

THE MEDIATING EFFECT OF FINANCIAL TECHNOLOGY USAGE ON THE INFLUENCE OF FINANCIAL LITERACY ON THE FINANCIAL BEHAVIOR OF GEN Z IN SURABAYA

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Abstract:

The rapid advancement of digitalization and the growing use of financial technology have created an urgent need for younger generations to possess adequate financial literacy to manage financial resources effectively. However, previous studies have shown inconsistent findings regarding the relationship between financial literacy, financial technology, and financial behavior, indicating a gap that requires deeper examination, particularly among Generation Z in urban settings. To address this gap, this study examines the mediating effect of financial technology on the relationship between financial literacy and financial behavior among Generation Z in Surabaya. The population comprises Gen Z individuals born between 1997 and 2012 residing in Surabaya, and a sample of 400 respondents was selected using purposive sampling with the Lemeshow formula. Data were collected using an online questionnaire distributed via Google Forms and analyzed using WarpPLS 8.0. The results reveal that financial literacy has a positive and significant influence on financial behavior and also significantly affects the use of financial technology; additionally, financial technology positively and significantly influences financial behavior and mediates the relationship between financial literacy and financial behavior. These findings contribute to the literature by clarifying the mediating role of financial technology and addressing inconsistencies reported in previous studies, while offering practical insights for educational institutions, fintech providers, and regulators on developing strategies to enhance financial literacy, promote optimal fintech use, and strengthen financial inclusion among Generation Z.

Keywords: Financial Literacy, Financial Behavior, Financial Technology, TAM

INTRODUCTION

The development of digitalization across various sectors, particularly in finance, has driven the emergence of financial technology (fintech), which offers convenience in transactions, financial information management, and quick access to financial services. For Generation Z (Gen Z), born between 1997 and 2012, the use of fintech has already become part of their lifestyle. However,

Such convenience is not always accompanied by adequate financial literacy, which may negatively affect their financial behavior.

Data from the National Survey on Financial Literacy and Inclusion (OJK) shows that the financial literacy index of Gen Z remains relatively low, especially among students (42.18% and 56.42%). Yet, financial literacy is an essential skill in effective financial decision-making, such

as managing income, savings, and investments (Lusardi & Mitchell, 2013).

A preliminary survey of Gen Z in Surabaya revealed that 41.8% of respondents prioritized spending on wants over needs, indicating poor financial behavior. Previous studies on the influence of financial literacy and fintech on financial behavior have yielded diverse findings: some have demonstrated a significant positive effect, while others have reported no significant effect. This situation creates a research gap, which forms the basis for conducting this study.

Several studies found that financial literacy has a significant positive influence on financial behavior (Khofifah et al., 2022), while others showed no significant effect (Panggabean et al., 2023; Pratama et al., 2024). Similarly, the relationship between financial literacy and fintech usage yielded inconsistent results: some studies reported a significant positive effect (Khofifah et al., 2022; Jannah et al., 2023), whereas others found no significant effect (Alamsyah et al., 2023; Yulianto, 2018).

Likewise, the influence of fintech on financial behavior varies: some studies report a significant positive effect (Hijir, 2022; Panggabean et al., 2023), whereas others report no significant effect (Anisyah et al., 2021; Novianti & Retnasih, 2023).

This study aims to analyze the effect of financial literacy on the financial behavior of Gen Z in Surabaya and to identify the mediating effect of financial technology on the relationship between financial literacy and financial behavior.

HYPOTHESIS FORMULATION

The Effect Of Financial Literacy On Financial Behavior

Financial literacy can improve one's financial behavior. According to

behavioral finance theory, a person's behavior can be influenced by their knowledge (Nurjanah et al., 2022). Financial literacy is the ability to understand and apply basic financial concepts, such as budgeting, saving, and investing. Research shows that financially literate individuals are better at managing income and expenses, avoiding financial mistakes, and planning for future needs (Anjani & Darto, 2023). Based on this, the following hypothesis is proposed:

H1: Financial literacy has a positive effect on financial behavior.

The Effect Of Financial Literacy On Financial Technology Usage

According to the Theory of Planned Behavior (Ajzen, 1991), individuals with a positive attitude toward a behavior are more likely to engage in it. Gen Z with good financial literacy tends to understand the risks and benefits of fintech, making them more likely to trust and use it for digital payments, investments, and online savings (Irdawati et al., 2022). Based on this, the following hypothesis is proposed:

H2: Financial literacy has a positive effect on financial technology.

The Effect Of Financial Technology On Financial Behavior

Through features such as bill payment reminders, expense trackers, and automated investment services, financial technology helps individuals organize their finances better. Gen Z who frequently use fintech tend to have better financial behavior, such as planned debt management and consistent saving (Farida et al., 2021). The Technology

Acceptance Model (TAM) divides technology adoption into two main components. Based on this, the following hypothesis is proposed:

H3: Financial technology has a positive effect on financial behavior.

Financial Technology As A Mediator Between Financial Literacy And Financial Behavior

Fintech provides various conveniences related to finance. According to the Technology Acceptance Model (TAM), an individual's perceived usefulness and perceived ease of use influence system adoption (Jayasingh & Eze, 2010). Meanwhile, behavioral finance theory suggests that knowledge influences financial behavior (Anisyah et al., 2021). Based on this, the following hypothesis is proposed:

H4: Financial technology mediates the relationship between financial literacy and financial behavior.

RESEARCH METHODOLOGY

This research employs a descriptive quantitative method. The population consists of Gen Z individuals residing in Surabaya, born between 1997 and 2012. The sampling technique used was purposive sampling, and the sample size was determined using the Slovin formula:

$$n = \frac{N}{1+N \cdot (e^2)}$$

Note:

n = sample size

N = population size

e = margin of error 5%

$$\begin{aligned} n &= \frac{580.000}{1 + 580.000 \cdot (0,05)^2} \\ n &= \frac{580.000}{1 + 1.450} \\ n &= 399,72 \end{aligned}$$

Based on the calculation using the Slovin formula, the minimum number of

respondents obtained was 399.72 people. To account for the possibility of invalid data and to ensure the feasibility of statistical analysis, the number of respondents was increased to 400, with a 5% margin of error. This study uses primary data obtained from the distribution of online questionnaires. The measurement of the questionnaire employed a Likert scale in the form of statements with five answer options: "strongly agree, agree, neutral, disagree, and strongly disagree."

1) Financial literacy refers to basic knowledge of financial management, credit management, investment management, and risk management. 2) Financial behavior refers to preparing a spending budget, recording monthly expenses, providing funds for unexpected expenses, saving periodically, and comparing prices before making a purchase. 3) Financial technology refers to trust, usefulness, and ease of use

RESULTS AND DISCUSSION

Measurement Model Evaluation (Outer Model)

The next step is to evaluate the outer model, which is carried out through validity and reliability tests. The following are the results of the data analysis:

Convergent Validity

Convergent validity can be observed from the correlation measurement between the indicator values and their construct values (loading factor). If the loading factor value of each indicator is greater than 0.5, it can be considered valid; furthermore, if the p-value is less than 0.05, it is considered significant.

Tabel 1. Loading Factor Value

Variable	Indicator	Loading	P-Value
Financial Literacy	X1.1	0.634	Valid
	X1.2	0.832	Valid
	X1.3	0.738	Valid
	X1.4	0.571	Valid
Financial Behavior	Y1.1	0.682	Valid
	Y1.2	0.742	Valid
	Y1.3	0.760	Valid
	Y1.4	0.790	Valid
	Y1.5	0.697	Valid
Financial Technology	Z1.1	0.691	Valid
	Z1.2	0.502	Valid
	Z1.3	0.566	Valid
	Z1.4	0.720	Valid
	Z1.5	0.740	Valid
	Z1.6	0.760	Valid
	Z1.7	0.722	Valid
	Z1.8	0.765	Valid
	Z1.9	0.765	Valid
	Z1.10	0.735	Valid
	Z1.11	0.760	Valid
	Z1.12	0.749	Valid
	Z1.13	0.727	Valid
	Z1.14	0.755	Valid
	Z1.15	0.623	Valid

Source: WarpPls 8.0 Output (2025)

Based on Table 1, all loading factor values exceed 0.5; therefore, they are considered valid.

Discriminant Validity

Discriminant validity can be assessed by comparing the square root of the average variance extracted (AVE) with the correlations among constructs, or by comparing the loadings of the measured construct with those of other constructs.

Table 2. Correlations Among Latent Variables

	X	Y	Z
X	0.701	0.260	0.408
Y	0.260	0.735	0.290
Z	0.408	0.290	0.709

Source: WarpPls 8.0 Output (2025)

Based on the table 2 above, the square root values of AVE in the diagonal column are greater than the correlations among constructs in the same column. This indicates that the constructs in this study are valid.

Reliability Test

The reliability test results indicate that all variables have Cronbach's Alpha and Composite Reliability values. If the values are above 0.7, they can be considered reliable. The following table presents the results of the reliability test.

Table 3. Reliability Test Results

No.	Variabel	Composite Reliability	Cronbach's Alpha	Description
1.	Financial Literacy	0.791	0.646	Reliable
2.	Financial Behavior	0.854	0.786	Reliable
3.	Financial Technology	0.937	0.928	Highly Reliable

Source: WarpPls 8.0 Output (2025)

Based on the table 3 above, it can be concluded that all constructs in this study have met the reliability criteria. According to (Hair et al., 2017, p. 115), composite reliability is more recommended than Cronbach's alpha in PLS-SEM because it is considered more accurate in measuring

construct reliability. With composite reliability values exceeding 0.70, the constructs are still declared reliable even if the Cronbach's alpha value is slightly below 0.70.

Structural Model Evaluation (Inner Model)

The next stage is to evaluate the structural model by using the coefficient of

determination (R^2) and Q-Squared values. The coefficient of determination (R^2) is used to assess the proportion of variance in the independent variables that the model explains. The coefficient of determination ranges between $0 < R^2 < 1$ (Atmoko et al., 2018 in Ula, 2023).

Table 4. Coefficient of Determination of Latent Variables

Variable	LK	PK	FT
R^2	–	0.135	0.169
Q-Squared	–	0.138	0.168

Source: WarpPls 8.0 Output (2025)

Table 4 shows that the R^2 for the endogenous construct, financial behavior, is 0.135. This indicates that 13.5% of the variance in the financial behavior variable is explained by the independent variables in this study, with the remainder attributable to factors outside the model.

The R^2 value for the financial technology construct is 0.169. This figure indicates that 16.9% of the variance in fintech usage is explained by the model. The R^2 values fall within the range of 0 to 1, in line with the opinion of (Atmoko et al., 2018) in (Ula, 2023). The higher the R^2 value, the better the model's ability to explain the endogenous variables. Although the R^2 values are relatively low, they still indicate the independent variables' contribution to the dependent variables.

The Q-Squared value for financial behavior is 0.138, and for financial technology is 0.168. Positive Q-Squared values indicate that the model has predictive relevance or adequate predictive capability. The model is able to represent the data fairly well and has predictive power for the endogenous variables.

In addition to R^2 and Q-Squared, the structural model evaluation also uses

effect size. Effect size is calculated as the absolute value of the individual contribution of each predictor latent variable to the R^2 value of the criterion variable (Sholihin & Ratmono, 2013). Effect size can be classified into three categories: <0.15 (weak), <0.35 (medium), and >0.35 (large) (Hair et al., 2010).

Table 5. Effect Size for Path Coefficients

Variabel	LK	FT
LK		
PK	0.090	0.073
FT	0.169	

Source: WarpPls 8.0 Output (2025)

Table 5 above shows that the effect size of financial literacy on financial behavior is 0.090 (weak). This indicates a weak direct influence on financial behavior. The effect size of financial literacy on fintech use is 0.073 (weak), indicating that financial literacy has only a small influence on fintech use. The effect size of financial technology on financial behavior is 0.169 (medium), meaning that the use of fintech has a moderate influence on financial behavior. This shows that fintech usage plays a greater role than financial literacy in influencing financial behavior.

HYPOTHESIS TESTING

Hypothesis testing in this study can be assessed through the path coefficient and its significance (p-value). If the path coefficient value is positive, this indicates a unidirectional or positive relationship between the independent variables and the dependent variable. In other words, the higher the value of the independent variable, the higher the value of the

dependent variable, assuming other variables are held constant.

The hypotheses proposed in this study, three in total, are considered supported if the p-value is <0.05 and the path coefficient is positive. The following are the path coefficient and p-value results obtained from hypothesis testing using SEM-PLS.

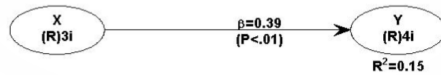


Figure 1. Estimation of Direct Relationship

Figure 1 shows the first step of hypothesis testing conducted in this study with the estimation of the direct relationship from LK $\rightarrow$ PK. It indicates that the path coefficient is $\beta = 0.29$ with a p-value <0.1 , which confirms that the proposed hypothesis has a positive and significant effect on financial behavior.

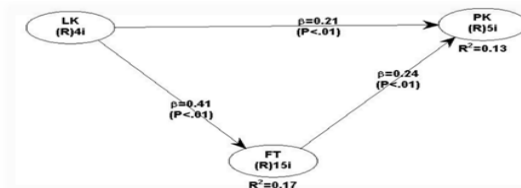


Figure 2. Estimation of Indirect Relationship

Figure 2 shows that the path coefficient from financial literacy to financial behavior is positive and significant at <0.01 (LK $\rightarrow$ PK : $\beta = 0.21$, p-value < 0.01). The figure also indicates that the path coefficient from financial literacy to financial technology is positive and significant at <0.01 (LK $\rightarrow$ FT : $\beta = 0.41$, p-value < 0.01), and furthermore, financial technology to financial behavior is positive and significant at <0.01 (FT $\rightarrow$ PK : $\beta = 0.24$, p-value < 0.01).

According to (Hair & Risher, 2017), when both the direct and indirect relationships are significant and point in the same direction, it can be classified as complementary mediation.

Figure 2 presents the results of the indirect hypothesis testing. For further explanation, see Table 1 below:

Table 6. Results of Direct Hypothesis Testing

Path	Path Coefficient	P-value	Hypothesis	Description
LK on PK	0.211	<0.001	H1	Valid
LK on FT	0.411	<0.001	H2	Valid
FT on PK	0.237	<0.001	H3	Valid

Source: WarpPls 8.0 Output (2025)

The table 6 above shows the results of hypothesis testing after including the

mediating variable. For further explanation, see Table 2 below:

Table 7. Results of Mediation Hypothesis Testing

Path	Path Coefficient		P-Value		Hypothesis	Explanation
	(Before Mediation Variable Included)	(After Mediation Variable Included)	(Before Mediation Variable Included)	(After Mediation Variable Included)		
LK $\rightarrow$ PK	0.292	0.211	<0.001	<0.001	H4	Complementary mediation
LK $\rightarrow$ FT		0.411		<0.001		

Path	Path Coefficient		P-Value		Hypothesis	Explanation
	(Before Mediation Variable Included)	(After Mediation Variable Included)	(Before Mediation Variable Included)	(After Mediation Variable Included)		
FT → PK		0.237		<0.001		(partial mediation)

Source: WarpPLs 8.0 Output (2025)

The first hypothesis in this study is that financial literacy has a positive effect on financial behavior. The results of hypothesis testing in the table above show that financial literacy has a positive and significant effect on financial behavior (p-value < 0.001; path coefficient = 0.211). This finding supports the study of (Joseph, 2020) and aligns with Behavioral Finance Theory (Thaler, 1999), which states that knowledge influences financial behavior. Individuals with high financial literacy can manage income and expenses and make more informed, well-planned financial decisions (Anjani & Darto, 2023).

The second hypothesis in this study is that financial literacy has a positive effect on financial technology. The results of hypothesis testing in the table above show that financial literacy has a positive and significant effect on financial technology (p-value < 0.001; path coefficient = 0.411). This finding is consistent with the Theory of Planned Behavior (Ajzen, 1991) and the study of (Ainiyah & Yuliana, 2022), which state that financial knowledge influences the adoption of financial technology. Higher financial literacy encourages individuals to use fintech services more effectively.

The third hypothesis in this study is that financial technology has a positive effect on financial behavior. The results of hypothesis testing in the table above show that financial technology has a positive and significant effect on financial behavior (p-value < 0.001; path coefficient = 0.237). This finding is consistent with the

Technology Acceptance Model (Davis, 1989) and the studies of (Hijir, 2022) and (Nuringtyas & Kartini, 2024), which state that the use of fintech can improve the management of expenses, savings, and investments. High usage intensity of fintech facilitates access to financial services, thereby promoting more structured financial behavior.

The fourth hypothesis in this study is that financial technology mediates the relationship between financial literacy and financial behavior. The results of hypothesis testing in the table above indicate that, prior to including the mediating variable, financial literacy had a significant effect on financial behavior (path coefficient = 0.292; p-value < 0.001). After including financial technology as the mediating variable, the coefficient decreased to 0.211 but remained significant (p-value < 0.001). The path from financial literacy to financial technology has a coefficient of 0.411 (p-value < 0.001), while the path from financial technology to financial behavior is 0.237 (p-value < 0.001).

These results indicate that financial technology partially mediates (complementary mediation) the effect of financial literacy on financial behavior, consistent with the Technology Acceptance Model (Davis, 1989) and the study of (Farida et al., 2021). The intensity of fintech use enhances knowledge and interest in financial management, thereby improving financial behavior.

CONCLUSIONS

This study aims to examine the mediating effect of financial technology on the relationship between financial literacy and financial behavior. In addition to the mediation effect, this study also investigates the direct effect of financial literacy on financial behavior. The findings reveal that financial literacy has a positive and significant effect on financial behavior; financial literacy has a positive and significant effect on financial technology; financial technology has a positive and significant effect on financial behavior; and finally, financial technology is able to mediate the relationship between financial literacy and financial behavior.

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