THE INFLUENCE OF MENTAL ACCOUNTING, STATUS QUO BIAS, REGRET AVERSION BIAS, AND FRAMING EFFECT ON INVESTMENT DECISION-MAKING AMONG GENERATION Z IN SURAKARTA CITY

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Abstract

This study aims to analyze the influence of mental accounting, status quo bias, regret aversion bias, and framing effect on investment decision-making among Generation Z in Surakarta City. The study employs a quantitative approach using primary data collected through the distribution of five-point Likert scale questionnaires to respondents who meet the specified criteria, supported by secondary data from relevant literature. The sampling technique used is purposive sampling, with a total of 140 respondents. The collected data were analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with the assistance of SmartPLS 4, through the evaluation of the outer model and inner model. The results indicate that mental accounting, status quo bias, regret aversion bias, and framing effect each have a positive and significant influence on investment decision-making. These findings suggest that psychological factors play an important role in shaping the investment behavior of Generation Z, highlighting that understanding behavioral biases is a crucial aspect in improving the quality of investment decision-making.

Keywords: Framing Effect; Investment Decision-Making; Mental Accounting; Regret Aversion Bias; Status Quo Bias

INTRODUCTION

The rapid development of digital technology has provided greater convenience for investors, including Generation Z, in accessing information and engaging in investment activities, particularly in the capital market. Based on data from KSEI (2025), investors under the age of 30 dominate the number of domestic investors, accounting for 54.47%. Provinces in Java Island, including DKI Jakarta, record the highest number of investors at 70.39%. This phenomenon indicates that Generation Z has begun to actively participate in financial activities that were previously dominated by older age groups.

Generation Z refers to individuals born between 1997 and 2012, whose growth has been closely associated with the advancement of digital technology, particularly social media and the internet. This generation tends to make investment decisions quickly. Despite having broad access to information, their decisions are not solely influenced by financial reports but are also shaped by emotional factors and cognitive biases. Psychological factors, combined with limited experience, may lead them to make less optimal investment decisions.

Decision-making is a process influenced by various internal and external factors that can impact future outcomes. In any situation, decisions made will inevitably produce consequences, both in the short and long term, and may affect individuals as well as groups. Therefore, understanding the factors that influence investment decision-making is crucial, especially for young investors who are actively participating in financial markets.

Investment refers to the allocation of capital or assets with the expectation of generating future returns. Investment activities are not only related to financial aspects but also involve psychological dimensions. This can be observed in various phenomena where investors, particularly young investors or Generation Z, often base their decisions on emotional considerations or cognitive biases.

Several cognitive biases frequently emerge in investment decision-making behavior, particularly among Generation Z, including mental accounting, status quo bias, regret aversion bias, and framing effect. These biases indicate that investment decisions are not always made rationally and objectively.

Mental accounting refers to how individuals categorize and treat financial resources based on their intended use. It involves the division of financial resources according to specific criteria. According to Nofsinger (2005), investors with mental accounting tendencies consider costs and benefits when making decisions, which may help them feel more secure and avoid potential risks. Previous studies, such as Anggini et al. (2021) and Abdani & Nurdin (2019), found that mental accounting has a significant effect on investment decision-making. However, this finding differs from Tang & Asandimitra (2023), who reported no significant influence of mental accounting on investment decisions.

Status quo bias refers to a condition in which investors tend to maintain their current decisions and resist change, even when alternative options may offer greater benefits. This bias is often driven by comfort and fear of change and may be reinforced by emotional factors such as loss aversion and discomfort in adapting to new situations (Pamungkas, 2024). Studies by Pradhana (2018) and Umairoh (2012) indicate that status quo bias has a positive effect on investment decisions. However, this finding contradicts the results of Akinkoye Professor & Bankole Post-Graduate Student (2020), which show that status quo bias does not significantly influence investment decisions.

Regret aversion bias is a cognitive bias that explains how emotions influence decision-making processes. It occurs when individuals avoid making decisions due to fear of potential regret or loss, leading investors to hesitate or assume that their decisions may result in mistakes. Previous studies, such as Mahadevi Aulia & Asandimitra (2021), found that regret aversion bias significantly affects investment decisions. In contrast, Budiman (2020) argues that regret aversion bias is not a dominant factor in influencing investment decisions.

Framing refers to the way information is presented to influence decision-making. The framing effect is a psychological phenomenon in which individuals' decisions are affected by how information is structured and communicated. Studies by Pasek et al. (2019) and Arovia Devi Cahyanti et al. (2021) show that framing effect has a significant influence on decision-making. However, other research, such as Iva Kurnia Sari et al. (2024), suggests that the impact of framing effect can be either positive or negative depending on how information is presented.

Previous studies have shown inconsistent results regarding the influence of cognitive biases on investment decision-making among Generation Z. This inconsistency highlights the need for further research that is more contextual and empirically grounded. Therefore, it is important to conduct a study that comprehensively examines how cognitive biases, such as mental accounting, status quo bias, regret aversion bias, and framing effect, influence investment decision-making among Generation Z. This research is expected to provide relevant and practical insights, contributing not only to academic literature but also serving as a foundation for developing financial education programs and adaptive strategies tailored to young investors, particularly in Surakarta City as one of the centers of educational and economic growth.

REVIEW OF LITERATURE

Behavioral Finance Theory

Behavioral finance is a branch of financial science that explains that individual financial decisions are not entirely rational, as they are influenced by psychological factors and cognitive biases (Ritter, 2003; Suriani, 2022). This theory began to develop in the 1970s through the contributions of Daniel Kahneman and Amos Tversky with the introduction of *Prospect Theory* (1979), which demonstrates that individuals tend to make decisions based on perceived gains and losses rather than objective value. In the context of investment, the application of behavioral finance is essential for improving the quality of decision-making and minimizing errors (Saputro & Wikartika, 2023). The relevance of this theory is evident in the investment behavior of Generation Z in Surakarta, who live in the digital era with broad access to information but remain susceptible to biases such as mental accounting, status quo bias, regret aversion bias, and framing effect, resulting in investment decisions that are not always rational.

Prospect Theory

According to Ostana et al. (2023), *prospect theory* explains how individuals make decisions under conditions of uncertainty by considering risk, where individuals tend to avoid losses more strongly than they pursue equivalent gains. This theory was first developed by Daniel Kahneman and Amos Tversky in 1979 through their paper *"Prospect Theory: An Analysis of Decision under Risk"* published in *Econometrica*, as a critique of *Expected Utility*

Theory, which assumes that humans are fully rational. Prospect theory emphasizes that individuals evaluate gains and losses asymmetrically (*loss aversion*), meaning that the fear of losses has a stronger influence on decision-making, leading individuals to act more cautiously in order to avoid potential risks in the future.

Mental Accounting

Mental accounting is a form of cognitive bias that explains how individuals process and manage financial resources based on behavioral observations and social norms (Mahastanti & Wiharjo, 2012). This concept was first introduced by Richard Thaler in the article *"Mental Accounting Matters"* (1999), which explains that individuals tend to categorize money into separate mental accounts based on its source, purpose, or context of use, making it not entirely fungible. Mental accounting consists of three main components: (1) perception and evaluation of outcomes, which relate to how individuals assess financial decisions; (2) assignment of activities to specific accounts, reflecting how funds are categorized; and (3) frequency of evaluation and framing of choices, which indicate how often and in what manner individuals assess and structure their financial decisions.

Status Quo Bias

Status quo bias refers to the tendency of investors to maintain existing conditions or decisions due to a sense of comfort, thereby resisting change even when alternative options may provide greater benefits (Pradhana, 2018). In this context, change is often perceived as a risk or potential loss. This concept was first introduced by William Samuelson and Richard Zeckhauser (1988) in their study *"Status Quo Bias in Decision Making"*, which demonstrates that individuals tend to prefer existing options (*status quo*), even when other alternatives are more optimal. This tendency becomes stronger as the number of alternatives increases and weaker when individuals have strong preferences for a particular choice.

Regret Aversion Bias

Regret aversion bias is the tendency of individuals to avoid making decisions that could potentially lead to regret in the future (Holly, Anthony, Robert Jao Limang, 2022). This bias arises when past negative decision outcomes create emotional discomfort, leading individuals to become overly cautious or even avoid making decisions altogether. The concept was developed by Graham Loomes and Robert Sugden (1982) through *Regret Theory: An Alternative Theory of Rational Choice under Uncertainty*, which explains that individuals not only evaluate actual outcomes but also compare them with alternative outcomes that could have occurred. Unlike *Expected Utility Theory*, which emphasizes rationality, regret theory highlights the role of emotions in decision-making, such as the tendency to maintain the status quo or reluctance to sell losing assets due to fear of regret.

Framing Effect

Framing effect is a phenomenon in which individuals respond differently to the same choice depending on how the information is presented, whether in a positive (*gain frame*) or negative (*loss frame*) context (Tversky & Kahneman, 1981). This concept originates from *prospect theory* (Kahneman & Tversky, 1979), which explains that individuals perceive losses as more significant than equivalent gains (*loss aversion*). As a result, framing influences decision-making and risk preferences, where individuals tend to avoid risk when information is presented positively but become more willing to take risks when faced with negatively framed losses.

Investment

Investment refers to the allocation of capital or assets with the expectation of generating future returns. According to Anthony and James S. Reece in *Management Accounting* (1999: 613), investment is the placement of funds with the expectation of obtaining future benefits. Similarly, Putri & Santoso (2024) define investment as the allocation of funds into one or more assets over a certain period to generate income, while Pana & Ambarwati (2023) state that investment can be undertaken by individuals or organizations in various forms, including money, equipment, expertise, or intellectual property rights. In general, investments are categorized into real assets such as land, buildings, and gold, and financial assets such as stocks and bonds. Additionally, investments can be classified based on time horizon into short-term (1–5 years) and long-term (>5 years). The benefits of investment include increasing asset value, generating income, and providing additional sources of financial return.

Decision-Making

Decision-making is the process of selecting among various alternatives to achieve goals or solve problems, as proposed by Eisenfuhr (2011) in Lunenburg (2010) and G. R. Terry (1971), who emphasize that decisions are based on certain criteria from two or more available options. In this process, several factors must be considered, as outlined by Terry (1989), including the integration of rational and emotional aspects, alignment with organizational objectives, avoidance of purely personal interests, recognition that rarely is there a perfectly optimal choice, and understanding that decision-making is a mental process that must ultimately be translated into concrete actions. Furthermore, effective decision-making requires sufficient time, must be practical in nature, should be evaluated continuously, and serves as the starting point for subsequent actions.

Hypothesis Development

The Effect of Mental Accounting on Investment Decision-Making Among Generation Z

Mental accounting shapes the way investors perceive, utilize, and allocate their financial resources according to their individual needs. Since investment decisions involve allocating funds under conditions of uncertainty, the way individuals mentally categorize and manage money plays a crucial role in determining their final decisions. Therefore, a higher level of mental accounting is expected to exert a stronger influence on investment decision-making. Previous studies by Novia Dwi Anggini, Cipto Wardoyo, & Vega Wafaretta (2020), as well as Abdani & Nurdin (2019), found that mental accounting significantly influences investment decisions. However, this finding contrasts with Tang & Asandimitra (2023), who reported no significant effect of mental accounting on investment decision-making.

H_1: Mental Accounting has a positive effect on investment decision-making among Generation Z in Surakarta City.

The Effect of Status Quo Bias on Investment Decision-Making Among Generation Z

Status quo bias influences investment decisions among Generation Z by encouraging individuals to maintain their existing investment choices rather than exploring new strategies. This bias is reinforced by uncertainty, fear of failure, psychological comfort, and social influence. Studies conducted by Pradhana (2018) and Umairah (2012) indicate that status quo bias has a positive effect on investment decision-making. However, this finding is

inconsistent with Akinkoye & Bankole (2020), who found that status quo bias does not have a significant impact on investment decisions.

H_2: Status Quo Bias has a positive effect on investment decision-making among Generation Z in Surakarta City.

The Effect of Regret Aversion Bias on Investment Decision-Making Among Generation Z

Regret aversion bias affects investors' decisions by creating a tendency to avoid choices that may lead to future regret. This condition causes investors to become more cautious and risk-averse, and in some cases, may even discourage them from investing altogether despite potential higher returns. Previous studies by Mahadevi & Asandimitra (2021) and Putri & Hikmah (2020) found that regret aversion bias significantly influences investment decisions. However, this finding differs from Budiman & Ervina (2020), who concluded that regret aversion bias is not a primary determinant in investment decision-making.

H_3: Regret Aversion Bias has a positive effect on investment decision-making among Generation Z in Surakarta City.

The Effect of Framing Effect on Investment Decision-Making Among Generation Z

Investors tend to be influenced by how information is presented, especially when it is framed in emotional or visual formats. Limited investment experience and a tendency to rely on perception rather than objective evaluation make Generation Z more susceptible to the framing of information. As a result, the framing effect plays a significant role in shaping investment decisions. Studies by Pasek et al. (2019) and Arovia Devi Cahyanti et al. (2021) found that framing effect has a significant influence on decision-making. However, other research by Iva Kurnia Sari et al. (2024) suggests that the impact of framing effect may be either positive or negative depending on how the information is presented.

H_4: Framing Effect has a positive effect on investment decision-making among Generation Z in Surakarta City.

RESEARCH METHOD

This study employs a quantitative approach to analyze the influence of mental accounting, status quo bias, regret aversion bias, and framing effect on investment decision-making among Generation Z in Surakarta City. The research population consists of Generation Z individuals who have investment experience, with a purposive sampling technique applied based on specific criteria to obtain relevant respondents. The data used include primary data collected through a five-point Likert scale questionnaire and secondary data obtained from supporting literature, with a cross-sectional data structure. The dependent variable in this study is investment decision-making, while the independent variables include mental accounting, status quo bias, regret aversion bias, and framing effect, each measured using their respective indicators. Data analysis is conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with the assistance of SmartPLS 4, which includes the evaluation of the outer model to assess validity and reliability, as well as the inner model to examine relationships among variables through R-square, F-square, and hypothesis testing using bootstrapping (Sugiyono, 2023).

RESULTS AND DISCUSSION

This chapter presents the results of data analysis along with their interpretations based on the research objectives and the theoretical framework that has been established. The study focuses on examining the influence of mental accounting, status quo bias, regret aversion bias, and framing effect on investment decision-making among Generation Z in Surakarta City by integrating data processing results, relevant theories, and findings from previous studies. A quantitative approach is employed, using numerical data collected through the distribution of questionnaires to respondents who meet the specified criteria. The sampling technique used is snowball sampling, resulting in a total of 140 respondents as the research sample. Furthermore, the data are analyzed using SmartPLS 4 to test the research model, including both direct and indirect relationships among variables.

Description of Research Data

The following presents the characteristics of respondents based on gender and age:

Table 1.
Characteristics of Respondents Based on Gender and Age

Category	Description	Frequency	Percentage
Gender	Male	69	49.3%
	Female	71	50.7%
Age	18–20 years	75	53.6%
	21–23 years	55	39.3%
	24–26 years	10	7.1%
Total		140	100%

Source: Processed primary data (2026)

Based on Table 1, it can be observed that the total number of respondents in this study is 140, with a relatively balanced gender distribution, consisting of 71 females (50.7%) and 69 males (49.3%). In terms of age, the majority of respondents fall within the 18–20 age group, accounting for 75 individuals (53.6%), followed by those aged 21–23 years with 55 individuals (39.3%), and those aged 24–26 years with 10 individuals (7.1%). These findings indicate that the respondents in this study are predominantly young investors within the early age range of Generation Z.

SmartPLS Program Model

In this study, the validity of the data and the research hypotheses are tested using the Partial Least Squares (PLS) data analysis technique with the SmartPLS 4 application. The following is the PLS program model tested in this research:

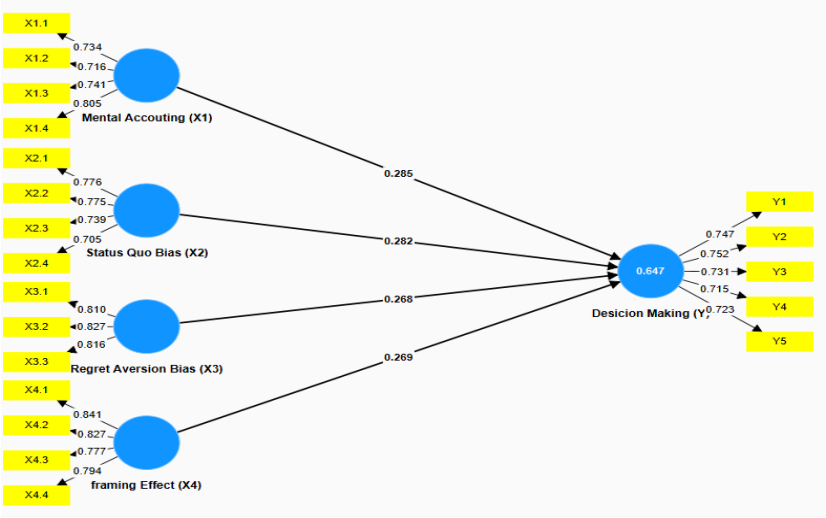

Figure 1.
Outer Model

The outer model testing in this study is conducted to examine the relationship between latent variables and the indicators used to measure them. This testing is carried out through several stages, namely validity testing, reliability testing, and multicollinearity testing, to ensure that the research instruments meet the required criteria and demonstrate good consistency.

Outer Model Analysis

Convergent Validity

Convergent validity is an evaluation within the outer model aimed at assessing the extent to which indicators are able to represent the latent variables being measured. Indicators are considered valid if they have an outer loading value greater than 0.70, indicating a strong relationship between the indicators and their respective constructs. Thus, convergent validity can be regarded as satisfactory when this criterion is met.

Table 2.
Outer Loading Values

Variable	Indicator	Outer Loading
Mental Accouting (X1)	X1.1	0.734
	X1.2	0.716
	X1.3	0.741
	X1.4	0.805
Status Quo Bias (X2)	X2.1	0.776
	X2.2	0.775
	X2.3	0.739
	X2.4	0.705
Regret Aversion Bias (X3)	X3.1	0.810
	X3.2	0.827
Framing Effect (X4)	X3.3	0.816
	X4.1	0.841
	X4.2	0.827
	X4.3	0.777
Decision Making (Y)	X4.4	0.794

	Y1	0.747
	Y2	0.752
	Y3	0.731
	Y4	0.715
	Y5	0.723

Source: Processed primary data (2026)

The outer loading test is conducted to assess the validity of indicators for each research variable, and the results indicate that all indicators meet the convergent validity criteria with values above 0.70. The mental accounting variable has outer loading values ranging from 0.716 to 0.805, status quo bias from 0.705 to 0.776, regret aversion bias from 0.810 to 0.827, framing effect from 0.777 to 0.841, and investment decision making from 0.715 to 0.752. These values demonstrate that all indicators are capable of representing their respective constructs effectively and exhibit strong relationships with the latent variables, thus confirming convergent validity. Furthermore, the assessment of convergent validity can also be strengthened by examining the Average Variance Extracted (AVE) values.

Table 3.
AVE Values

Variable	AVE	Remark
Mental Accouting (X1)	0.562	Valid
Status Quo Bias (X2)	0.562	Valid
Regret Aversion Bias (X3)	0.668	Valid
Framing Effect (X4)	0.656	Valid
Decision Making (Y)	0.538	Valid

Source: Processed primary data (2026)

Convergent validity in this study is assessed using the Average Variance Extracted (AVE) value, where a variable is considered valid if it has an AVE value greater than 0.50. Based on the analysis results, all variables meet this criterion, namely mental accounting (0.562), status quo bias (0.562), regret aversion bias (0.668), framing effect (0.656), and investment decision (0.538). These values indicate that each construct is able to explain more than 50% of the variance of its indicators, thus confirming that all variables in this study satisfy convergent validity.

Discriminant Validity

Discriminant validity is a concept used to assess the extent to which a construct or latent variable is empirically distinct from other constructs that theoretically should not be highly correlated, thereby ensuring that the measurement instrument does not overlap in capturing different concepts. An indicator is considered to meet discriminant validity if it has a higher cross-loading value on its own construct compared to other constructs.

Table 4.
Cross Loading Values

Indicator	Mental Accouting (X1)	Status Quo Bias (X2)	Regret Aversion Bias (X3)	Framing Effect (X4)	Decision Making(Y)
X1.1	0.734	0.367	0.384	0.239	0.467
X1.2	0.716	0.370	0.324	0.254	0.412
X1.3	0.741	0.388	0.232	0.304	0.477
X1.4	0.805	0.310	0.298	0.272	0.509

X2.1	0.178	0.776	0.182	0.413	0.495
X2.2	0.280	0.775	0.185	0.292	0.403
X2.3	0.412	0.739	0.267	0.296	0.471
X2.4	0.548	0.705	0.268	0.354	0.478
X3.1	0.304	0.199	0.810	0.269	0.447
X3.2	0.297	0.302	0.827	0.169	0.417
X3.3	0.403	0.245	0.816	0.158	0.447
X4.1	0.324	0.427	0.214	0.841	0.497
X4.2	0.169	0.336	0.238	0.827	0.371
X4.3	0.262	0.271	0.213	0.777	0.422
X4.4	0.364	0.419	0.138	0.794	0.508
Y1	0.484	0.532	0.451	0.360	0.747
Y2	0.389	0.417	0.369	0.424	0.752
Y3	0.434	0.392	0.407	0.310	0.731
Y4	0.321	0.507	0.363	0.487	0.715
Y5	0.630	0.418	0.370	0.476	0.723

Source: Processed primary data (2026)

Based on the discriminant validity test results using cross-loading values, all indicators for each variable mental accounting (X1), status quo bias (X2), regret aversion bias (X3), framing effect (X4), and investment decision making (Y) show the highest loading values on their respective constructs compared to other constructs. This indicates that each indicator is capable of distinguishing the variable it measures effectively. Therefore, all variables meet the criteria for discriminant validity. Furthermore, there is no issue of overlapping among constructs, and the measurement model can be considered valid and reliable.

Reliability Test

The reliability test is a crucial part of the outer model evaluation in PLS-SEM analysis, aimed at measuring the internal consistency of indicators in representing latent constructs or variables. A construct is considered reliable if the Composite Reliability value exceeds 0.70. This value indicates that the indicators used demonstrate good internal consistency in measuring the research variables.

Table 5.
Composite Reliability Values

Variable	Composite Reability (rho_a)	Composite Reability (rho_c)
Mental Accouting (X1)	0.745	0.837
Status Quo Bias (X2)	0.740	0.837
Regret Aversion Bias (X3)	0.752	0.858
Farming Effect (X4)	0.833	0.884
Decision Making (Y)	0.787	0.853

Source: Processed primary data (2026)

Based on the reliability test results, all constructs in this study demonstrate good to very good internal consistency. This is reflected in the rho_a and rho_c values for each variable, namely mental accounting (0.745; 0.837), status quo bias (0.740; 0.837), regret aversion bias (0.752; 0.858), framing effect (0.833; 0.884), and investment decision making (0.787; 0.853). All composite reliability values (rho_c) exceed the required threshold, indicating that the indicators for each construct are able to measure the variables consistently

and reliably. Therefore, it can be concluded that all constructs in the research model are reliable and suitable for further analysis.

Cronbach's Alpha

Cronbach's Alpha is used to measure the level of internal consistency of the indicators employed within a construct or latent variable. A construct is considered reliable if the Cronbach's Alpha value exceeds 0.70. This value indicates that the indicators used have a good level of reliability in measuring the research variables.

Table 6.
Cronbach's Alpha Values

Variable	Crobach's Alpha
Mental Accounting (X1)	0.740
Status Quo Bias (X2)	0.740
Regret Aversion Bias (X3)	0.752
Farming Effect (X4)	0.826
Decision Making (Y)	0.786

Source: Processed primary data (2026)

Based on the analysis results, all constructs in this study are considered reliable, as they have Cronbach's Alpha values above 0.70, namely Mental Accounting (0.740), Status Quo Bias (0.740), Regret Aversion Bias (0.752), Framing Effect (0.826), and Investment Decision Making (0.786). These values indicate that each indicator demonstrates good to very good internal consistency in measuring the variables under study. Therefore, all constructs meet the reliability criteria and are suitable for further analysis.

Multicollinearity Test

The multicollinearity test is an important evaluation within the inner model, aimed at ensuring that there is no excessively strong correlation among the independent variables in the model. This is measured using the Variance Inflation Factor (VIF). High multicollinearity may lead to biased parameter estimates, thereby undermining the overall validity of the research conclusions. A VIF value below 10 indicates the absence of serious multicollinearity issues. However, many researchers apply a stricter threshold, such as VIF < 5, to ensure greater stability of the analysis results.

Table 7.
Collinearity Statistics (VIF)

Variable	Indicator	VIF
Mental Accouting (X1)	X1.1	1.385
	X1.2	1.369
	X1.3	1.397
	X1.4	1.567
Status Quo Bias (X2)	X2.1	1.604
	X2.2	1.718
	X2.3	1.382
	X2.4	1.267
Regret Aversion Bias (X3)	X3.1	1.458
	X3.2	1.606
	X3.3	1.490
Farming Effect (X4)	X4.1	2.017

	X4.2	2.207
	X4.3	1.693
	X4.4	1.546
Decision Making (Y)	Y1	1.515
	Y2	1.608
	Y3	1.521
	Y4	1.435
	Y5	1.395

Source: Processed primary data (2026)

Based on the test results, all constructs in this study do not indicate any multicollinearity issues, as evidenced by the VIF values for each indicator being below the required threshold (< 5). For the mental accounting variable (X1), VIF values range from 1.369 to 1.567; status quo bias (X2) ranges from 1.267 to 1.718; regret aversion bias (X3) ranges from 1.458 to 1.606; framing effect (X4) ranges from 1.546 to 2.207; and investment decision making (Y) ranges from 1.395 to 1.608. Although the highest VIF value is observed in indicator X4.2 (2.207), this value remains within an acceptable range. Therefore, all indicators are considered suitable for use in the research model, as no multicollinearity is detected.

Inner Model Analysis

In this study, the testing of data validity and research hypotheses is conducted using the Partial Least Squares (PLS) analysis technique through the SmartPLS 4 application. The PLS model used in this research is illustrated as follows:

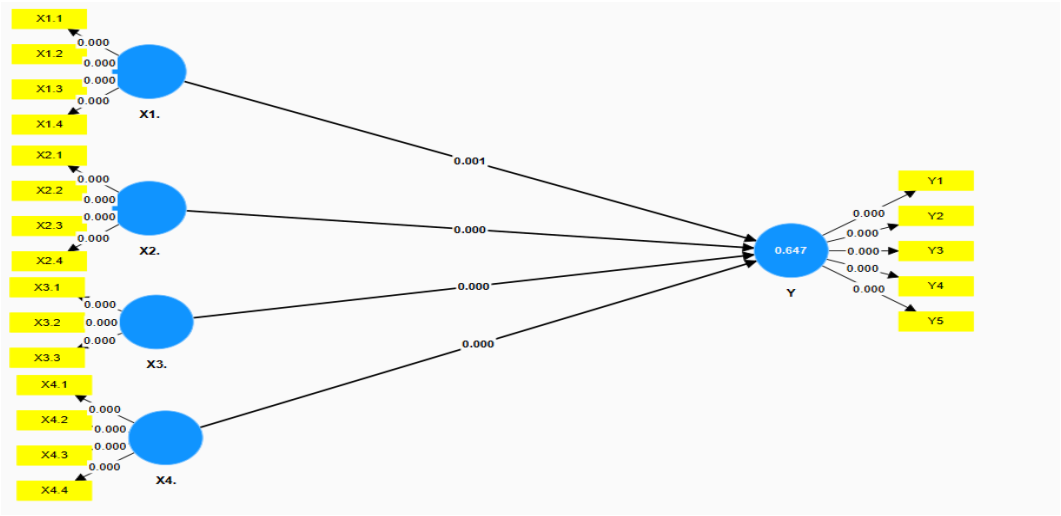

Figure 2.
Inner Model

Goodness of Fit (GoF) Test

Goodness of Fit (GoF) in PLS-SEM analysis aims to evaluate the overall suitability of the model by indicating the extent to which the model accurately represents empirical data to support hypothesis testing. GoF reflects how well the theoretical model aligns with empirical findings. The measurement results represent the overall quality of the model's validity and reliability, thereby ensuring its adequacy for further analysis. In this study, the evaluation includes parameters such as R-Square, where a higher R-Square value indicates

that the independent variables are able to explain a significant proportion of the variance in the dependent variable.

Table 8.
R-Square Values

Variable	R-Square	R-square adjusted
Decision Making(Y)	0.647	0.637

Source: Processed primary data (2026)

Based on the analysis results presented in the R-square overview table, the dependent variable (Y) has an R-Square value of 0.647 and an adjusted R-Square value of 0.637. The R-Square value of 0.647 indicates that 64.7% of the variance in the dependent variable can be explained by the independent variables in the research model, namely mental accounting, status quo bias, regret aversion bias, and framing effect. The adjusted R-Square value of 0.637 is relatively close to the R-Square value, suggesting that the model is stable and does not experience significant bias due to the number of variables included in the model.

F-Square Values

The f-square (f^2) value is a measure of effect size used to evaluate the magnitude of the relative contribution of an exogenous variable (predictor) to the R-square value of an endogenous variable in the PLS-SEM inner model. This value is obtained by comparing the change in R^2 when a predictor variable is included in the model with when it is excluded. There are commonly used criteria to assess the magnitude of the effect: an f^2 value of 0.02 indicates a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect.

Table 9.
F-Square Values

Indicator	F-Square
Mental Accouting (X1)	0.156
Status Quo Bias (X2)	0.151
Regret Aversion Bias(X3)	0.165
Framing Effect(X4)	0.156

Source: Processed primary data (2026)

Based on the f-square analysis results, all independent variables mental accounting (0.156), status quo bias (0.151), regret aversion bias (0.165), and framing effect (0.156) fall into the medium effect category on investment decision making. Regret aversion bias has the highest value, indicating a relatively greater contribution compared to other variables, while the remaining variables also provide a meaningful contribution in explaining the variation in investment decision making. Overall, these findings indicate that all four variables play a significant role in shaping investment decision-making within the research model.

Hypothesis Testing

This study employs path coefficient analysis to examine direct effects among variables, as well as specific indirect effects to test indirect or mediating relationships, using the bootstrapping method to obtain t-statistics, p-values, and original sample estimates as the basis for hypothesis testing. A relationship is considered significant if the p-value < 0.05 and the t-statistic > 1.654 at a 5% significance level, while values beyond these thresholds indicate a non-significant relationship.

Table 10.
Path Coefficient Values

	Hypothesis	Original Sampel	T statistics (|O/STDEV|)	P value	Description
Mental Accouting (X1) -> Decision Making (Y)	H1	0.285	3.471	0.001	Positive Significant
Status Quo Bias (X2) -> Decision Making (Y)	H2	0.282	3.669	0.000	Positive Significant
Regret Aversion Bias (X3) -> Decision Making (Y)	H3	0.268	3.946	0.000	Positive Significant
Framing Effect (X4) -> Decision Making (Y)	H4	0.269	4.646	0.000	Positive Significant

Source: Processed primary data (2026)

The results of the path coefficient analysis indicate that all independent variables have a positive and significant influence on investment decision making. Mental accounting has a coefficient of 0.285 (t = 3.471; p = 0.000), status quo bias has a coefficient of 0.282 (t = 3.669; p = 0.000), regret aversion bias has a coefficient of 0.268 (t = 3.946; p = 0.000), and framing effect has a coefficient of 0.269 (t = 4.646; p = 0.000). All t-statistic values exceed the significance threshold, and all p-values are below 0.05. Therefore, it can be concluded that these four variables significantly influence investment decision-making. This indicates that higher levels of mental accounting, status quo bias, regret aversion bias, and framing effect are associated with higher levels of investment decision-making within the research model.

The Effect of Mental Accounting on Investment Decision Making

Based on the analysis results, the original sample value is 0.285, with a t-statistic of 3.471 and a p-value of 0.000. These findings indicate that mental accounting has a strong and significant direct effect on investment decision-making. This suggests that the better the mental accounting management possessed by Generation Z investors, the better the investment decisions they make. Investors who are able to clearly organize and separate their financial allocations tend to behave more rationally when making investment choices.

Mental accounting influences investment decision-making among Generation Z because individuals tend to categorize their financial resources into different "mental accounts." This is consistent with behavioral finance theory, as explained by Mahastanti & Wiharjo (2012), which states that individuals tend to group their money into different mental categories based on its source, purpose, or context of use, rather than treating money as fully fungible. This practice allows investors to manage their finances more carefully by allocating funds according to specific purposes.

In the context of investment, Generation Z individuals who have allocated a portion of their funds specifically for investment purposes are more likely to invest those funds in various financial instruments. This indicates that the way individuals mentally categorize and perceive money significantly influences their behavior and decision-making in investment activities. The findings of this study support previous research by Anggini et al. (2021), Putriana et al. (2023), Wibowo (2025), Dwi Tirta Negara et al. (2025), and Abdani & Nurdin (2019), which confirm that mental accounting has a significant influence on investment decision-making.

The Effect of Status Quo Bias on Investment Decision Making

Based on the hypothesis testing results, the original sample value is 0.282, with a t-statistic of 3.669 and a p-value of 0.000. These results indicate that status quo bias has a positive and significant effect on investment decision-making. This suggests that the tendency toward status quo bias among Generation Z investors in Surakarta City influences their decision-making process. Investors with a strong status quo bias tend to be more cautious and prefer decisions that are perceived as safe or familiar.

Status quo bias influences investment decision-making among Generation Z because individuals tend to maintain existing choices or conditions rather than making changes. These findings are consistent with Samuelson & Zeckhauser (1988), who argue that individuals tend to preserve the current state (*status quo*) rather than selecting new alternatives. In the context of investment, Generation Z investors who have already chosen a particular investment instrument tend to retain it due to a sense of comfort with their existing choices. Consequently, this tendency affects how individuals make investment decisions. The results of this study support previous research by Pradhana (2018), Mahadevi Aulia & Asandimitra (2021), and Umairoh (2012), which confirms that status quo bias significantly influences investment decision-making.

The Effect of Regret Aversion Bias on Investment Decision Making

Based on the data analysis results, the original sample value is 0.268, with a t-statistic of 3.946 and a p-value of 0.000. These findings indicate that regret aversion bias has a positive and significant effect on investment decision-making. This suggests that Generation Z investors tend to consider the possibility of regret before making investment decisions. As a result, they become more cautious and evaluate potential risks more carefully before committing to an investment.

Regret aversion bias influences investment decision-making because individuals tend to avoid feelings of regret arising from decisions perceived as incorrect. This finding is consistent with behavioral finance theory, as proposed by Tversky & Kahneman (1981), which states that individuals often anticipate potential regret before making decisions, leading them to avoid future regret by choosing options perceived as safer or less risky.

In the context of investment, Generation Z investors often fear potential losses that may lead to regret in the future. Therefore, this fear influences their behavior in decision-making, making them more cautious or encouraging them to maintain their existing investments. The results of this study support previous findings by Mahadevi Aulia & Asandimitra (2021), Japlami et al. (2025), Nurdinda et al. (2020), Sinaga & Silalahi (2022), and Zanah & Fauji (2026), which confirm that regret aversion bias has a significant influence on investment decision-making.

The Effect of Framing Effect on Investment Decision Making

Based on the hypothesis testing results, the original sample value is 0.269, with a t-statistic of 4.646 and a p-value of 0.000. These findings indicate that the framing effect has a positive and significant influence on investment decision-making. This suggests that the way investment information is presented can significantly influence the decisions made by Generation Z investors. Information presented with a positive or attractive framing tends to be more persuasive and easier to influence investors' decisions.

The framing effect influences investment decision-making because the presentation of information can shape individuals' perceptions of risk and return. This finding is consistent

with behavioral finance theory proposed by Tversky & Kahneman (1981), which states that the way information or problems are framed can significantly affect the decisions made by individuals. Generation Z frequently obtains information from various sources, such as social media and investment platforms. Differences in how information is presented—for example, emphasizing potential gains or highlighting possible losses—can influence how individuals evaluate an investment opportunity.

The results of this study support previous research by Pasek et al. (2019), Iva Kurnia Sari et al. (2024), Nazilah (2015), Anas et al. (2023), and Arovia Devi Cahyanti et al. (2021), which confirm that the framing effect has a significant influence on investment decision-making.

CONCLUSION

Based on the research findings, it can be concluded that mental accounting, status quo bias, regret aversion bias, and framing effect each have a positive and significant influence on investment decision making, indicating that all hypotheses proposed in this study are supported. However, this study has several limitations, particularly in terms of the number of variables used and the scope of the sample, which is limited to Generation Z in Surakarta with a total of 140 respondents. As a result, the findings cannot yet be generalized more broadly. Therefore, it is recommended that Generation Z investors develop a better understanding of psychological factors that may influence their investment decision making in order to act more rationally. Furthermore, future research is expected to incorporate additional relevant variables such as financial literacy, overconfidence bias, herding behavior, and risk tolerance, as well as expand the sample size and coverage to produce more comprehensive results.

REFERENCES

abdani, F., & Nurdin, F. (2019). Kausalitas Mental Accounting Dan Pengambilan Decision Making Mesin Produksi: Suatu Studi Eksperimen. *Akuntabilitas*, *12*(2), 145–156. Https://Doi.Org/10.15408/Akt.V12i2.11703

Akinkoye Professor, E. Y., & Bankole Post-Graduate Student, O. E. (2020). Effect Of Emotional Biases On Investor's Decision Making In Nigeria. *International Journal Of Business And Management Future*, *4*(1). Www.Cribfb.Com/Journal/Index.Php/Ijbmf

Anas, D., Insani, S., Nazhatut, U., Sampang, T. A., & Merugikan, P. Y. (2023). *Jurnal Ekonomi , Manajemen Dan Perbankan*. 50–58.

Anggini, N. D., Wardoyo, C., & Wafaretta, V. (2021). Pengaruh Self-Attribution Bias, Mental Accounting, Dan Familiarity Bias Terhadap Pengambilan Decision Making. *Jurnal Riset Bisnis Dan Investasi*, *6*(3), 97–106. Https://Doi.Org/10.35313/Jrbi.V6i3.1898

Arovia Devi Cahyanti, Arisyahidin, A. T. (2021). *Dampak Framing Effect Dan Self Efficacy Dalam Pengambilan Decision Making (Analisis Program "Mini Gold: Semua Bisa Punya Emas")*. *10*, 157–168.

Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Buku Metode Penelitian Kualitatif & Kuantitatif* (A. Husnu Abadi, A.Md. (Ed.)). Pustaka Ilmu.

Budiman, J. (2020). Pendekatan Perilaku Keuangan Terhadap Decision Making Emas. *Profit*, *14*(01), 63–68. Https://Doi.Org/10.21776/Ub.Profit.2020.014.01.7

Dwi Tirta Negara, B., Latifah Nurfauziah, F., & Suharti, S. (2025). *Pengaruh Financial Literacy , Fintech , Dan Mental Accounting Terhadap Decision Making Gen Z*. *1*(September), 1–12.

Eldista, E. (2019). *Mental Accounting : Memaknai Kebahagiaan Dari Sisi Lain Gaya Hidup Mahasiswa Kos*. *17*(2), 123–130.

Feriyana, I., Widiasmara, A., Novitasari, M., Bisnis, E., & Madiun, U. P. (2020). *Pengaruh Mental Accounting Dan Framing Effect Terhadap Pengambilan Decision Making*. *1*.

Fitriani Komara, E., Nugraha, & Purnamasari, I. (2023). Pengaruh Cognitive Bias Dan Emotional Bias Terhadap Decision Making (Studi Pada Investor Muda Di Galeri Investasi Unjani). *Jurnal Ekonomi Syariah Pelita Bangsa*, *08*(02), 221–231.

Gnawali, Y. P. (2022). *Ganeshman Darpan Use Of Mathematics In Quantitative Research. Ganeshman Darpan*. *December*, 10–15.

Holly, Anthony, Robert Jao Limang, A. (2022). *Perilaku Bias Emosional Dan Risk Tolerance Dalam Pengambilan Decision Making*. *4*(October), 1–17.

Isbahi, M. B., Zuana, M. M. M., & Toha, M. (2024). The Multi-Social Relation of the Cattle Industry in the Plaosan Subdistrict Animal Market of Magetan Regency. *Malacca: Journal of Management and Business Development*, *1*(1), 31–46. https://doi.org/10.69965/malacca.v1i1.51

Iva Kurnia Sari, Selvia Dwi Oktaviany, Warti Asih Febriyanti, P. U. D. (2024). *The Influence Of Anchoring, Effect Framing, And Overconfidence Of Investment Decision Making For The Milennial Generation*. *2*(1), 210–226.

Japlami, A., Septiana, N., & Khadafi, M. (2025). *Pengaruh Regret Aversion Bias Dan Overconfidence Terhadap Pengambilan Decision Making Cryptocurrency Pada Generasi Z*. *5*(4), 1004–1014.

Mahadevi Aulia, S., & Asandimitra, N. (2021). Pengaruh Status Quo, Herding Behaviour, Representativeness Bias, Mental Accounting,Serta Regret Aversion Bias Terhadap Decision Making Investor Milenialdi Kota Surabaya. *Jurnal Ilmu Manajemen*, *9*(2), 1–15.

Mahastanti, L. A., & Wiharjo, K. K. (2012). Mental Accounting Dan Variable Demografi : Sebuah Fenomena Pada Penggunaan Kartu Kredit (Linda Ariany Mahastanti Dan Katarina Kumalasari Wiharjo) Mental Accounting Dan Variable Demografi : Sebuah Fenomena Pada Penggunaan Kartu Kredit. *Kinerja*, *16*(2), 89–102. Http://En.Wikipedia.Org/Wiki/Prospect_Theory

Nazilah. (2015). *Pengaruh Framing Informasi Terhadap Pengambilan*.

Nofsinger, J. R. (2005). Social Mood And Financial Economics. *Journal Of Behavioral Finance*, *6*(3), 144–160. Https://Doi.Org/10.1207/S15427579jpfm0603_4

Nurdinda, W., Muslihat, A., & Putra, R. A. K. (2020). *Pengaruh Regret Aversion Bias Dan Risk Tolerance Bagi Investor Muda Jawa Barat Terhadap Decision Making*. *1*.

Ostana, J., Yudha, M., Oktavia, R., Desriani, N., & Lampung, U. (2023). *The Effect Of Foreign Debt , Liquidity , Firm Size ,*. *38*(2), 133–146.

Pana, V., & Ambarwati, L. (2023). Pengaruh Ekspektasi Return Dan Literasi Keuangan Terhadap Minat Berinvestasi Emas Pada Mahasiswa Stie Widya Wiwaha. *Jurnal Akuntansi Dan Keuangan*, *11*(2), 176. Https://Doi.Org/10.29103/Jak.V11i2.12193

Pasek, G. W., Adnyana, I. P. A., & Satria, G. A. (2019). Effect Framing Dalam Pengambilan Decision Making Tinjauan Dari Kemampuan Numerik (Studi Eksperimen). *Jurnal Krisna: Kumpulan Riset Akuntansi*, *10*(2), 125–130. Http://Dx.Doi.Org/10.22225/Kr.10.2.907.125-130

Pamungkas, P. ., Achyani, F., & Witono, B. (2024). The Influence Of Profitability, Asset Structure, Company Size, Corporate Governance, And Investment Opportunities On Stock Prices With Stock Returns As A Moderating Variable. *Journal Of Accounting And Finance Management*, *5*(2), 81–102. Https://Doi.Org/10.38035/Jafm.V5i2.438

Pradhana, R. W. (2018). Pengaruh Financial Literacy, Cognitive Bias, Dan Emotional Bias Terhadap Decision Making (Studi Pada Investor Galeri Investasi Universitas Negeri Surabaya). *Jurnal Ilmu Manajemen*, *6*(3), 108–117. Https://Jurnalmahasiswa.Unesa.Ac.Id/Index.Php/Jim/Article/View/23849

Putri, G. T. M., & Santoso, B. (2024). Sistem Investasi Di Indonesia. *Toman: Jurnal Topik Manajemen*, *1*(2), 303–316. Https://Jurnal.Sitasi.Id/Toman/Article/View/98

Putriana, A., Abdillah, M. R., & Anjaswari, G. (2023). *Mental Accounting Dan Perilaku Decision Making : Analisis Perbedaan Berbasis Sosial Kultural*. *Vol. 3 No.* Https://Doi.Org/10.1905/Sfj.V3i2.10357

Ritter, J. R. (2003). *Behavioral Finance*. *11*(July 2002), 429–437. Https://Doi.Org/10.1016/S0927-538x(03)00048-9

Samuelson, W., & Zeckhauser, R. (1988). Status Quo Bias In Decision Making. *Journal Of Risk And Uncertainty*, *1*(1), 7–59. Https://Doi.Org/10.1007/Bf00055564

Sanaky, M. M. (2021). Analisis Faktor-Faktor Keterlambatan Pada Proyek Pembangunan Gedung Asrama Man 1 Tulehu Maluku Tengah. *Jurnal Simetrik*, *11*(1), 432–439. Https://Doi.Org/10.31959/Js.V11i1.615

Santi, F., & Sahara, N. V. (2019). *The Effect Of Mental Accounting On Student ' S Investment Decisions : A Study At Investment Gallery (Gi) Feb University Of Bengkulu And Syariah Investment Gallery (Gis) Feb Iain Bengkulu*. 137–152.

Saputro, H., & Wikartika, I. (2023). *Analysis Of The Influence Of Behavioral Bias On Investment Decisions Of Young Investors In Surabaya*. *2*(10), 4123–4136.

Sari, R. N., & Damingun. (2021). Pengaruh Bias Overconfidence Terhadap Decision Making Di Pasar Modal. *Borneo Student Research*, *2*(3), 2021.

Sinaga, A. N. A., & Silalahi, P. R. (2022). *Pengaruh Regret Aversion Bias Dan Overconfidence Terhadap Pengambilan Decision Making Cryptocurrency Pada Investor Generasi Z*. *1*(2), 105–112.

Sugiyono. (2023). *Metode Penelitian Kuantitatif Kualitatif Dan R&D*. Alfabeta.

Sukamulja, S., Yoan, A., Meilita, N., & Senoputri, D. (2019). *Regret Aversion Bias , Mental Accounting , Overconfidence , And Risk Perception In Investment Decision Making On Generation Y Workers In Yogyakarta*. *6*(7), 102–110.

Suriani, S. (2022). *Fullbook Financial Behavior*.

Tang, I. M. H., & Asandimitra, N. (2023). Pengaruh Mental Accounting, Regret Aversion Bias, Herding Bias, Loss Aversion, Risk Perception, Dan Financial Literacy Terhadap Decision Making Investor Generasi Z. *Jurnal Ilmu Manajemen*, *11*(2), 458–473.

Tversky, A., & Kahneman, D. (1981). *The Framing Of Decisions And The Psychology Of Choice*.

Umairoh, P. (2012). *Cognitive Bias Dan Emotional Bias Dalam Pengambilan Decision*

Making Portofolio Oleh: Pradiptianing Umairoh Nim : 212008104 Kertas Kerja.

Wibowo, M. C. (2025). *Mental Accounting , Financial Literacy , Ses , And Risk Profile Shaping Young Investors ' Decisions*. 41–53.

Zanah, A. M., & Fauji, R. (2026). *Pengaruh Overconfidence , Herding Bias , Loss Aversion Dan Regret Aversion Terhadap Decision Making Di Pasar Modal Pada Mahasiswa Gen Z*. *6*(3), 782–790. Https://Doi.Org/10.47065/Arbitrase.V6i3.3056