



The Effect of E-Wallet Usage on Personal Cash Flow and Net Worth Ratio in Generation Z

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Abstract

The rapid development of financial technology has significantly transformed individual digital financial behavior, particularly through the increasing use of electronic wallets (e-wallets) among Generation Z. As digital natives, this generation is highly exposed to online transactions, yet their financial management capabilities remain varied. This study aims to analyze the effect of e-wallet usage on personal financial stability, specifically measured through personal cash flow and net worth ratio. Additionally, technological adaptation patterns within modern student financial activities significantly increase complexity, influencing how digital tools are utilized. A quantitative survey method was employed, involving 30 respondents who are active e-wallet users and university students in Pamekasan, Madura. Data were collected through a structured questionnaire and tested for reliability, yielding a Cronbach's Alpha value of 0.761, indicating acceptable internal consistency. The Kolmogorov-Smirnov normality test showed that some variables met the normal distribution criteria. Results of multiple linear regression revealed that the intensity of e-wallet use, perceived usefulness, and perceived financial impact did not have a significant effect on cash flow, with a significance value greater than 0.05. The model's R Square value of 0.087 further suggests that only 8.7% of changes in cash flow can be explained by the examined variables, while the remaining 91.3% is influenced by factors such as income level, spending behavior, and financial literacy. These findings indicate that although e-wallets have become an integral part of students' daily transactions, their impact on overall financial stability remains limited. Strengthening digital financial literacy is recommended to promote wiser and more responsible e-wallet usage.

Keywords: E-Wallet, Generation Z, Cash Flow Ratio, Net worth ratio.

1. Introduction

The development of digital technology has brought significant changes in the way people interact with various services, including financial services such as e-wallets. The use of e-wallets in Indonesia is increasing, especially among the younger generation, along with the development of financial technology (fintech). However, the adoption of this technology varies across generations, particularly Generation Z, which has unique characteristics in terms of technology adaptation and consumer behavior. In today's digital era, electronic wallets (e-wallets) have become an integral part of the daily lives of urban communities. Among the various digital wallet applications available, Gopay leads the market with a user share reaching 71%, followed by OVO with a user share of 70% [1]. Although Gopay and OVO dominate, other platforms such as Dana, ShopeePay, and LinkAja show lower levels of acceptance [2].

According to [3], Generation Z, known as the digital generation, grew up in an environment characterized by rapid technological advancements and dynamic social change. They were born between the mid-1990s and early 2010s and are the first generation to have never experienced a world without the internet. Despite having extensive access to information and resources, Gen Z faces a variety of complex economic and social challenges.

Managing finances is quite challenging for some people. It's even said to be both easy and difficult, as there's a lot of art to it, from minimal record-keeping to the many unexpected expenses that are difficult to avoid [4]. According to Suradi (2009:2), financial recording, often known as accounting, is an information system that identifies, records, and communicates an organization's economic events to stakeholders. Accounting is also a system that discusses how money comes in and what it's used for. It's one alternative that can anticipate this.

Managing finances can also be said to be managing cash flow according to Mariana et al. (2025). Some people still don't realize how important it is to know and record how their finances flow, where their income comes from, where the money is spent, and how much money is allocated for future needs such as saving, investing, or insurance. Howell (1993) in Zahroh (2014) stated that personal financial management is one of the most fundamental competencies needed by modern society, consumers from day to day because choices will affect a person's financial security and standard of living.

Net worth is a measure of a person's financial condition, calculated by dividing total assets (savings, investments, property, and other forms of wealth) by total liabilities (debts, installments, pay later payments, and other financial burdens). Net worth is an important indicator of

whether a person is experiencing wealth growth or is experiencing financial stress. For the younger generation, net worth growth is highly dependent on money management patterns, savings capacity, consumption behavior, and financial literacy levels. [6] shows that the level of financial literacy among the younger generation is still relatively low, even though they have wider access to digital financial services. Many do not have a habit of saving regularly, while the remainder tend to allocate income to lifestyle consumption and digital entertainment.

In the context of Generation Z, the ability to build net worth is often influenced by the digital lifestyle that is deeply embedded in their daily lives. Widespread access to financial technology should provide opportunities to increase assets through savings and investments. However, in reality, many Gen Zers actually experience obstacles in building net worth due to uncontrolled consumption behavior and unhealthy financial patterns. This is evident in the findings of [6], which shows that the level of financial literacy among the younger generation is still relatively low, despite having wider access to digital financial services. Many do not have a habit of saving regularly, while the remainder tend to allocate income to lifestyle consumption and digital entertainment.

2. Research methods

This study uses a quantitative approach with a survey design to analyze the effect of e-wallet usage on personal cash flow and net worth ratio among Generation Z in Indonesia. The survey design was chosen because it allows for efficient data collection from the sample, focusing on the relationship between the independent variable (the effect of e-wallet usage) and the dependent variable (personal cash flow and net worth ratio). This approach is based on the theory of digital consumer behavior, as developed by [7] in the *Unified Theory of Acceptance and Use of Technology (UTAUT)*, which emphasizes factors such as ease of use and usefulness that influence technology adoption.

The study population was Generation Z in Indonesia (born 2000-2007) who actively use e-wallets, with an estimated population of around 75 million people based on data from the Central Statistics Agency (BPS) in 2023. The sample was determined using a purposive sampling technique to ensure respondents were active e-wallet users (at least 3 transactions per week). This resulted in 30 respondents and data collection was conducted in the Pamekasan Madura area, specifically students at the University of Madura.

The data collection instrument was a structured questionnaire consisting of 20 closed questions, divided into three parts: (1) respondent profile (Name, Gender, Age, Study Program/Faculty, Average pocket money/Income per month); (2) measurement of e-wallet usage intensity (Likert scale 1-5, based on the TAM model [8] and (3) measurement of personal cash flow (based on monthly cash inflows and outflows) and net worth ratio (asset-liability comparison). The validity of the instrument was tested using Cronbach's Alpha (value >0.7), while reliability was through a pilot test on 30 respondents.

Data collection was conducted by distributing online survey forms through platforms such as Google Forms and WhatsApp. Distribution was conducted over a four-week period (October-November 2025) using a snowball sampling technique to expand reach. Respondents were asked to complete the forms voluntarily, with data confidentiality guaranteed in accordance with research ethics. The collected data was then cleaned to remove incomplete entries or outliers. All paragraphs must be justified alignment. With justified alignment, both sides of the paragraph are straight.

3. Result and discussion

3.1. Overview of Respondent's Income

Based on the graph of average monthly income, all respondents have varying incomes spread across many categories. However, no group appears to significantly dominate; most respondents contributed only one person per category, while some specific categories were filled by two respondents (6.7%). This indicates that student income is quite heterogeneous, ranging from <Rp500,000 to >Rp2,500,000.

This income variation illustrates that students' financial conditions are not uniform, so e-wallet usage and its impact on cash flow can differ between respondents with lower and more stable incomes. Based on the graphical analysis of average monthly income, the respondent population shows a highly varied and widely spread financial profile across various categories.

The distribution of respondents' income shows a high level of heterogeneity. The majority of income categories (e.g., the Rp500,000–Rp750,000 or Rp1,500,000–Rp2,000,000 range) were represented by only one respondent per category. Although there were a few categories with two respondents (representing 6.7% of the total), no single income group showed significant dominance. The identified income range is very wide, ranging from less than Rp. 500,000 to more than Rp. 2,500,000 per month. This extreme variation indicates that the financial conditions of the students as research subjects are not uniform. This heterogeneous income has critical implications for the research variables, particularly regarding:

E-wallet Usage Behavior: Students with low incomes (e.g., under Rp1,000,000) may use e-wallets primarily for urgent transactions or to take advantage of promotions for cost-effectiveness. Conversely, respondents with more stable incomes (e.g., above Rp2,000,000) may use e-wallets for convenience and flexibility without the same cost considerations as the first group. For low-income respondents, spending via e-wallet can significantly impact cash flow, potentially triggering impulsive spending behavior that is difficult to control. For respondents with more stable/higher incomes, e-wallet use may not put significant pressure on monthly cash flow, so the perceived impact is more about ease of fund management than financial sustainability issues.

Preliminary Conclusion: This heterogeneous income profile confirms that any findings regarding e-wallet usage and its impact on cash flow should be interpreted by considering respondents' income segments. Further analysis is needed to determine whether there is a correlation or significant difference in e-wallet usage behavior between low-income and stable-income groups.

3.2. Frequency of E-Wallet Use

Of the 30 respondents, most students use e-wallets several times a week (50%). This moderate intensity of use indicates that e-wallets have become part of students' daily transaction habits, although not all of them use them every day. rarely use e-wallets is also quite high (33.3%), indicating that some students still use a combination of other payment methods, such as cash or bank transfers. Meanwhile, only 13.3% of respondents use e-wallets daily. From this pattern, it can be seen that e-wallets are predominantly used for routine needs, but not always daily, such as paying for food, transportation, or shopping for small necessities.

1. Majority User Category: Flexible Routine (50.0%)

The majority of students, or half of respondents (50%), use e-wallets several times a week. This frequency indicates that e-wallets have become firmly integrated into students' daily transaction habits, although the frequency is not always mandatory. Implications: This pattern is very much in line with the non-daily routine needs of students, such as:

- a. Lunch/Dinner Purchases: Transactions at canteens, food stalls, or food delivery services (e.g., 3-4 times a week).
- b. Transportation: Payment for online motorcycle taxis or public transportation when traveling outside campus.
- c. Small Needs Shopping: Buying snacks or topping up credit.
- d. Conclusion: E-wallets are predominantly used for tertiary routine needs, where convenience and transaction speed are the main priorities.

2. Second User Category: Dependence on Other Methods (33.3%)

One-third of respondents (33.3%) reported infrequent e-wallet use. This high percentage indicates that e-wallet adoption among students is not yet widespread and widespread. Potential Reasons:

- a. Cash Preference: Some students still prefer cash payments, especially at small merchants who may not yet accept digital payments.
- b. Merchant Limitations: Their residential or campus environment is still dominated by cash transactions.
- c. Bank/Debit Transfer: For large transactions or tuition payments, they tend to use bank transfers or debit cards, not e-wallets.
- d. Conclusion: This group is a potential market that still needs to be convinced through incentives, discounts, or more massive merchant expansion.

3. Loyal User Category: Daily Transactions (13.3%)

Only a small proportion of respondents (13.3%) use e-wallets daily. This group represents power users who rely heavily on e-wallets for almost all micro- to routine transactions. Characteristics: Students in this group are likely to frequently use online transportation, subscribe to digital services, and maximize daily promotions. They have reached a point where the convenience of e-wallets outweighs other payment methods.

3.3 Average Monthly Expenditure

The graph of average monthly expenses shows a similar pattern to income, with respondents spread across various spending categories. While this distribution reflects diversity, there are distinct clusters of respondents at specific spending levels, each accounting for 6.7% of the total. This indicates that some students have relatively consistent monthly expenses, perhaps influenced by basic needs such as food, transportation, or similar educational expenses.

These spending patterns indicate stability among some students, who tend to follow a regular daily routine, while other groups show greater variation depending on their lifestyles. Factors such as location, social activities, or additional sources of income can influence this variability, so monthly spending is not always linear and can fluctuate based on individual priorities.

The combination of income and expenditure graph data is very important for analyzing student cash flow, because positive or negative cash flow conditions are determined by the comparison between the two. If expenses consistently exceed income, this can create a risk of financial deficit, while a good balance supports long-term financial stability. This analysis helps in designing more effective financial management strategies for students.

3.3. The Influence of E-Wallet on Personal Financial Condition

Based on the graph measuring the influence of e-wallet use on respondents' financial condition, a neutral score (3) dominates with the highest percentage of 43.3%. High scores, consisting of scores 4 (agree) and 5 (strongly agree), reached a total of 40% (20% for each score), while low scores, namely scores 1 (strongly disagree) and 2 (disagree), only reached 16.6% (3.3% for score 1 and 13.3% for score 2). This distribution shows that the majority of respondents, especially those who gave a neutral score, felt that e-wallet use did not have an extreme impact—either positive or negative—on their overall financial condition.

Further interpretation revealed that most students felt neutral or felt a moderately positive influence from e-wallets. With 40% of respondents agreeing or strongly agreeing, this indicates that e-wallets are considered to have significant benefits, such as ease of daily

transactions, ease of recording expenses, and increased efficiency in financial management. These factors may contribute to time savings and reduced risk of manual errors in managing money, thereby supporting financial stability for this group.

On the other hand, the low score of only 16.6 % indicates that only a small proportion of respondents felt e-wallets had no impact or were even detrimental to their financial situation. This could be due to concerns such as hidden transaction fees, data security risks, or over-reliance that could potentially increase impulsive spending. Overall, this data emphasizes that e-wallets are generally positively received by students, with the potential to improve digital financial literacy, although further education is needed to address minority concerns.

3.4. Percentage of Monthly Expenses Paid Through E-Wallet

The analysis results show the distribution of e-wallet usage based on the percentage of students' monthly expenses. A total of 43.3% of respondents used e-wallets for less than 20% of their total expenses, followed by 30% who used them for 21–40%, 16.7% for 41–60%, 6.7% for 61–80%, and only 1–2 respondents used e-wallets for more than 80% of their monthly expenses. These data illustrate varied usage patterns, with the majority of students still relying on traditional payment methods for the majority of their needs.

Interpretation of this data shows that the majority of students use e-wallets for less than 40% of their total monthly expenses. This indicates that e-wallets have not yet become a primary payment method in their daily lives, despite being integrated as a convenient digital payment tool. This less-than-dominant use reflects a gradual transition from cash to digital payments, where students may still prioritize paying for large expenses like tuition fees or basic necessities with other methods.

This low to moderate e-wallet usage is also relevant to the reported frequency of use, which is several times a week. This pattern shows that e-wallets are used more often for small transactions, such as buying snacks, transportation, or topping up phone credit, than for large purchases. Thus, e-wallets serve as a complement to payment systems, helping students manage daily expenses without completely replacing conventional payment habits.

In the context of cash flow, small to medium-sized expenditures via e-wallet indicate consumer behavior that is still under control. Students tend to use e-wallets for everyday needs that don't significantly burden their monthly budget, so their cash flow remains stable. However, this use can also affect overall financial management, both positively and negatively, depending on how they are utilized.

Specifically, e-wallets have the potential to influence cash flow through several aspects, such as cashback that can provide savings, admin fees that may add a small burden, and ease of transactions that can encourage impulse purchases. If students wisely utilize cashback, they can optimize their spending. However, the ease of digital access also risks increasing unplanned consumption, so awareness is needed to maintain a balanced cash flow.

Table 1: Validity test

Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Based on the Case Processing Summary table, it is known that the number of data used in the analysis was 30 respondents, all of which were recorded as valid data (100%), and no data was excluded or discarded (excluded = 0%). This indicates that all questionnaire responses received were completed completely by respondents without any missing data. Thus, the data processing process can be carried out optimally because it does not require additional treatment such as data cleaning or imputation. These results also indicate that the instruments used in the study were well understood by the respondents, so that there were no discrepancies or gaps in the answers that could disrupt the quality of further analysis. Overall, the validity data indicates that all cases are worthy of inclusion in the reliability testing and further analysis stages.

Table 2: Reliability test

Reliability Statistics	
Cronbach's	N of Items
Alpha	
.761	5

The reliability test results presented in the Reliability Statistics table show that the research instrument, consisting of five statement items, had a Cronbach's Alpha value of 0.761. This value falls within the good reliability category, where an alpha value between 0.70 and 0.80 indicates that the items in the questionnaire have adequate internal consistency and are able to measure the same construct stably. Thus, it can be concluded that the research instrument is suitable for use in data collection because it meets reliability requirements. This reliability score also strengthens the belief that respondents provide relatively consistent answers to each statement, so that the instrument is able to reflect the actual situation according to the research variables.

Table 3: Normal distribution data test

One-Sample Kolmogorov-Smirnov Test						
		P1	P2	P3	P4	Total
N		30	30	30	30	30
Normal Parameters ^a	Mean	2.7333	2.9333	2,8000	3.4000	11.8667
	Standard Deviation	1.20153	1.08066	1.15669	1.06997	3.00268
Most Extreme Differences	Absolute	.254	.258	.202	.246	.120
	Positive	.179	.209	.165	.246	.120
	Negative	-.254	-.258	-.202	-.188	-.120
Kolmogorov-Smirnov Z		1,394	1,413	1,106	1,346	.656
Asymp. Sig. (2-tailed)		.041	.037	.173	.053	.783

a. Test distribution is Normal.

Narrative Normality Test (Kolmogorov–Smirnov Test)

The normality test was conducted using the One-Sample Kolmogorov–Smirnov Test method to determine whether the data for each indicator (P1, P2, P3, and P4) and the overall total score follow a normal distribution. Based on the test results table, all variables have the same number of respondents, namely 30 samples. The average value (mean) for each indicator shows a variation in scores with a relatively balanced standard deviation, indicating a stable distribution of data.

The results of the normality test are determined through the Asymp value. Sig (2-tailed). Based on the decision-making criteria, the data is said to be normally distributed if the significance value is greater than 0.05. In the P1 indicator, the Asymp value is obtained. The Sig. value is 0.041, while the P2 indicator has a value of 0.037. Both values are below 0.05, so it can be concluded that the data in P1 and P2 are not normally distributed. Furthermore, the P3 indicator has an Asymp. Sig. value of 0.173, P4 of 0.053, and the total score of 0.783, where all of these values are above the significance limit of 0.05. Thus, the data in P3, P4, and the total score are normally distributed.

Overall, the Kolmogorov–Smirnov test results indicate that some variables, namely P3, P4, and the total questionnaire score, meet the assumption of normality, while P1 and P2 do not. This condition indicates that the data can generally still be analyzed, but researchers need to consider appropriate statistical analysis techniques, especially if parametric testing requires a normal data distribution. If the analysis requires normality per indicator, then alternatives such as data transformation or the use of non-parametric statistical methods can be considered.

Table 4: Regression test

Variables Entered/Removed ^b			
Model	Variables Entered	Variables Removed	Method
1	P4, P3, P2 ^a	.	Enter

a. All requested variables entered.
b. Dependent Variable: P1

1. Variables Entered into the Model

Based on the Variables Entered/Removed table, the regression model includes three independent variables, namely P2, P3, and P4 as predictors of the dependent variable P1. All variables are entered using the Enter method, which means that all three variables are processed simultaneously without automatic elimination by the system. No variables were excluded from the model, so that all variables planned in the study were analyzed in full.

Table 5: Variables Entered into the Model

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.295 ^a	.087	-.018	1.21259

a. Predictors: (Constant), P4, P3, P2

2. Model Summary (Determination Test)

In the Model Summary table, an R value of 0.295 is obtained, indicating that the relationship between variables P2, P3, and P4 to P1 is in

the weak category. Furthermore, the R Square value of 0.087 indicates that the three independent variables are only able to explain 8.7% of the variation in changes in variable P1. This means that 91.3 % of the variation in changes in P1 is influenced by other variables outside this research model. The Adjusted R Square value of -0.018 indicates that when adjustments are made based on the number of independent variables and a relatively small sample, the model's ability to explain the dependent variable becomes even lower.

Table 5: Model Summary (Determination Test)

		ANOVA ^b				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3,637	3	1,212	.824	.492 ^a
	Residual	38,230	26	1,470		
	Total	41,867	29			

a. Predictors: (Constant), P4, P3, P2

b. Dependent Variable: P1

3. F Test (ANOVA) – Simultaneous Model Significance Test

The ANOVA test results show a calculated F value of 0.824 with a significance value (Sig) of 0.492. This value is much greater than the significance limit of 0.05, so it can be concluded that the regression model is not significant simultaneously. In other words, variables P2, P3, and P4 together do not have a significant effect on P1. This also supports the results of the low R Square, indicating that the regression model is unable to explain the influence of predictor variables strongly and significantly on the dependent variable.

Table 6: Simultaneous Model Significance Test

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,699	.857		1,982	.058
	P2	.268	.232	.241	1,154	.259
	P3	-.067	.216	-.065	-.313	.757
	P4	.129	.254	.115	.507	.616

a. Dependent Variable: P1

4. t-test (Partial Regression Coefficient)

Based on the Coefficients table, the following results are obtained: Variable P2 has a coefficient value of B = 0.268 with a significance value of 0.259, which means it is not significant because the sig value is > 0.05. Variable P3 has a coefficient value of B = -0.067 with a significance value of 0.757, which also indicates no significant influence. Variable P4 has a coefficient value of B = 0.129 with a significance value of 0.616, so this variable also has no significant influence. The three variables P2, P3, and P4 do not have a significance value below 0.05, so it can be concluded that none of the independent variables have a significant influence on the dependent variable P1 partially. The constant value of 1.699 indicates that when P2, P3, and P4 are zero, then the base value of P1 is 1.699. However, the constant significance value of 0.058 indicates that the constant is also not significant at the 5% level.

5. Conclusion

Based on the research findings on the effect of e-wallet usage on personal cash flow and net worth ratio among Generation Z, it can be concluded that e-wallet usage does not significantly affect students' financial conditions. Most students use e-wallets several times a week; however, the proportion of monthly expenses paid through e-wallets remains low to moderate (<40%). This indicates that e-wallets have not yet become the primary payment method for most respondents.

Regression analysis shows that the intensity of e-wallet usage, perceived usefulness, and the perceived financial impact of e-wallets do not significantly influence personal cash flow (Sig. > 0.05). The low R Square value (0.087) indicates that most variations in cash flow are influenced by other factors, such as income levels, consumption patterns, or financial literacy. The normality test showed that some variables were normally distributed, allowing the model to be analyzed statistically.

Overall, e-wallets function as a convenient digital payment tool for students but have not yet shown a strong influence on changes in cash flow or net worth ratio. Students' financial conditions are still predominantly shaped by consumption behavior and financial literacy levels.

Therefore, this study recommends enhancing digital financial literacy to ensure that e-wallet usage remains controlled and does not trigger impulsive spending.

References

- [1] A. Musthofiyah and K. Fadhli, "Analisis Komparatif Kepuasan Konsumen Pengguna E Wallet OVO Dan Gopay," *J. Publ. Ekon. dan Akunt.*, vol. 5, no. 2, pp. 395–405, 2025, doi: 10.51903/jupea.v5i2.4344.
- [2] S. Afiyah, H. Nazhifah, Z. Z. Putri, and S. Z. Permadi, "Analisis Pengaruh E-Wallet Terhadap Perilaku Menabung dan Pengeluaran Konsumen di Indonesia," vol. 5, 2025.
- [3] Berwin Anggara *et al.*, "Menangani Tantangan Sosial dan Ekonomi di Era Gen Z," *Harmon. Pendidik. J. Ilmu Pendidik.*, vol. 1, no. 4, pp. 279–287, 2024, doi: 10.62383/hardik.v1i4.829.
- [4] R. M. Widiyanti, Rahmatya Widyaswati, "PERAN PENCATATAN KEUANGAN HARIAN SEBAGAI FILTER DIRI DALAM PENGATURAN PENGELUARAN PRIBADI," vol. 2, no. 2, pp. 1–9, 2020.
- [5] R. Mariana, R. Wahyuni, A. Rahmat, D. P. Oskar, and R. Mariana, "Peran Self-Control Sebagai Mediasi Penggunaan E-Wallet dan," vol. 18, pp. 47–52, 2025, doi: 10.35134/jpsy165.v18i1.518.
- [6] N. C. Majidin, "Gaya Hidup Digital dan Keputusan Keuangan : Tinjauan Sistematis terhadap Perilaku Keuangan Generasi Z di Indonesia," vol. 2, no. 7, pp. 1072–1082, 2025.
- [7] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User Acceptance of Information Technology: Toward a Unified View by Viswanath Venkatesh, Michael G. Morris, Gordon B. Davis, Fred D. Davis :: SSRN," *MIS Q.*, vol. 27, no. 3, pp. 425–478, 2003, [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3375136
- [8] S. Marikyan, D. & papagiannidis, "Technology acceptance model," *Handb. Res. Electron. Surv. Meas.*, pp. 306–308, 2025, doi: 10.4018/978-1-59140-792-8.ch038.