Five Basic Human Emotions and Investment Decisions on Generation Z in Surabaya-Indonesia

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Abstract. The impact of the five basic human emotions on investment decision-making, which focuses specifically on Generation Z investors in Surabaya, Indonesia, is investigated in this study. The research sample includes 180 Generation Z respondents with prior investing experience. To test the hypotheses, Amos used structural equation modeling (SEM). Exogenous variables are the five basic emotions (happiness, hope, anger, sadness, and fear), and endogenous variable is investment decision. According to the study findings, only two basic human emotions, anger and hope, have a significant influence on investment decisions among Generation Z investors in Surabaya. However, the remaining three primary emotions, happiness, sadness, and fear, have no significant impact on investment decisions. As a result, investors must be mindful of their emotions, particularly during times of anger and hope, to make more accurate investment decisions.

Keywords: Basic human emotions · Investment decision-making · Generation Z investors

1 Introduction

The increasing number of investors in Indonesia, dominated by Generation Z in 2022, has become the main focus of researchers and investment experts. According to data from Financial Authority Services (OJK), the total number of investors in the Indonesian capital market as of December 29, 2021, has increased by 92.7% to 7.48 million. This increase is significant compared to the end of 2020, with only approximately 3.88 million investors [1]. A survey also shows that Generation Z dominates 75% of investors in Indonesia who are under 40 years of age [2]. The growth of retail investors in 2021 supported millennials and Gen-Z, or the age range ≤ 40 [1, 2].

Investor behavior in Indonesia is irrational in trading decisions when faced with excessive price and stock index fluctuations. The phenomenon shows that investor behavior is not always rational and influence by emotions and market sentiments. Extreme prices can trigger excessive behavior in buying or selling stocks, resulting in significant investor losses. High volatility in the stock index can also lead to a loss of confidence in the stock market and cause investors to make irrational decisions, such as selling

stocks massively or avoiding the stock market altogether [3–5]. Various research studies have documented that investors do not behave rationally when making decisions [6, 7]. Insights from psychology are beginning to be used to explain why investors behave irrationally.

Emotions are factors that influence investment decision-making. The emotions that accompany decision-making must also be considered. Some emotions can influence investment decisions, such as fear, greed, anxiety, and conviction [8, 9]. These emotions can cause investors to make suboptimal decisions, including considering the information used as a reference for decisions or the results obtained from investments. When making a decision, the emotional state must be stable so that the mind can think clearly and avoid regret. Emotions must be controlled to be stable and not dominate decision-making [10]. Moods and emotions play an essential role in decision-making processes and social relations. Emotions and moods can influence people's decisions [11].

Emotions of happiness and hope can influence investment decisions, as investors tend to be more confident and risk-taking when feeling happy or excited about the expectations of significant returns. Investors make bolder investment decisions when they feel happier [12]. Happy emotions positively and significantly influence investment decisions in the stock market by making aggressive and proactive investments. Happy investors have higher self-esteem and optimism, which can influence their investment decisions [13]. Hope can also motivate investors to invest because they expect to achieve specific financial goals. Positive hope emotions can increase investors' interest in investing and encourage them to make riskier investment decisions [14]. Emotions of hope can positively influence investment decisions because investors choose stocks expected to provide better returns than other stocks [14].

Anger, sadness, and fear can affect a person's perception of investments and influence their investment decisions. For example, anger can cause a person to take unnecessary risks in their investment, whereas sadness and fear can cause them to avoid reasonable risks [15]. Such emotions can affect one's perception of market conditions and specific stocks and can influence their decision to buy or sell stocks. For example, the emotion of sadness that arises during a market downturn may cause a person to sell stocks too quickly without considering fundamental factors. In contrast, the emotion of fear may make a person reluctant to buy stocks that have the sound potential [16].

2   Research Method

In this study, the data analysis method used is the Structural Equation Model to test the relationship between variables. AMOS allows researchers to build SEM models using a graphical interface that is easy to understand and offers complete statistical features. AMOS 23.0 as a data analysis tool is expected to help researchers analyze data more efficiently and accurately.

The primary dataset used in this study is information obtained by distributing questionnaires to 155 respondents who meet the characteristics of generation z investors in Surabaya who already have a Single Investor Identification (SID) with an investment experience of $\geq$ 6 months. The sampling technique with purposive sampling. The online survey ran from October 24, 2022, to October 30, 2022. The online survey contained

questions regarding respondents' general demographics, perceived emotions, and investment decisions. Questions in the questionnaire use a 5-point Likert scale with endpoints labeled "strongly agree" and "strongly disagree." The structural equation modeling used data from 155 respondents (SEM).

3   Results and Discussion

This study uses the emotions of happiness, hope, anger, sadness, and fear as exogenous variables and investment decisions as endogenous variables. Pearson correlation result is valid ($> 5\%$) and also Cronbach's result is reliable ($\alpha > 0.60$). The results of the standardized loading measurements for each statement item of all variables meet the criteria for determining a value ≥ 0.5, and all are declared valid. In addition, to test reliability, the measurement model was processed by calculating the Average Variance Extracted (AVE) and Construct Reliability (CR). The AVE value should be greater than 0.5, and the CR value should be between 0.6 and 0.7. Overall, these variables were deemed reliable.

They are testing the model's fit through the Goodness of Fit Index (GOF) to determine whether a variable and indicator in the measurement model are worth analyzing. The GOF consists of several criterion indices that have proven effective in evaluating the quality of the mode, namely CMIN/DF, root mean square error of approximation (RMSEA), GFI, CFI, and TLI [17–19]. Overall, Table 1 shows that the model fit results were promising.

The significance of the critical ratio (CR) and p-values was determined. A CR value ≥ 1.96 and a p-value ≤ 0.05 indicate that the hypothesis is acceptable. Table 2 exhibits the results of hypothesis testing from the structural model test.

The test results show that the relationship between the variables of happiness and sadness and investment decisions is insignificant and cannot be accepted. Therefore, H1 and H4 are not supported. The relationship between fear and investment decisions also has a negative effect that is not significant and cannot be accepted. Thus, H5 is not supported. The test results of the emotion of hope variable significantly influence investment decisions, with a CR value of 2.011 and a p-value of 0.044. H2 is supported. Likewise, testing the angry emotion variable has a positive and significant effect on investment decisions, with a CR value of 2.537 and a p-value of 0.11. H3 is supported.

Table 1. The Results of the Fit Measurement Model

No	Model Fit	Criteria	Results	
1.	CMIN/DF	≤ 3	1.486	Good fit
2.	RMSEA	$0.05 < RMSEA \leq 0.08$	0.056	Good fit
3.	GFI	0.8–1	0.782	Not fit
4.	CFI	0.8–1	0.916	Good fit
5.	TLI	0.8–1	0.907	Good fit

Table 2. The Results of the Hypothesis Testing

	Std. Regression Weight	Critical Ratio	P = Value	
Investment Decision ← Happiness	0.080	0.047	0.963	Not Sig
Investment Decision ← Hope	0.102	2.011	0.044	Sig +
Investment Decision ← Anger	0.077	2.537	0.011	Sig +
Investment Decision ← Sadness	0.069	1.000	0.317	Not Sig
Investment Decision ← Fear	0.907	−1.690	0.091	Not Sig

Individuals prefer instant gratification over long-term gains, meaning happiness may not significantly influence investment decisions. Happy individuals tend to have a positive outlook on life and the future and are, therefore, more likely to consider investment decisions rationally and cautiously. Happy individuals may also be more likely to pay attention to non-financial factors in investment decision-making, such as their investments' social and environmental impacts. Happiness may positively influence investment decisions, although it is not statistically significant. Happy people are more optimistic about the future and more confident in making investment decisions [20, 21]. However, this effect is not statistically significant, and people tend to ignore the future when making investment decisions [22].

Hope can influence information preferences about uncertain investment outcomes, and more hopeful investors tend to seek more information about investments. Hope is a positive feeling related to positive expectations about the future, that is, beliefs or expectations that something good will occur. More hopeful investors are more interested in seeking information about the investment to make better and more informed investment decisions or tend to be more open to new and innovative ideas in finding potential investments. Hope can influence investment decisions because of the human tendency to respond to information based on future hopes and expectations [23]. Hope influences investment decisions by allowing investors to consider potential gains and reasonable risks.

Anger can improve concentration and focus when analyzing investments. One of the reasons why anger can increase self-confidence is that they can increase confidence in oneself and one's perception of control over the situation. Adding anger will make a person feel more confident in making investment decisions and minimize the fear of taking risks. When a person feels angry, his brain processes information more carefully and thoroughly, thus making a person better able to process information and make better decisions.

Negative emotional state is related to more careful action in investment decision-making [24]. Angry emotion can help people focus more on details and avoid impulsive decisions. Anger can spur motivation to achieve desired investment goals and be more

assertive in making the right investment decisions [25, 26]. Overall, anger can have a significant influence on investment decisions. However, a person must understand how to control and manage anger to maximize these positive effects.

Sadness emotions have little influence on investment decisions made by Generation Z investors. The results of this study were consistent with those of previous studies [27]. Sadness affects cognition and behavior differently than other emotions, such as anger or happiness. When someone feels sad, their cognitive abilities tend to decrease, and their focus of attention becomes distracted. Cognitive abilities can reduce the ability to process information effectively and make investment decisions. In addition, investors need more experience and knowledge when investing. Sadness can interfere with the ability of Generation Z investors to conduct careful and rational analysis, which can reduce their ability to choose investments. Sadness interferes with a person's cognitive and behavioral abilities, reducing their ability to process information effectively and make investment decisions.

Fear increases in unstable and downward market situations, decreasing investor confidence in making investment decisions. Fear triggers emotional responses in investors, leading to less rational decision-making [28]. Fear can trigger a "fight or flight" reaction in the brain, triggering defensive behaviors like risk aversion and bold investment decisions. However, individual responses to fear may vary depending on the situation and condition.

Some investors may have a higher risk tolerance, so fear does not significantly affect their decisions. In some cases, fear may motivate investors to seek more information about the desired investment, allowing them to make informed decisions less affected by emotional factors. Therefore, although fear can theoretically influence investment decisions, its influence is only sometimes significant or consistent in practice.

4   Conclusion

Generation Z investors, especially in Surabaya, Indonesia, show results that only two of the five basic human emotions can influence investment decisions, namely the emotions of hope and anger. Three basic emotions–sadness, fear, and happiness–do not affect investment decisions.

Anger can trigger Generation Z investors to make more positive investment decisions because their brains process information more carefully and thoroughly, thus making a person better able to process information and make better decisions with high confidence. The emotion of hope can trigger Gen Z investors to choose riskier investments that have the potential to provide higher returns, and this may increase their willingness to invest in new unestablished stocks, despite their higher risk.

Overall, investors must exercise caution when making investment decisions while angry. Investors are advised to control their anger in order to avoid making rash decisions that overlook critical information, resulting in poor investment decisions.

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