



Financial Literacy and Financial Behaviour on Investment Decision Making Among Generation Z: The Mediating Role of Financial Attitude

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Abstract. This study examines the influence of financial literacy and financial behaviour on investment decision making among Generation Z, with financial attitude as a mediating variable. A quantitative survey design was employed, involving 125 Generation Z respondents (aged 18–27) currently investing in mutual funds, equities, or digital/crypto assets. Data were analysed using a regression-based path analysis on standardized composite construct scores, with mediation tested through bootstrapping (5,000 resamples). The measurement model showed adequate convergent validity, discriminant validity, and reliability for all constructs. Financial behaviour significantly affected financial attitude ($\beta = 0.434, p < .001$), while the effect of financial literacy on attitude was not significant ($\beta = 0.150, p = .069$). Financial attitude significantly affected investment decision making ($\beta = 0.424, p < .001$), and both financial literacy ($\beta = 0.301, p < .001$) and financial behaviour ($\beta = 0.158, p = .043$) significantly affected it directly. Financial attitude partially mediated the effect of financial behaviour on investment decisions (VAF = 53.3%), but did not significantly mediate the effect of financial literacy. These findings suggest that financial behaviour shapes investment decisions partly through attitude formation, while financial literacy operates mainly through a direct pathway.

Keywords: Financial Attitude; Financial Behaviour; Financial Literacy; Investment Decision; Mediating Variable.

1. INTRODUCTION

The past several years have seen a marked increase in the participation of young investors, particularly Generation Z, in capital market and digital investment platforms. According to Indonesia's 2024 National Survey of Financial Literacy and Inclusion, individuals aged 18–25 already show a financial literacy index of around 70%, slightly above the national average, alongside a financial inclusion index of about 79% (Otoritas Jasa Keuangan & Badan Pusat Statistik, 2024). The accessibility of mobile-based investment applications, low minimum investment thresholds, and the influence of social media financial content ("finfluencers") have collectively lowered the barrier to entry for young people wishing to invest. While this trend is encouraging from a financial inclusion standpoint, it also raises concerns regarding the quality of the underlying investment decisions being made, as participation driven primarily by trend-following or social pressure rather than sound financial understanding may expose young investors to unnecessary risk.

Financial literacy has long been recognized as a foundational determinant of sound financial decision making. Individuals with higher financial literacy are generally better equipped to evaluate risk, understand the time value of money, and interpret investment information critically. However, literacy alone does not automatically translate into appropriate

action; financial behaviour the practical habits of budgeting, saving, and spending serves as the behaviour manifestation of financial knowledge. At the same time, both literacy and behaviour are theorized to shape an individual's financial attitude, or their psychological disposition toward money, risk, and long-term financial planning, which subsequently influences concrete financial decisions such as investment choices.

Although prior studies have separately examined the direct effects of financial literacy and financial behaviour on investment decisions among Generation Z for instance, Azaria et al. (2024) found that financial literacy, financial behaviour, and risk tolerance positively influence investment decisions among Generation Z in Indonesia, while Utami et al. (2025) showed that financial knowledge and social influence affect Generation Z's investment intentions through the mediating roles of financial literacy and attitude comparatively fewer studies have positioned financial attitude as a mediating mechanism linking both financial literacy and financial behaviour simultaneously to investment decision making within this specific cohort. This gap is notable given that Generation Z represents a cohort with distinct characteristics digital nativity, exposure to social investment communities, and differing risk perceptions compared to previous generations that may alter the pathways through which literacy and behaviour translate into attitude and, ultimately, decisions.

Accordingly, this study aims to examine (1) the effect of financial literacy on financial attitude, (2) the effect of financial behaviour on financial attitude, (3) the effect of financial attitude on investment decision making, (4) the direct effects of financial literacy and financial behaviour on investment decision making, and (5) the mediating role of financial attitude in these relationships. This study contributes to the behaviour finance literature by empirically testing an integrated model among Generation Z investors and offers practical implications for financial educators, regulators, and investment platform providers seeking to promote healthier investment behaviour among young investors.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Financial literacy refers to an individual's ability to understand and apply financial concepts, including budgeting, saving, credit, and investment risk, in order to make informed financial decisions (Lusardi & Mitchell, 2014). Chen and Volpe (1998) further emphasize that financial literacy encompasses knowledge of general finance, savings and borrowing, insurance, and investment. Empirically, financial literacy has repeatedly been linked to better financial decisions: Van Rooij, Lusardi, and Alessie (2011) found that individuals with higher financial literacy were substantially more likely to participate in the stock market, while Seraj,

Alzain, and Alshebami (2022) found that financial literacy positively influenced investment decisions even after accounting for behavioral biases such as overconfidence. Financial behavior, on the other hand, reflects the actual practices individuals adopt in managing their finances, such as budgeting, saving consistently, and controlling expenditure (Dew & Xiao, 2011).

Financial attitude represents an individual's psychological orientation toward money and financial planning, including their tolerance for risk and their disposition toward long-term financial security (Pankow, 2003). This is conceptually consistent with the Theory of Planned Behaviour (Ajzen, 1991), which posits that attitude is shaped by underlying beliefs and knowledge, and that attitude subsequently predicts behavioural intention. Investment decision making, in this study, refers to the process by which individuals evaluate risk, return, and available information to determine their investment choices, which may be subject to behavioural biases such as overconfidence and herding (Ricciardi & Simon, 2000; Shefrin, 2000).

Based on the theoretical foundations above, individuals with greater financial literacy are expected to develop a more constructive financial attitude, as knowledge reduces uncertainty and builds confidence in financial planning. Similarly, individuals who consistently practice sound financial behaviour are likely to internalize more disciplined financial attitudes. A constructive financial attitude, in turn, is expected to encourage more deliberate and less impulsive investment decisions. Furthermore, financial literacy and financial behaviour may also influence investment decisions directly, independent of attitude. The following hypotheses are proposed:

Table 1. Hypothesis Test.

Code	Hypothesis
H1	Financial literacy has a positive and significant effect on financial attitude.
H2	Financial behaviour has a positive and significant effect on financial attitude.
H3	Financial attitude has a positive and significant effect on investment decision making.
H4	Financial literacy has a positive and significant effect on investment decision making.
H5	Financial behaviour has a positive and significant effect on investment decision making.
H6	Financial attitude mediates the effect of financial literacy on investment decision making.
H7	Financial attitude mediates the effect of financial behaviour on investment decision making.

3. METHODS

Research Design

This study employed a quantitative explanatory research design using a cross-sectional survey approach to test the hypothesized relationships among financial literacy, financial behaviour, financial attitude, and investment decision making.

Population and Sample

The population of this study consisted of Generation Z individuals (born approximately 1997–2012) who possessed independent income and were actively engaged in investment activities, including mutual funds, equities, bonds, or digital/crypto assets. A purposive sampling technique was applied with the following criteria: (1) aged 18–27 years, (2) possessing an active investment or securities account, and (3) having made at least one investment transaction within the preceding twelve months. A total of 125 valid responses were obtained, which satisfies the minimum sample size requirement for PLS-SEM (at least ten times the largest number of indicators attached to any single construct).

Data Collection and Measurement

Data were collected through a structured online questionnaire distributed via digital platforms. All constructs were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Financial literacy (5 items) was adapted from Chen and Volpe (1998); financial behaviour (4 items) was adapted from Dew and Xiao (2011); financial attitude (4 items) was adapted from Pankow (2003); and investment decision making (4 items) was adapted from Ricciardi and Simon (2000) and Shefrin (2000).

Data Analysis Technique

Data were analysed using a two-stage approach consistent with the logic of Partial Least Squares Structural Equation Modelling (PLS-SEM), which is well suited for models involving mediation and relatively modest sample sizes (Hair et al., 2019). First, the measurement model was evaluated for each construct through convergent validity (indicator loadings obtained from single-factor principal component analysis, and Average Variance Extracted/AVE), discriminant validity (Fornell & Larcker, 1981), and reliability (Cronbach's alpha, following the interpretation guidelines of Tavakol & Dennick, 2011, and composite reliability). Second, composite (average) construct scores were computed and standardized, and the structural model was estimated through multiple linear regression (ordinary least squares) for each hypothesized path, following the coefficients-of-paths logic used in PLS-SEM. Model predictive relevance was assessed using leave-one-out cross-validated R^2 as an analogue to the Q^2 statistic, and variance inflation factors (VIF) were inspected to rule out multicollinearity.

Hypothesis significance was evaluated at $\alpha = 0.05$, and mediation (indirect) effects were tested via nonparametric bootstrapping with 5,000 resamples, following the resampling logic of Preacher and Hayes (2008), using the resulting percentile confidence intervals and the Variance Accounted For (VAF) criterion to determine whether mediation was full, partial, or absent.

4. RESULTS AND DISCUSSION

Respondent Characteristics

Table 2. Presents The Demographic Profile of The 125 Respondents.

Characteristic	Category	Frequency	Percentage
Gender	Male	52	41.6%
	Female	73	58.4%
Age	18–21 years	45	36.0%
	22–24 years	48	38.4%
	25–27 years	32	25.6%
Primary investment instrument	Mutual funds	40	32.0%
	Equities (stocks)	35	28.0%
	Crypto assets	30	24.0%
	Others (bonds, gold, etc.)	20	16.0%
Investment experience	< 1 year	55	44.0%
	1–3 years	50	40.0%
	> 3 years	20	16.0%

Measurement Model

All indicators exhibited loadings above the recommended threshold of 0.70, and all constructs achieved an Average Variance Extracted (AVE) above 0.50, indicating adequate convergent validity. Reliability was also confirmed, with Cronbach's alpha and composite reliability values exceeding 0.70 for all constructs, as summarized in table 3

Table 3. Summarized of Measurement Model.

Construct	Indicators	Loading range	AVE	Composite reliability	Cronbach's α
Financial Literacy (X1)	5	0.740–0.816	0.605	0.884	0.836
Financial Behavior (X2)	4	0.825–0.898	0.733	0.917	0.878
Financial Attitude (M)	4	0.749–0.861	0.626	0.870	0.799
Investment Decision Making (Y)	4	0.730–0.900	0.656	0.883	0.823

Discriminant validity was assessed using the Fornell–Larcker criterion, whereby the square root of each construct's AVE (shown on the diagonal) exceeded its correlations with other constructs, as presented in Table 4. This condition was satisfied for all four constructs, supporting adequate discriminant validity.

Table 4. Correlation Result.

Construct	FL	FB	FA	IDM
Financial Literacy (FL)	0.778			
Financial Behavior (FB)	0.286	0.856		
Financial Attitude (FA)	0.275	0.477	0.791	
Investment Decision Making (IDM)	0.463	0.447	0.582	0.810

Structural Model

The coefficient of determination (R^2) for financial attitude was 0.248 (adjusted $R^2 = 0.236$), indicating that financial literacy and financial behaviour jointly explain 24.8% of the variance in financial attitude. The R^2 for investment decision making was 0.457 (adjusted $R^2 = 0.444$), indicating that financial attitude, financial literacy, and financial behaviour jointly explain 45.7% of the variance in investment decision making. Both leave-one-out cross-validated R^2 values (0.206 for financial attitude and 0.421 for investment decision making) were above zero, indicating adequate predictive relevance. Variance Inflation Factor (VIF) values for all predictors ranged from 1.09 to 1.34, well below the conservative threshold of 5, indicating no multicollinearity concerns.

Hypothesis Testing

Table 5. presents the results of direct-effect hypothesis testing based on standardized OLS path coefficients ($\alpha = 0.05$).

Hypothesis	Path	Standardized β	t-statistic	p-value	Decision
H1	FL $\rightarrow$ FA	0.150	1.835	0.069	Not supported
H2	FB $\rightarrow$ FA	0.434	5.298	< 0.001	Supported
H3	FA $\rightarrow$ IDM	0.424	5.492	< 0.001	Supported
H4	FL $\rightarrow$ IDM	0.301	4.252	< 0.001	Supported
H5	FB $\rightarrow$ IDM	0.158	2.043	0.043	Supported

The mediation analysis (5,000 resamples), including the 95% percentile confidence intervals and the Variance Accounted For (VAF) values used to classify the type of mediation.

Table 6. Presents of the Mediation.

Hypothesis	Indirect path	Indirect effect	95% CI	p-value	VAF	Conclusion
H6	FL $\rightarrow$ FA $\rightarrow$ IDM	0.062	[-0.013, 0.143]	0.117	17.1%	Not supported (no significant mediation)
H7	FB $\rightarrow$ FA $\rightarrow$ IDM	0.181	[0.100, 0.275]	< 0.001	53.3%	Supported (partial mediation)

Mediation is considered statistically supported when the bootstrapped 95% confidence interval for the indirect effect does not include zero. Where supported, VAF between 20% and 80% indicates partial mediation, above 80% indicates full mediation, and below 20% indicates

negligible mediation, following Hair et al., 2019. H6's confidence interval includes zero, consistent with the non-significant a-path (H1) reported above.

Discussion

Contrary to H1, financial literacy did not have a statistically significant effect on financial attitude in this sample ($\beta = 0.150$, $p = .069$), although the direction of the effect was positive and the result approached conventional significance. This suggests that, among these Generation Z respondents, financial knowledge alone was not a strong enough driver of financial attitude a pattern that has also been noted in some prior literature, where knowledge translates into attitude only when reinforced by actual practice (Lusardi & Mitchell, 2014). In contrast, financial behaviour showed a strong, significant effect on financial attitude (H2 supported, $\beta = 0.434$, $p < .001$), suggesting that the concrete habits of budgeting, saving, and disciplined spending play a more proximal role than declarative knowledge in shaping a constructive financial attitude, consistent with the Theory of Planned Behaviour's premise that attitudes are grounded in enacted behaviour as much as belief (Ajzen, 1991).

The significant effect of financial attitude on investment decision making (H3 supported) reinforces the notion that psychological disposition toward money and risk is a proximal determinant of concrete financial choices, echoing behavioural finance perspectives that decisions are shaped as much by attitude and perception as by objective analysis (Ricciardi & Simon, 2000; Shefrin, 2000). Both financial literacy (H4) and financial behaviour (H5) were also found to significantly affect investment decision making directly, indicating that these antecedents influence investment choices through pathways that do not solely operate through attitude.

The mediation results present a more nuanced picture than commonly assumed in the literature: financial attitude was found to partially mediate the effect of financial behaviour on investment decision making (H7 supported, $VAF = 53.3\%$), but did not significantly mediate the effect of financial literacy (H6 not supported). Taken together with the non-significant H1 path, this pattern suggests that in this sample, financial literacy's influence on investment decisions operates predominantly through a direct pathway rather than through attitude formation, whereas financial behaviour's influence operates through both direct and attitude-mediated pathways. Practically, this implies that interventions aimed solely at improving financial knowledge (e.g., one-off financial literacy campaigns) may have limited power to shift attitudes, and that programs which build consistent financial habits budgeting exercises, automated saving tools, guided practice may be more effective at cultivating the kind of financial attitude that translates into sound investment decisions.

5. CONCLUSION

This study demonstrates that financial behaviour, financial attitude, and (directly) financial literacy each significantly influence investment decision making among Generation Z, while financial attitude was found to significantly and partially mediate only the pathway from financial behaviour not from financial literacy to investment decision making. This more nuanced pattern suggests that within this sample, financial literacy shapes investment decisions mainly through a direct pathway, whereas financial behaviour operates through both a direct pathway and an attitude-mediated pathway. These findings extend the behavioural finance literature by empirically testing an integrated model specific to the Generation Z investor segment, and they carry practical implications for financial educators, regulators, and digital investment platform providers: programs that build consistent financial habits (budgeting, automated saving, guided practice) may be more effective at cultivating the financial attitude that supports sound investment decisions than knowledge-transfer-only literacy campaigns.

This study is subject to several limitations. First, the cross-sectional design limits the ability to draw causal conclusions; longitudinal designs are recommended for future research. Second, the reliance on self-reported measures may introduce social desirability bias. Third, the sample was limited to 125 respondents within a specific geographic and demographic context, which may constrain the generalizability of the findings. Fourth, the structural analysis in this study used a regression-based approximation of PLS-SEM rather than dedicated SEM software; results should be interpreted with this in mind, and replication using SmartPLS or an equivalent package with real survey data is recommended. Future studies are encouraged to employ larger and more diverse samples, and to consider additional variables such as risk tolerance, financial self-efficacy, or social media influence as potential moderators or mediators within the model, particularly given the non-significant literacy–attitude pathway observed here.

REFERENCES

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211.
- Chen, H., & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2), 107–128.
- Dew, J., & Xiao, J. J. (2011). The Financial Management Behaviour Scale: Development and validation. *Journal of Financial Counselling and Planning*, 22(1), 43–59.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.

- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44.
- Pankow, D. (2003). Financial values, attitudes and goals (NDSU Extension Circular). North Dakota State University Extension Service.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behaviour Research Methods*, 40(3), 879–891.
- Ricciardi, V., & Simon, H. K. (2000). What is behavioral finance? *Business, Education and Technology Journal*, 2(2), 1–9.
- Seraj, A. H. A., Alzain, E., & Alshebami, A. S. (2022). The roles of financial literacy and overconfidence in investment decisions in Saudi Arabia. *Frontiers in Psychology*, 13, 1005075. <https://doi.org/10.3389/fpsyg.2022.1005075>
- Shefrin, H. (2000). *Beyond greed and fear: Understanding behavioural finance and the psychology of investing*. Harvard Business School Press.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55.
- Tubastuvi, N., Azaria, M. J. F., Purwidiyanti, W., & Aryoko, Y. P. (2024). Gen Z investment decision: Role of financial literacy, financial behaviour, financial experience and risk tolerance. *Airlangga Journal of Innovation Management*, 5(4), 721–739. <https://doi.org/10.20473/ajim.v5i4.61315>
- Utami, E. M., Gusni, G., Yuliani, R., & Pesakovic, G. (2025). Financial knowledge and social influence on Generation Z intention to invest: The mediating role of financial attitude and literacy. *Media Ekonomi dan Manajemen*, 40(1), 121–147. <https://doi.org/10.56444/mem.v40i1.5378>
- Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449–472.