Emotional Intelligence And Behavioral Bias On Stock Trading Decisions In Robo Advisor Moderation In The Millennial Generation

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Article Information		Abstract

Research aim : *To understand the investment behavior of the millennial generation in the Indonesian stock market with a focus on the relationship between Emotional Intelligence (EI), behavioral bias, and stock trading decisions.*

Design/Methode/Approach : *Using a quantitative descriptive approach with Partial Least Squares Structural Equation Modeling (PLS-SEM) method. Data was collected through an online survey targeting 100 millennials.*

Research Finding : *Emotional Intelligence and Behavioral Bias positively influence Stock Trading Decisions. Robo Advisor also has a positive impact.*

Theoretical contribution/Originality : *This research presents a new contribution by delving into the complex interaction between EI, behavioral bias, and the moderating impact of Robo Advisor on stock trading decisions for the millennial generation.*

Practitionel/Policy implication : *Practical recommendations are provided for market players, robo advisors, and millennials. Policy implications relate to understanding and implementing adaptive investment solutions*

Research limitation : *Sample limitations, external factors, and advantages/disadvantages of the PLS-SEM method.*

Keywords : *Millennials, Stock Trading Decisions, Emotional Intelligence, Behavioral Bias, Robo Advisor.*

1. Introduction

The Indonesian capital market experienced rapid growth with the number of investors reaching 10,000,628, the majority (99.78%) coming from local investors. Data from PT Kustodian Sentral Efek Indonesia (KSEI) shows the dominance of the millennial generation, especially retail investors aged <= 30 years, which reached 59.81% as of February 2022. The millennial generation, characterized by their familiarity with technology, has a big impact on investment patterns.

The introduction reflects the unique characteristics of the millennial generation, including creativity, informativeness, passion, productivity, self-confidence, and social connectedness. In the investment context, millennial investors are more active in trading activities, tending to make impulsive transactions based on market sentiment and other people's recommendations rather than fundamental analysis.

This research aims to understand more deeply the investment behavior of the millennial generation in the Indonesian capital market. This article highlights the importance of this phenomenon and will explore the preferences, motivations, and factors that influence millennial investment decisions. It is hoped that this research will provide valuable insights for capital market practitioners, regulators and other related parties.[1]

The state of the art in this research involves a profound understanding of previous studies relevant to the relationship between Emotional Intelligence (EI), behavioral biases, and stock trading decisions, especially among millennials. Some studies have discussed key aspects that can strengthen the urgency of this research. Research by Bucciol, Guerrero, and Papadovasilaki (2020) highlights that higher Emotional Intelligence levels can contribute to more rational decision-making in trading. Meanwhile, Mittal's research (2022) emphasizes the vulnerability of the millennial generation to various behavioral biases in investment decision-making. [2] Bhatia, Chandani, and Chhateja (2020) discuss the use of robo-advisors as financial technology that moderates the relationship between psychological factors and investment decisions. [3] However, the research gap lies in the lack of a comprehensive understanding of the complex interaction between EI, behavioral biases, and the moderating influence of robo-advisors on millennial stock trading decisions. (Accurate, 2021) [5]

1.1. Statement of Problem
1. How do millennial investment behaviors manifest in the Indonesian capital market, especially in terms of trading activity, tendencies toward impulsive transactions, and investment decisions based on market sentiment and recommendations from others?
2. What is the influence of Emotional Intelligence (EI) levels on the investment decisions of millennials, and how can EI contribute to more rational decision-making in stock trading?
3. How do behavioral biases impact the investment decisions of millennials, and can the level of Emotional Intelligence moderate the influence of these behavioral biases?
4. To what extent can robo-advisors as financial technology moderate the relationship between psychological factors, such as Emotional Intelligence and behavioral biases, and the investment decisions of millennials?
5. Are there significant differences in investment behaviors between millennials who use robo-advisors and those who do not?

1.2. Research Objectives
This research aims to deepen the understanding of millennial investment behavior in the Indonesian capital market with a focus on the roles of Emotional Intelligence, behavioral biases, and the moderating influence of robo-advisors. In this context, this article highlights novelty by exploring how EI levels moderate the influence of behavioral biases on millennial stock trading decisions. Additionally, this research amplifies the focus on millennials in the use of robo-advisors as a moderation factor, making a significant contribution to understanding these complex interactions.

The objectives of this research are to provide in-depth insights into the preferences, tendencies, and motivations of millennial investors and to enhance the effectiveness of investment solutions through an understanding of Emotional Intelligence (EI) and the optimization of Robo Advisor utilization. With a focus on the relationship between EI,

behavioral biases, and trading decisions, this research seeks to provide practical recommendations to financial companies and investment service providers. Potential outcomes may include updates to better investment strategies and the development of more optimal Robo Advisors.

2. Method

This research employs a quantitative approach with the aim of systematically and objectively describing the phenomenon of the capital market among the millennial generation. This quantitative approach is supported by a structured data collection method, namely a survey using an online questionnaire. (Sugiyono, 2018)

The research variables involve four main aspects: Emotional Intelligence, Behavioral Bias, Stock Trading Decisions, and Robo Advisor Moderation. The use of the Lemeshow formula to determine the sample size and purposive sampling technique for respondent selection also reflects the quantitative approach.

### Figure 1.frame of mind
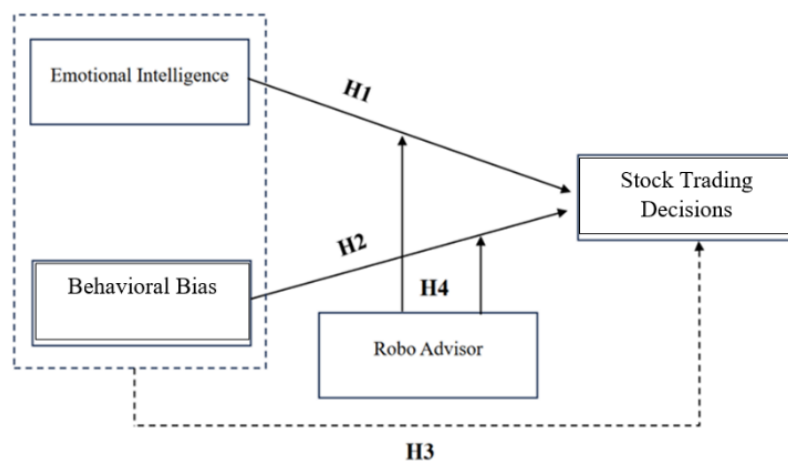
Source : Primary data, 2023

The research model is generally explained without presenting explicit hypotheses. Data analysis involves descriptive statistical tests, measurement model tests with Confirmatory Factor Analysis (CFA) for convergent and discriminant validity, and structural model tests using Partial Least Squares Structural Equation Modeling (PLS-SEM). Reliability is measured using Cronbach's Alpha and Composite Reliability methods.

The questionnaire source is adapted from a related journal titled "Using Fintech in Investment: Understanding the Batam City Community's Perception of Robo Advisors in Investment" by Oktarianto et al., 2022. The entire research model, including flowcharts or diagrams, is presented in monochrome (black and white) for visual clarity.

3. Results and Discussion /Hasil dan Pembahasan

The results of this research depict the investment behavior of the millennial generation, particularly in the context of stock trading decisions. Findings indicate the dominance of stock trading activities carried out by millennials, reflecting their high interest in the stock market, especially in seeking short-term profits. Further understanding of psychological factors became the focus of the research, with results showing that the level of Emotional Intelligence (EI) positively influences stock trading decisions, while Behavioral Bias also contributes significantly. The success of Robo Advisors as a moderation tool in this relationship provides new insights into the role of technology in guiding millennials in more rational investment decision-making.

Figure 2. Outer Model Results
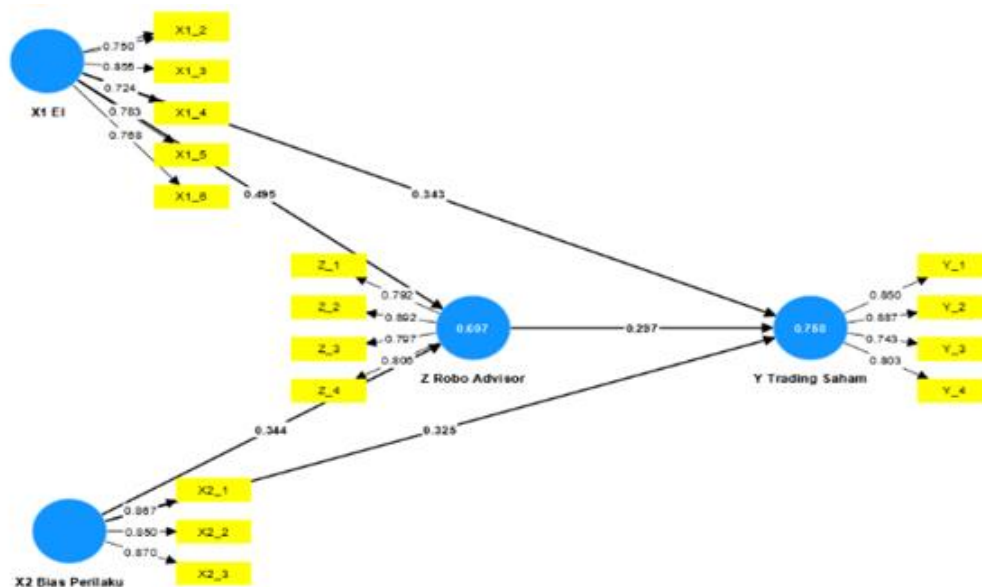
Source : Primary data processed by PLS researchers, 2023

Differences in results from previous research can be attributed to contextual factors and the continuously changing dynamics of the market, suggesting that millennials may face unique challenges and opportunities. Practical implications of this research include recommendations for investment training that consider the psychological aspects of the millennial generation and the utilization of Robo Advisors as objective investment guidance tools. Thus, this research makes a significant contribution to understanding the investment behavior of millennials and provides a foundation for the development of smarter and adaptive investment strategies.

Table 1. Path Coefficient value

Konstruk	Original Sampel (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Value
Emotional Intelligence (X1) -> Trading Saham (Y)	0,343	0,337	0,090	3,824	0,000
Emotional Intelligence (X1) -> *Robo Advisor* (Z)	0,495	0,519	0,105	4,702	0,000
Bias Perilaku (X2) -> Trading Saham (Y)	0,325	0,321	0,099	3,299	0,001
Bias Perilaku (X2) -> *Robo Advisor* (Z)	0,344	0,323	0,116	2,955	0,004
Robo Advisor (Z) -> Trading Saham (Y)	0,297	0,309	0,076	3,909	0,000

Source : Primary data processed by PLS researchers, 2023

Table 2. Indirect Effect Value

Konstruk	Original Sampel (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Value
Emotional Intelligence (X1) -> *Robo Advisor* (Z) -> Trading Saham (Y)	0,147	0,159	0,047	3,113	0,002
Bias Perilaku (X2) -> *Robo Advisor* (Z) -> Trading Saham (Y)	0,102	0,102	0,048	2,108	0,038

Source : Primary data processed by PLS researchers, 2023

Emotional Intelligence and Stock Trading: The first hypothesis is accepted as the test results show a positive and significant influence of Emotional Intelligence on Stock Trading, with a p-value of 0.000 and a t-statistic of 3.824.

Emotional Intelligence and Robo Advisor: The second hypothesis is also accepted as the test results indicate that Emotional Intelligence has a positive and significant influence on Robo Advisors, with a p-value of 0.000 and a t-statistic of 4.702.

Behavioral Bias and Stock Trading: The third hypothesis is accepted as the test results show that Behavioral Bias has a positive and significant influence on Stock Trading, with a p-value of 0.001 and a t-statistic of 3.299.

Behavioral Bias and Robo Advisor: The fourth hypothesis is accepted as the testing indicates that Behavioral Bias has a positive and significant influence on Robo Advisors, with a p-value of 0.004 and a t-statistic of 2.955.

Robo Advisor and Stock Trading: The fifth hypothesis is accepted as the test results show that Robo Advisors have a positive and significant influence on Stock Trading, with a p-value of 0.000 and a t-statistic of 3.909.

Emotional Intelligence, Robo Advisor, and Stock Trading: The sixth hypothesis is accepted as the testing indicates that Emotional Intelligence has a positive and significant indirect influence on Stock Trading through the moderation of Robo Advisors, with a p-value of 0.002 and a t-statistic of 3.113.

Behavioral Bias, Robo Advisor, and Stock Trading: The seventh hypothesis is accepted as the test results show that Behavioral Bias has a positive and significant indirect influence on Stock Trading through the moderation of Robo Advisors, with a p-value of 0.038 and a t-statistic of 2.108.

4. Conclusion

In this study, it was found that Emotional Intelligence (EI) has a positive and significant influence on Stock Trading, as well as a positive influence on the use of Robo Advisors. Additionally, Behavioral Bias also has a positive and significant influence on Stock Trading and the use of Robo Advisors. Robo Advisors have a positive and significant influence on Stock Trading. Furthermore, Emotional Intelligence and Behavioral Bias indirectly influence Stock Trading through the moderation of Robo Advisors.

These results indicate that millennials with higher levels of Emotional Intelligence tend to make better investment decisions, while Behavioral Bias can influence their investment decisions. The use of Robo Advisors also has a positive impact on the investment decisions of the millennial generation.

These findings provide a deeper understanding of the investment behavior of the millennial generation and the relevance of Robo Advisors in this context. This can be used as a basis for enhancing the effectiveness of investment strategies and the use of Robo Advisors in supporting smarter and more rational millennial investments.

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