Economics And Business Management Journal (EBMJ)
June 2026 | Vol. 3 | No. 02
E-ISSN : 2828-0288
DOI: https://doi.org/10.66084/ebmj.v3i02.624

Examining the Relationship Between Financial Literacy and Saving Behavior Among Generation Z Using Simulated Data

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Abstract

Saving behavior among Generation Z has become a strategic issue as access to digital financial products continues to expand. This study aims to examine the relationship between financial literacy and saving behavior while considering financial attitude, financial self-efficacy, and income/allowance level as additional predictors, drawing on the Theory of Planned Behavior framework. The study employed a quantitative approach using simulated data (n=320) designed to resemble the characteristics of Generation Z respondents, analyzed using multiple linear regression in SPSS. The results show that all four variables have a positive and significant effect on saving behavior ($p<0.05$), with financial literacy as the strongest predictor ($B=0.362$). The model explains 30.8% of the variance in saving behavior ($R^2=0.308$; $F=35.08$; $p<0.001$). The findings indicate that improving financial literacy has the potential to encourage better saving behavior. This study is positioned as a model framework testing (proof-of-concept) study using simulated data; therefore, the results are intended to validate the model structure rather than to provide empirical generalization to a real population.

Keywords: financial literacy; saving behavior; Generation Z; multiple linear regression; simulated data

INTRODUCTION

Generation Z, the cohort born between the late 1990s and the early 2010s, has grown up in a financial ecosystem that differs greatly from that of previous generations. Easy access to digital wallets, paylater services, and app-based investment offers both opportunities and risks to their financial health (Setiawan et al., 2022). In this context, saving behavior serves as an important indicator reflecting an individual's ability to manage financial resources sustainably (Sabri & MacDonald, 2021).

A number of studies have shown that financial literacy plays an important role in shaping sound financial decisions, including the decision to save (Lusardi & Mitchell, 2023; Morgan & Long, 2020). Individuals with adequate financial literacy tend to have better financial planning and a more consistent propensity to save (Chen & Volpe, 2021). However, empirical evidence in the context of Generation Z in Indonesia remains limited and often yields mixed results (Dewi et al., 2022). National surveys also reveal a gap between financial literacy and financial inclusion levels, implying that access to financial products is not automatically accompanied by adequate understanding (OJK, 2024).

Several previous studies have found that financial literacy is not the sole determinant; financial attitude and self-efficacy also play significant roles in shaping financial behavior (Rai et al., 2022; Magli et al., 2021). Nevertheless, most studies have examined these variables separately, and few have integrated them into a single predictive model grounded in the Theory of Planned Behavior specifically in the context of Generation Z. This research gap forms the basis of the present study.

To test the framework in a controlled manner prior to implementing a large-scale field survey, this study uses simulated data designed to resemble the characteristics of Generation Z respondents. A simulation-based approach is commonly used at the model structure development and validation stage (Hair et al., 2019). The objectives of this study are: (1) to examine the effect of each predictor on saving behavior; and (2) to evaluate the model's ability to explain the variance in saving behavior.

LITERATURE REVIEW

2.1 Financial Literacy Theory

Financial literacy is defined as an individual's knowledge and ability to manage finances, encompassing an understanding of compound interest, inflation, risk diversification, and financial planning (Lusardi & Mitchell, 2023). Atkinson and Messy (2022) conceptualize financial literacy into three complementary dimensions, namely financial knowledge, financial attitude, and financial behavior. This three-dimensional framework has been widely adopted in cross-country studies (Kadoya & Khan, 2020; Yong et al., 2021) and serves as the basis for modern financial literacy measurement. An adequate level of literacy is associated with more rational financial decisions, including the propensity to save and invest (Goyal & Kumar, 2021).

2.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB), developed by Ajzen (1991), explains that individual behavior is influenced by intention formed by three components: attitude toward the behavior, subjective norms, and perceived behavioral control. In the financial context, financial attitude represents the attitudinal component, while financial self-efficacy corresponds to perceived behavioral control (Magli et al., 2021). TPB has been widely applied to explain saving behavior and personal financial management (Rai et al., 2022; Mireku et al., 2023), making it a relevant theoretical foundation for integrating financial literacy, attitude, and self-efficacy into a single model.

2.3 Saving Behavior and Its Determinants

Saving behavior is the act of regularly setting aside a portion of income for future purposes (Sabri & MacDonald, 2021). This behavior is influenced by cognitive, affective, and situational factors and therefore cannot be explained by a single determinant alone (Fessler et al., 2020). Financial self-efficacy, an individual's belief in their ability to manage finances, has been shown to affect saving consistency (Philippas & Avdoulas, 2020). Meanwhile, income or allowance level provides the financial capacity to save, although its influence is not always dominant compared to behavioral factors (Morgan & Long, 2020).

2.4 Previous Research and Research Gap

A number of previous studies have examined the relationship between financial literacy and financial behavior in various contexts, as summarized in Table 1.

Table 1. Summary of Previous Research

Researcher(s)	Year	Main Findings
Morgan & Long	2020	Financial literacy has a positive effect on saving behavior among low- to middle-income communities.
Philippas & Avdoulas	2020	Financial literacy improves the financial well-being of Gen Z university students; self-efficacy serves as a supporting factor.
Rai, Dua & Yadav	2022	Financial attitude contributes more than knowledge to women's financial literacy.

Setiawan et al.	2022	Digital financial literacy influences the saving and spending behavior of young Indonesians.
Mireku et al.	2023	There is a significant relationship between financial literacy and financial behavior, moderated by demographic factors.

Based on this summary, it is evident that most studies have examined the determinants of saving behavior partially and across diverse population contexts. Research that integrates financial literacy, financial attitude, self-efficacy, and income capacity into a single predictive model grounded in TPB remains limited, particularly for Indonesian Generation Z. This gap is the void the present study seeks to fill by testing an integrated model framework.

2.5 Conceptual Framework and Hypotheses

Based on the theoretical review and previous research, a conceptual framework was developed linking the four predictors to saving behavior (Figure 1).

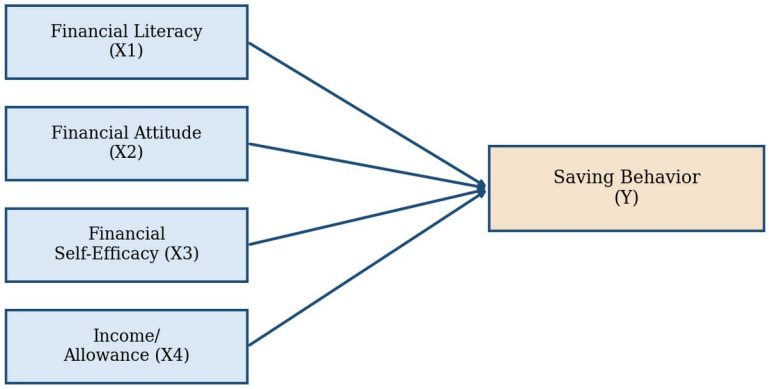

Figure 1. Conceptual framework of the study

The research hypotheses are formulated as follows: H1: Financial literacy has a positive effect on saving behavior; H2: Financial attitude has a positive effect on saving behavior; H3: Financial self-efficacy has a positive effect on saving behavior; H4: Income/allowance has a positive effect on saving behavior.

RESEARCH METHOD

This study employed a quantitative approach with a correlational-predictive design. Given that the study is at the stage of testing and validating the model framework prior to field survey implementation, simulated data comprising 320 observations were generated to resemble Generation Z response characteristics on 1–5 Likert scale instruments. The use of simulated data to test the feasibility of a model structure and its statistical assumptions is common practice at the model development stage (Hair et al., 2019). Data generation was performed by specifying the inter-variable relationship structure according to the theoretical foundation and adding a random error component to resemble the variation of field data.

The research variables consist of four independent variables, namely financial literacy (X1), financial attitude (X2), financial self-efficacy (X3), and income/allowance (X4), and one dependent variable, namely saving behavior (Y). The analysis was conducted using multiple linear regression in SPSS, preceded by classical assumption tests (normality, multicollinearity, and heteroscedasticity). The operationalization of the variables is presented in Table 2.

Table 2. Operationalization of Variables

Variable	Operational Definition	Indicators
X1: Financial Literacy	Knowledge and understanding of basic financial concepts	Interest, inflation, risk
X2: Financial Attitude	Affective tendency toward money management	Future orientation
X3: Self-Efficacy	Belief in one's ability to manage personal finances	Control & confidence
X4: Income	Monthly income or allowance level	Allowance amount
Y: Saving Behavior	The act of setting aside funds regularly	Frequency & consistency

RESULTS AND DISCUSSION

Descriptive Statistics

The distribution of saving behavior scores approaches normality, centered in the middle score range (Figure 2). A summary of the descriptive statistics is presented in Table 3.

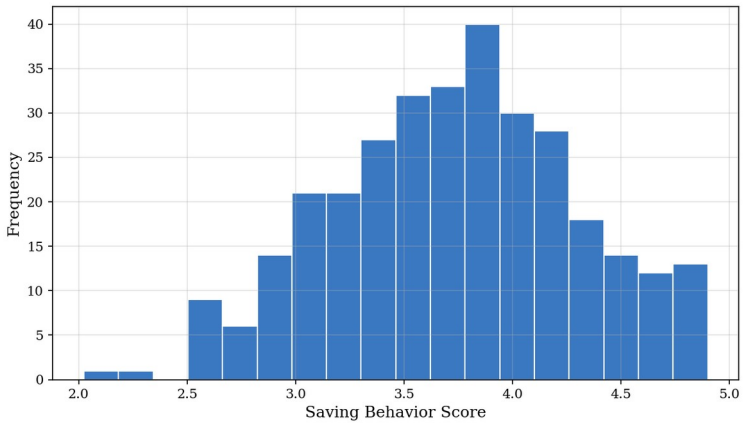

Figure 2. Distribution of saving behavior scores

Table 3. Descriptive Statistics of Variables (n=320)

Variable	Mean	Std. Dev.	Min	Max
Financial Literacy (X1)	3.60	0.62	1.00	5.00
Financial Attitude (X2)	3.40	0.70	1.00	5.00
Self-Efficacy (X3)	3.50	0.68	1.00	5.00
Income (X4)	3.20	0.80	1.00	5.00
Saving Behavior (Y)	3.52	0.55	1.80	4.90

Classical Assumption Tests

The multicollinearity test shows that the VIF values of all predictors are close to 1.0 (well below the threshold of 10), indicating that there is no multicollinearity problem (Hair et al., 2019). The Durbin-Watson value of 1.81 indicates no meaningful autocorrelation. The scatter of residuals

against predicted values (Figure 3) shows no systematic pattern, so the homoscedasticity assumption is satisfied.

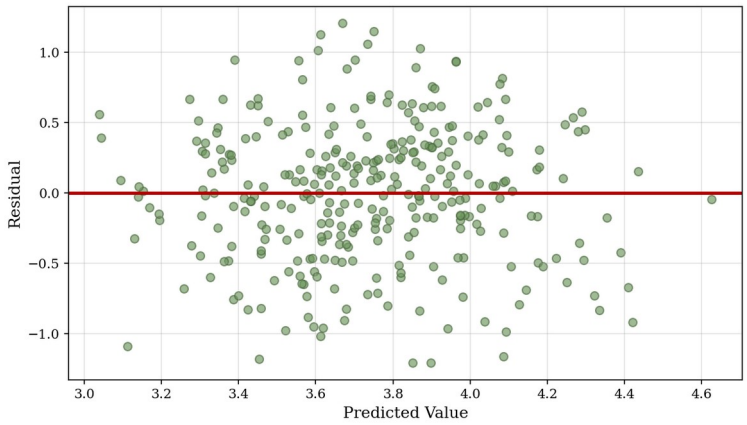

Figure 3. Residuals versus predicted values plot

4.3 Multiple Linear Regression Results

The positive relationship between financial literacy and saving behavior is clearly visible in the data scatter pattern (Figure 4). The results of the multiple linear regression test are presented in Table 4.

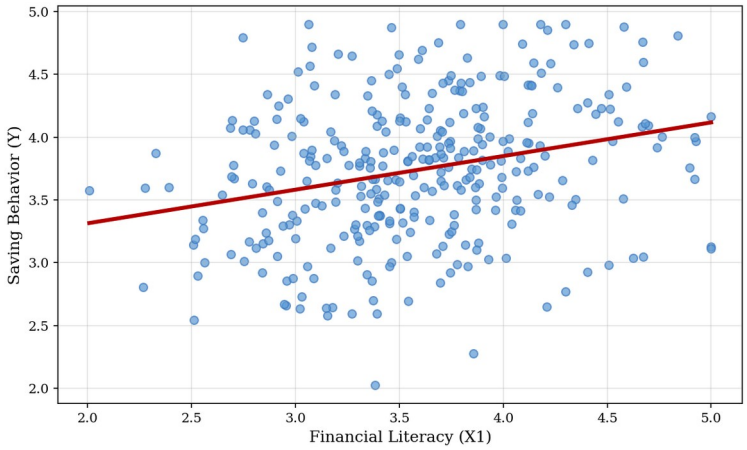

Figure 4. Relationship between financial literacy and saving behavior

Table 4. Multiple Linear Regression Results

Variable	B	Std. Error	t	Sig.
(Constant)	0.703	0.269	2.609	0.010
Financial Literacy (X1)	0.362	0.043	8.415	0.000
Financial Attitude (X2)	0.211	0.037	5.760	0.000
Self-Efficacy (X3)	0.245	0.039	6.304	0.000
Income (X4)	0.068	0.031	2.186	0.030

R^2=0.308; Adj. R^2=0.299; F=35.08; Sig. F=0.000

The comparison of coefficient magnitudes across predictors is illustrated in Figure 5, confirming financial literacy as the largest contributor to saving behavior.

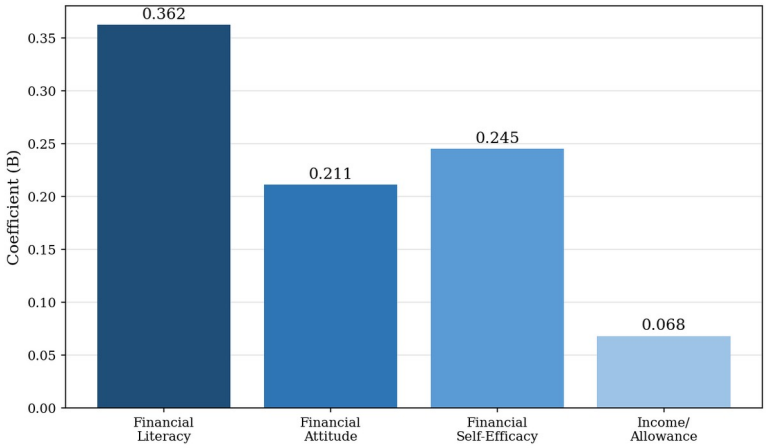

Figure 5. Comparison of regression coefficients across predictors

4.4 Discussion

The analysis results show that all four hypotheses are statistically supported. Financial literacy (B=0.362; p<0.001) is the strongest predictor, indicating that a better understanding of financial concepts is associated with more consistent saving behavior. This finding is in line with Lusardi and Mitchell (2023) and Morgan and Long (2020), who emphasize the role of financial knowledge in shaping rational saving decisions.

Financial self-efficacy (B=0.245) and financial attitude (B=0.211) also make significant contributions, supporting the Theory of Planned Behavior framework in which perceived behavioral control and attitude help determine saving behavior beyond knowledge alone (Ajzen, 1991; Magli et al., 2021). These results are consistent with Philippas and Avdoulas (2020), who found a role for self-efficacy in the financial well-being of Gen Z. Income/allowance has a significant effect but with the smallest coefficient (B=0.068), in line with Morgan and Long (2020), who state that financial capacity is not the sole determinant of saving behavior.

Overall, the model explains 30.8% of the variance in saving behavior. This proportion is reasonable for a behavioral model and implies that other factors outside the model, such as social environment influences, subjective norms, and family financial habits, may explain the remaining variance (Fessler et al., 2020). It should be emphasized that this study is positioned as a model framework testing (proof-of-concept) study using simulated data; thus, the interpretation is intended to assess the feasibility of the model structure rather than to draw empirical conclusions about the actual Generation Z population.

CONCLUSION

This study tested a model framework integrating financial literacy, financial attitude, financial self-efficacy, and income on the saving behavior of Generation Z based on the Theory of Planned Behavior, using simulated data and multiple linear regression. All four predictors were shown to have a positive and significant effect, with financial literacy as the strongest determinant and the model explaining 30.8% of the variance in saving behavior. These findings support the importance of strengthening financial literacy as a strategy to encourage healthy saving behavior. As a proof-of-concept study, these results validate the feasibility of the model structure for further testing. Future research is recommended to use primary data from field surveys to empirically validate the model framework, and to add social and contextual variables such as subjective norms to improve the model’s explanatory power.

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