
The Impact of Social Media, Herding Bias, Gambler's Fallacy, and Framing Effect on Investment Decisions among Gen Z Investors in Pontianak City

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ABSTRACT

The role of social media can influence an individual's decision-making behavior, particularly when information presentation is accompanied by bias or financial behavior, which can impact investors' psychology in determining their investment choices. The research employs an associative research method, aiming to explore the relationship between the role of social media, herding bias, gambler's fallacy, and framing effect in the investment decision-making process among Generation Z, who have grown alongside technological advancements. The sampling technique involves purposive sampling with predefined criteria, and a total of 200 respondents participated in the survey conducted through Google Forms. Data verification was carried out using SPSS 26. The findings and conclusions indicate that while social media does influence investment decisions, the impact is not statistically significant. In contrast, herding bias and gambler's fallacy do not have a significant influence on investment decision-making.

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1. INTRODUCTION

Investment is the act of deploying capital in real or financial sectors with the aim of gaining profits. Financial investment represents a viable option for safeguarding and augmenting wealth in the future. Various forms of investment exist, with one notable example being stock market investments[1]. Among the younger demographic, there is a growing interest in stock market investments. In the contemporary era, the youth engaging in stock investments predominantly belong to Generation Z, a cohort that has experienced the evolution of the internet from its inception. The investment decisions of Generation Z concerning stocks are intricately tied to the role of social media, serving as a pivotal reference point for information acquisition.

Social media serves as a platform where investors entrust their thoughts and ideas, accessible to anyone with internet connectivity[2]. According to Databoks (2022) survey data conducted through the populix application, 1,038 respondents participated, with 68% of them seeking investment-related information via social media. Among potential investors, YouTube and Instagram are the most frequently utilized social media platforms

for information acquisition, constituting 75% each. Additionally, 38% prioritize WhatsApp for investment product information, 37% resort to TikTok, and 36% turn to Facebook for investment-related information, as indicated by the survey results on the Databoks platform.

The easy accessibility of internet connectivity, facilitated through mobile phones, has led to a dependency on the internet among Generation Z, a phenomenon shaped by the evolving global landscape. Generation Z, born between 1996 – 2010[3], has become highly reliant on internet usage. According to population data for Generation Z in Pontianak City obtained from the Central Statistics Agency (BPS) in 2020, the male population within the Gen Z age group is 112,598, while the female population is 108,781, resulting in a total Gen Z population of 221,379 in Pontianak City. This generation significantly dominates the investor demographic in the capital market. Djajadi (2023), the Executive Head of Capital Market Supervision, Derivative Financial, and Carbon Exchange at the Financial Services Authority (OJK), notes that Gen Z constitutes 57.26% of the total investors in the capital market. As reported by the Indonesia Central Securities Depository (KSEI) in 2022, the distribution of Gen Z investors across sectors reveals a pronounced interest in the financial sector, with 209,053 investors. Following this, the infrastructure sector attracts 196,017 investors, while consumer goods, both cyclical (primary consumer goods) at 145,340 and non-cyclical (non-primary consumer goods) at 141,531, draw substantial attention from Gen Z investors. Other sectors include basic materials (121,398), energy (115,498), properties and real estate (100,821), industrials (64,408), healthcare (63,539), technology (43,742), and transportation and logistics (37,296).

An innovative digital platform for stock investment is the Indonesia Stock Exchange (IDX). The IDX serves as Indonesia's capital market, playing a crucial role in enabling investors to allocate funds to stock investments through a trading application that facilitates information access and transaction execution. In the region of West Kalimantan, there are 14 securities companies registered with the Indonesia Stock Exchange Representative Office for West Kalimantan. These companies provide trading applications that serve as tools for investors to analyze the market for investment purposes. The framing of information can influence decision-making, constituting a significant factor to be considered in decision processes. Framing refers to an occurrence that can lead decision-makers to provide different responses to the same issue when presented in different ways. One's use of language represents an aspect employed to influence decision-makers[4]

Stocks are deemed to be of high quality if their historical performance is strong, and the company's overall performance significantly influences the quality of the stock. In the broader context of investment decision-making, it is widely acknowledged that the psychological and financial behavior of investors plays a crucial role. Financial behavior involves understanding and predicting the systematic movements of the financial market from an irrational psychological perspective[5]. Several behaviors trigger investment decisions, namely, gambler's fallacy and herding bias. The gambler's fallacy is the erroneous belief that an event will occur simply because a series of events contrary to that event has occurred, or even the conviction that an event will consistently happen in the same manner[6]. This can influence investors' decisions in stock investments. On the other hand, herding is the behavior of an investor making investment decisions by following the behavior of other investors. Without a foundation of knowledge and research, irrational perspectives may emerge in decision-making[7]. In 2022, the Indonesia Stock Exchange Composite Index (IHSG) experienced fluctuations, reaching its highest point in April at Rp. 7,228.91 and its lowest in December at Rp. 6,850.62. The average IHSG price for the year 2022 was 84,081.56. Meanwhile, the Market Capitalization of IHSG continued to rise from January to December, with an average price of 9,176,630,237,095,930.

When delving into the study of investment science, investors have the capability to define their objectives in order to determine the direction of their investments. However, fundamentally, investment decisions require thorough analysis, research, and effective information management to mitigate the risk of getting entangled in detrimental and illicit investments.

2. RESEARCH METHOD

This research employs an associative research method to identify the relationship between the role of social media, herding bias, gambler's fallacy, and framing effect in investment decisions. Data are derived from both primary and secondary sources. For primary data, the author conducted a survey by posing relevant questions related to the research variables through a Google Form. Secondary data were collected through documentation techniques, drawing information from websites, PT. Bursa Efek Indonesia, and supporting journal articles from previously published research related to the variables under investigation. Participants in this study were drawn from Generation Z individuals in Pontianak City engaged in stock market investments. To determine the sample size, the author employed the Purposive Sampling Formula with a significance level of 5%, resulting in the selection of 200 participants.

3. RESULT AND DISCUSSIONS

The author examined all responses from the participants, and the subsequent section presents the findings of this examination:

3.1. Validity Test

If the test result yields an r-value exceeding 0.10, which is the minimum threshold for validity testing, the questionnaire items can be considered valid. Based on the validity test results presented in Table 1, it is evident that all questions are deemed valid as their respective r-values exceed 0.10.

Table 1. Validity Test Result

| Question | Corrected ItemCorrected Item-Total Correlation | Conclusion |
|----------|--|------------|
| SM1 | 0.568 | Valid |
| SM2 | 0.593 | Valid |
| SM3 | 0.713 | Valid |
| SM4 | 0.793 | Valid |
| SM5 | 0.821 | Valid |
| SM6 | 0.706 | Valid |
| SM7 | 0.517 | Valid |
| SM8 | 0.642 | Valid |
| SM9 | 0.544 | Valid |
| SM10 | 0.654 | Valid |
| HB1 | 0.832 | Valid |
| HB2 | 0.640 | Valid |
| HB3 | 0.400 | Valid |
| HB4 | 0.581 | Valid |
| HB5 | 0.702 | Valid |
| HB6 | 0.625 | Valid |
| GF1 | 0.749 | Valid |
| GF2 | 0.778 | Valid |
| GF3 | 0.730 | Valid |
| GF4 | 0.758 | Valid |
| GF5 | 0.791 | Valid |
| GF6 | 0.393 | Valid |
| FE1 | 0.498 | Valid |
| FE2 | 0.600 | Valid |
| FE3 | 0.662 | Valid |
| FE4 | 0.623 | Valid |
| FE5 | 0.693 | Valid |
| FE6 | 0.498 | Valid |
| FE7 | 0.708 | Valid |
| FE8 | 0.553 | Valid |
| FE9 | 0.642 | Valid |
| FE10 | 0.690 | Valid |
| ID1 | 0.688 | Valid |
| ID2 | 0.763 | Valid |
| ID3 | 0.681 | Valid |
| ID4 | 0.690 | Valid |
| ID5 | 0.665 | Valid |
| ID6 | 0.593 | Valid |

3.2. Reliability Test

The reliability test results are considered reliable when $(r_{11}) > 0.6$ and are thus deemed reliable. Based on the reliability test results presented in Table 2, it is evident that all variables are considered reliable as (r_{11}) exceeds 0.6.

Table 2. Reliability Test Results

| Variable | Cronbach's Alpha | N of Items | Conclusion |
|--------------------------|------------------|------------|------------|
| Social Media (X1) | .793 | 10 | Reliable |
| Herding Bias (X2) | .603 | 6 | Reliable |
| Gambler' Fallacy (X3) | .800 | 6 | Reliable |
| Framing Effect (X4) | .652 | 10 | Reliable |
| Investment Decisions (Y) | .783 | 6 | Reliable |

3.3. Normality Test

The Kolmogorov-Smirnov test was employed to assess the normality of the data. According to normality test results in Table 3, with a significance value of 0.200 exceeding 0.05, may be shown that the data follow a normal distribution.

Table 3. One-Sample Kolmogorov-Smirnov Test

| | | |
|----------------------------------|----------------|---------------------|
| N | | 200 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | 2.06736956 |
| Most Extreme Differences | Absolute | .054 |
| | Positive | .038 |
| | Negative | -.054 |
| Test Statistic | | .054 |
| Asymp. Sig. (2-tailed) | | .200 ^{c,d} |

3.4. Multicollinearity Test

Table 4. Multicollinearity Test Results

| Model | | Collinearity Statistics | |
|-------|-------------------|-------------------------|-------|
| | | Tolerance | VIF |
| 1 | Social Media | .583 | 1.716 |
| | Herding Bias | .996 | 1.004 |
| | Gambler's Fallacy | .579 | 1.727 |
| | Framing Effect | .991 | 1.009 |

a. Dependet Variable : Investment Decisions

Based on the test results in Table 4, where the tolerance values are greater than 0.10, namely X1 (0.583), X2 (0.995), X3 (0.579), and X4 (0.991), and the VIF values are less than 10, namely X1 (1.716), X2 (1.004), X3 (1.727), and X4 (1.009), it can be concluded that there is no multicollinearity.

3.5. Linearity Test

Table 5. Linearity Test Results

| Variable | Deviantion From Linearity | Conclusion |
|----------|---------------------------|------------|
| X1 | 0.058 | Linear |
| X2 | 0.973 | Linear |
| X3 | 0.062 | Linear |
| X4 | 0.195 | Linear |

Based on the test results in table 5, all variables x possess values > 0.05.

3.6. Multiple Linear Regression Test

Table 6. Multiple Linear Regression Test Results

| | | Coefficients ^a | | T | Sig | |
|---|-------------------|---------------------------|--------------|-------|-------|------|
| | | Unstandardized | Standardized | | | |
| | | Coefficients | Coefficients | | | |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 35.109 | .405 | | 8.585 | .000 |
| | Social Media | .376 | .054 | .347 | 4.766 | .042 |
| | Herding Bias | -.004 | .056 | -.005 | -.069 | .937 |
| | Gambler's Fallacy | .069 | .067 | .062 | .664 | .278 |
| | Framing Effect | .325 | .077 | .306 | 4.208 | .048 |

a. Dependent Variable: Investment Decisions

Based on the research results shown in Table 6, the resultant regression line of berganda from this study can be summarized as follows.:

$$Y = 3,565 + 0,376 X_1 + -0,004 X_2 + 0,069 X_3 + 0,325$$

The regression analysis yields a constant value of 3.565, indicating that investment decisions will increase by 3.565 based on factors if the independent variables are set at zero. The regression coefficient for the social media variable is 0.376, suggesting that investment decisions will increase by 0.376 when the social media variable is raised by one point. The regression coefficient for the herding bias variable is -0.004, implying that investment decisions will decrease by -0.004 when the herding bias variable is increased by one point. The regression coefficient for the gambler's fallacy variable is 0.069, indicating that investment decisions will increase by 0.069 when the gambler's fallacy variable is raised by one point. Lastly, the regression coefficient for the framing effect variable is 0.325, suggesting that investment decisions will increase by 0.325 when the framing effect variable is raised by one point.

3.7. Model Feasibility Test (F-Test)

Table 7. Model Feasibility Test (F-Test) Results

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|-----|-------------|-------|-------|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 1.252 | 4 | .653 | 2.496 | .137b |
| | Residual | 35.242 | 195 | | | |
| | Total | 36.494 | 199 | | | |

a. Dependent Variable : Investment Decisions

b. Predictors : (Constant), Social Media, Herding Bias, Gambler Fallacy, Framing Effect

Based on the test results in Table 7, where the significance value is < 0.05, it indicates that investment decisions are not influenced by social media, herding bias, gambler fallacy, and framing effect simultaneously.

3.8 Coefficient of Determination (R²)

Table 8. Coefficient of Determination (R²) Results

| Model Summary ^b | | | | |
|----------------------------|-------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .298a | .165 | .285 | 4.12280 |

a. Predictors: (Constant), Social Media, Herding Bias, Gambler Fallacy, Framing Effect

b. Dependent Variable: Investment Decisions

Based on the test results in Table 8, the R-squared value is 0.164 for the coefficient of determination. This signifies that 16.5% of the impact on investment decisions is influenced by the variables of social media, herding bias, gambler fallacy, and framing effect, while others 83.5% influenced by various factors that are not the scope of this study.

3.9. Simultaneous Influence Test (T-Test)

Table 9. Simultaneous Influence Test (T-Test)

| Coefficients ^a | | | | | | |
|---------------------------|-------------------|-----------------------------|------------|---------------------------|-------|-------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 35.109 | 4.090 | | 8.585 | 0.000 |
| | Social Media | .070 | .066 | .099 | .205 | .044 |
| | Herding Bias | -.004 | .056 | -.005 | -.069 | .945 |
| | Gambler's Fallacy | .044 | .067 | .062 | .664 | .507 |
| | Framing Effect | .092 | .077 | .086 | .205 | .048 |

a. Dependent Variable: Investment Decisions

Based on the test results in Table 9, the influence of each independent variable social media, herding bias, gambler fallacy, and framing effect on investment decisions is as follows:

Significance of the Social Media variable (X1): Sig. = 0.044 < 0.05. This indicates that Social Media has a impact on the Investment Decision variable (Y). Significance of the Herding Bias variable (X2): Sig. = 0.945 > 0.05. This indicates that Herding Bias does't have a impact on the Investment Decision variable. Significance of the Gambler's Fallacy variable (X3): Sig. = 0.507 > 0.05. This indicates that Gambler's Fallacy does't have a impact on the Investment Decision variable (Y). Significance of the Framing Effect variable (X4): Sig. = 0.048 < 0.05. This indicates that Framing Effect this has a impact on the Investment Decision variable (Y).

4. CONCLUSION AND RECOMMENDATION

After reviewing the findings of this study, the researcher concludes, based on the discussion and testing, that the role of social media and framing effect has a positive yet statistically insignificant influence on investment decisions. This implies that the relationship between the variables of social media and framing effect with investment decisions exists but is not sufficiently robust. On the other hand, herding bias and gambler's fallacy have a negative and significant impact for investment decisions, indicating that the relationship between herding bias and gambler's fallacy variables with investment decisions is not influential and is relatively strong. The results of this study are derived from data collected through a questionnaire, signifying that the data is subjective in nature. For future research, employing interviews might be more advantageous, allowing the researcher to obtain a more extensive dataset.

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REFERENCES

- D. H. and H. S. Hafidz Hidayatullah, "Analysis of Financial Literacy and Financial Behavior on Stock Investment Decisions :," 2022, doi: 10.32996/jefas.
- Y. A. and S. K. P Padhanarath, "Sentiment analysis and relationship between social media and stock market : pantip . com and SET Sentiment analysis and relationship between social media and stock market : pantip . com and SET," 2019, doi: 10.1088/1757-899X/620/1/012094.
- A. Purnomo, N. Asitah, E. Rosyidah, A. Septianto, M. D. Daryanti, and M. Firdaus, "Generasi Z sebagai Generasi Wirausaha," pp. 1–4, 2019, doi: 10.31227/osf.io/4m7kz.
- M. Zahid, M. Hadi, L. S. Almilia, and R. A. Nita, "Information Presentation Pattern , Information Order and Framing Effect in Taking Investment Decisions," vol. 22, no. 3, pp. 329–358, 2019, doi: 10.33312/ijar.450.
- D. P. Wiryaningtyas, "BEHAVIORAL FINANCE DALAM PENGAMBILAN," pp. 339–344.
- T. Stöckl, J. Huber, M. Kirchler, and F. Lindner, "Hot hand and gambler's fallacy in teams: Evidence from investment experiments," *J. Econ. Behav. Organ.*, vol. 117, pp. 327–339, 2015, doi: 10.1016/j.jebo.2015.07.004.
- T. Salasiah, D. Hariyanto, and H. Safitri, "International Journal of Multicultural and Multireligious Understanding Analysis of the Effect of Overconfidence and Herding on Investor Decisions in Pontianak City," pp. 335–344, 2021.