapes decisions related to the adoption of electronic services. A recent investigation by Nguyen and Huynh (2022) also highlighted that financial and privacy risks are key factors deterring e-wallet usage in developing countries. With the rise in data breaches and digital fraud incidents, risk perception is increasingly pertinent in influencing user attitudes and intentions.

Furthermore, the findings from the moderation regression analysis revealed that Risk Perception influences the connection between Perception of Ease of Use and Perception of Appropriateness to Intention to Use E-Wallet. This means that even if a system is deemed easy to use and advantageous, the perceived risk level can either amplify or diminish its impact on the intention to use. These results align with the research by Li et al. (2023), which indicates that perceived risk can modify the strength of the relationship between utilitarian factors and behavioral intention in mobile payment usage. However, Perception of Risk does not appear to influence the relationship between Perceived Complexity and Intention to Use. This suggests that complexity maintains a relatively consistent direct effect on the intention to use, unaffected by fluctuations in risk perception.

Overall, the findings from this study bolster the significance of technology acceptance theory in the realm of contemporary digital financial services. The interplay of convenience, expediency, complexity, and risk factors indicates that the choice to adopt an E-Wallet is influenced not only by functional elements but also by psychological aspects and perceptions regarding user security. Consequently, strategies for developing digital services should not solely prioritize feature innovation, but also focus on enhancing security measures and addressing user risk perceptions.

IV. CONCLUSIONS

Based on the outcomes of the multiple linear regression and moderated regression analyses, it can be inferred that the Perception of Ease of Use has a positive and significant impact on the Intention to Use E-Wallet, suggesting that the simpler a system is to understand and operate, the greater the likelihood of an individual to utilize it. The Perception of Effectiveness has also been demonstrated to significantly influence the intention to use, although in the simultaneous model, the coefficient direction indicates a negative relationship, highlighting the interaction dynamics among variables within the research model. Both Perceived Complexity and Risk Perception have negatively and significantly influenced the Intention to Use E-Wallet, indicating that as users perceive higher levels of complexity and risk, their intention to use the service diminishes. Collectively, all independent variables significantly impacted E-Wallet Intentions, with the model explaining 32.5% of the variation in usage intentions. Following the moderation regression analysis, it was discovered that Risk Perception moderated the relationship between Perception of Ease of Use and Perception of Appropriateness to Intention to Use E-Wallet, yet did not moderate the relationship between Perceived Complexity and Intention to Use. The incorporation of interaction variables in the model elevated the coefficient of determination to 35.4%, suggesting that the inclusion of moderation variables enhances the explanatory power of the research model. In light of these findings, it is advisable for E-Wallet service providers to concentrate their development strategies on enhancing the system's ease of use, simplifying features, and improving the interface to make it more intuitive and user-friendly. Additionally, initiatives to reduce risk perception should be prioritized by bolstering security systems, safeguarding personal data, ensuring transparency in privacy policies, and educating users about the security of digital transactions. Given the established complexity of reducing usage intentions, companies should also streamline the transaction process to enhance user experience. From an academic perspective, future research should consider incorporating additional variables such as trust, social influences, or promotional efforts to enhance the model's capacity to explain usage intentions, as well as employ more comprehensive analytical methods such as Structural Equation Modeling to allow for a deeper analysis of the relationships between variables.

REFERENCES

- [1] Alhusna, S., Nasution, Y. S. J., & Nurwani, N. (2024). Pengaruh Manfaat Dan Resiko Terhadap Minat Penggunaan E-Wallet Dana Di Uinsu. *Trending: Jurnal Manajemen Dan Ekonomi*, 2(2), 237-250.
- [2] Apriani, A., & Wuryandari, N. E. R. (2022). Determinants Of Intention To Adopt E-Wallet: Considerations For Msmes Going Digital. *Journal Of Management And Business Innovations*, 4(2), 7-18.
- [3] Arini, N., Hilendri Lestari, B. A., & Hanani, T. (2024). The Determinants Of Mobile E-Wallet Adoption Across Generation, A Lesson Learned From Indonesia. *Ilomata International Journal Of Tax And Accounting*, 5(2), 488–502. <https://doi.org/10.61194/Ijtc.V5i2.1132>
- [4] Ayu, S., Eka, F., Salim, M., & Anggarawati, S. (2023). Adoption Of E-Wallets In Indonesia: Integrating Mindfulness Into The Technology Acceptance Model. 2(April), 34–44.
- [5] Aziz, A. (2021). Pengaruh Persepsi Kemudahan Terhadap Minat Untuk Menggunakan Uang Elektronik (Shopeepay). 105–116.
- [6] Babu, P. V., Agrawal, G., Mohideen, A. S., & Anand, B. (2024). Users' Perceived Risks And Challenges Of Fintech Adoption In India: An Empirical Investigation. *Journal Of Informatics Education And Research*, 4(1), 92-99. Darma, I. G. P. G. W. W., & Devi, S. (2022). Norma Subjektif Terhadap Minat Penggunaan E-Wallet (Studi Pada Pengguna E-Wallet Di Kota Denpasar). 13, 1422–1433.
- [7] Davis, F. D. (1989). Perceived Usefulness, Perceived Ease Of Use, And User Acceptance Of Information Technology. *Mis Quarterly*, 13(3), 319-340.
- [8] Desita, W. (2022). Pengaruh Persepsi Kemanfaatan, Persepsi Kemudahan Penggunaan, Persepsi Risiko, Promosi Dan Fitur Layanan Terhadap Minat Menggunakan Transaksi Non Cash Pada Aplikasi Dompot Elektronik. 13, 115–124.
- [9] Desvronita, D. (2021). Faktor-Faktor Yang Mempengaruhi Minat Menggunakan Sistem Pembayaran E-Wallet Menggunakan Technology Acceptance Model. *Akmenika: Jurnal Akuntansi Dan Manajemen*, 18(2).
- [10] Fariantin, E., Fajariah, F., & Indrawati, L. (2024). The Influence Of Perceived Usefulness Perceived Ease Of Use And Perceived Risk On Interest In Using E-Wallets Among Stie Amm Mataram Students In The Shariabiz. *International Journal Of Economics & Business*. 1(2), 126–138.
- [11] Goh, M. L., Chow, M. M., Gan, S., & Tang, C. X. (2025). Predicting E-Wallet Continuation Behaviour Among University Students: Testing An Integrated Theoretical Framework. 12(2), 270–286. <https://doi.org/10.33168/Ijiss.2025.0217>
- [12] Hutabarat, H., Musnaini, & Rosyid, G. Y. (2026). Pengaruh Kemudahan Penggunaan Dan Fitur Layanan Terhadap Minat Penggunaan E-Wallet Pada Layanan Terhadap Minat Penggunaan E-Wallet Pada Aplikasi Dana (Studi Kasus Mahasiswa S1 Fakultas Ekonomi Dan Bisnis Universitas Jambi). 4(2).
- [13] Jamshaid, M. A. (2025). Digital Banking Adoption In Emerging Economies: Revisiting Tam Through The Lens Of Perceived Risk. 6(2), 206–216. <https://doi.org/10.55737/Qjss.Vi-Ii.25366>
- [14] Jihad, H. A., & Mustofa, R. H. (2024). Adoption Of E-Wallets Among Students: Trust And Social Influence In E-Commerce. 24(3), 2672–2680. <https://doi.org/10.33087/Jiubj.V24i3.5731>
- [15] John, Z., Belmonte, A., Tri, Y., Madel, M., Cahigas, L., Nadlifatin, R., Janice, M., & Gumasing, J. (2024). Acta Psychologica Factors Influencing The Intention To Use E-Wallet Among Generation Z And Millennials In The Philippines: An Extended Technology Acceptance Model (Tam) Approach. *Acta Psychologica*, 250(July), 104526. <https://doi.org/10.1016/J.Actpsy.2024.104526>
- [16] Laloan, W., Wenas, R., & Loindong, S. (2023). Pengaruh Kemudahan Penggunaan, Persepsi Manfaat, Dan Risiko Terhadap Minat Apengguna E-Payment Qris Pada Mahasiswa Fakultas Ekonomi Dan Bisnis Universitas Sam Ratulangi Manado. *Jurnal Emba: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 11(02), 375-386.
- [17] Nadia, G., & Wiryawan, D. (2022). Kemudahan Terhadap Niat Penggunaan E-Wallet Shopeepay (Studi Pada Pengguna Shopeepay Di Bandar Lampung). 3(2), 173–186.
- [18] Panasea. (2021). The Role Of Sales Promotion In Modifying The Implementation Of The Technology Acceptance Model (Tam) On Intentions To Use E-Wallet In Denpasar. 289–301.
- [19] Rahman, A., & Oktaryani, G. A. S. (2025). Pengaruh Literasi Keuangan Digital, Keamanan, Persepsi Kemudahan Penggunaan Dan Reward Terhadap Niat Menggunakan Dompot Digital. 6(2), 240–246.
- [20] Robaniyah, L., & Kurnianingsih, H. (2021). Pengaruh Persepsi Manfaat, Kemudahan Penggunaan Dan Keamanan Terhadap Minat Menggunakan Aplikasi Ovo. 10(1), 53–62.
- [21] Seng, N. D., Ibrahim, N. F., Yin, L. S., & Maiyus, M. B. (2023). An Empirical Study On Acceptance Of E-Wallet Among Malaysian University Students An Empirical Study On Acceptance Of E-Wallet Among Malaysian University Students. 1(1), 1099–1112. <https://doi.org/10.6007/Ijarbss/V13-I1/15728>
- [22] Sunarya, I. M. (2022). Pengaruh Faktor Persepsi Terhadap Minat Penggunaan Layanan Dompot Digital (E-Wallet) Melalui Pendekatan Teori Technology Acceptance Model. 5(3), 1414–1422.
- [23] Tripathi, S. (2021). Determinants Of Continuance Intention To Use Mobile Wallets Technology In The Post Pandemic Era: Moderating Role Of Perceived Trust Determinants Of Continuance Intention To Use Mobile Wallets Technology In The Post Pandemic Era: Moderating Role Of Perceived Trust.
- [24] Underdown, K., & Tamara, D. (2025). Digital Wallets: A Study On The Influence Of Consumer Perceptions And Attitudes On Impulsive Consumer Behaviour. April, 1–10. <https://doi.org/10.3389/Fhumd.2025.1545141>

- [25] Venkatesh, V., Davis, F. D., (2022). A Theoretical Extension Of The Technology Acceptance Model : Four Longitudinal Field Studies. November 2018.
- [26] Violinda, Q. ., & Khorunnisya, N. V. . (2022). Minat Generasi Milenial Menggunakan E-Wallet Link Aja: Perspektif Teori Persepsi Dan Perilaku . *Jurnal Aplikasi Bisnis Dan Manajemen*, 8(1), 181. <https://doi.org/10.17358/Jabm.8.1.181>
- [27] Wardiyah, M. L., Pebrianti, Z., Budiman, A., & Rafiani, A. P. (2026). Analisis Faktor-Faktor Yang Mempengaruhi Keputusan Mahasiswa Uin Sunan Gunung Djati Bandung Dalam Menggunakan E-Wallet. 9(1), 82–89.
- [28] Wawo, A. B., Safaruddin, S., & Qalbi, N. (2023). Pengaruh Penggunaan Dompot Elektronik Sebagai Alat Transaksi Terhadap Perilaku Konsumtif Mahasiswa. *Jurnal Akuntansi Dan Keuangan*, 8(2), 142-153.
- [29] Wei, N., Liang, Y., Wang, H., & Liu, M. (2025). Analysis Of Mobile Fintech Adoption Based On Perceived Value And Risk Theory: Findings From Pls-Sem And Fsqca. 2025.
- [30] Yesica, A., Endrica, V., & Sari, R. C. (2021). Pengaruh Performance Expectancy , Social Influence , Literasi Keuangan Digital Dan Computer Self Efficacy Terhadap Penggunaan E-Wallet Pada Mahasiswa Akuntansi Uny. 05(3).