

# THE EFFECT OF OVERCONFIDENCE BIAS, HERDING, AND ACCOUNTING LITERACY ON INVESTING DECISION MAKING WITH ESCALATION OF COMMITMENT AS AN INTERVENING VARIABLE (EMPIRICAL STUDY ON GENERATION Z INVESTORS IN MEDAN CITY)

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## Abstract

This study aims to analyze the influence of *behavioral factors* (Overconfidence Bias and Herding) and Accounting Literacy on *Investing Decision Making* among Generation Z investors in Medan City, with *Escalation of Commitment* as an intervening variable. Generation Z is known as a new group of aggressive investors but is vulnerable to psychological bias and the influence of social trends (*fear of missing out*). The research method used is quantitative by distributing questionnaires to Gen Z stock investors domiciled in Medan City. Data were analyzed using *Structural Equation Modeling* (SEM). This article discusses the conceptual framework and hypotheses built based on *Behavioral Finance Theory* and *Prospect Theory*.

**Keywords:** *Overconfidence, Herding, Accounting Literacy, Escalation of Commitment, Investing Decision Making, Gen Z Medan.*

## 1. INTRODUCTION

The Indonesian capital market has experienced significant growth in recent years, dominated by a surge in young retail investors. Based on data from the Indonesian Central Securities Depository (KSEI), the demographics of capital market investors are now dominated by the under-30 age group (Generation Z and Millennials). Medan, as one of the largest economic centers outside Java, shows a similar trend where students and young workers (*first-jobbers*) continue to increase their interest in stock investment. However, Generation Z's active participation in the stock market is not always accompanied by rational decision-making. A unique phenomenon that occurs among Gen Z in Medan is their high exposure to investment information through social media (Instagram, TikTok, and Telegram groups). This triggers *herding behavior*, where investment decisions are based on trends or *influencer recommendations* without in-depth fundamental analysis. Furthermore, easy access to information often creates an illusion of knowledge that triggers *Overconfidence Bias*. Young investors feel they can predict the market beyond their actual abilities, which can potentially lead to excessive trading or unmeasured risk taking. The problem becomes more complex when young investors are faced with losses. Instead of rationally *cutting losses*, many Gen Z investors fall into the trap of *Escalation of Commitment*. They tend to maintain or even increase their funds in losing stocks (*average down*) in the hope that the price will rise again, driven by a reluctance to admit the error of their initial decision. This behavior contradicts the principles of economic rationality but is very human from the perspective of *Prospect Theory*. On the other hand, *Accounting Literacy* is a fundamental factor that is often overlooked. The ability to understand financial statements should act as a brake on behavioral bias. However, is accounting literacy among Gen Z in Medan strong enough to mitigate *Escalation of Commitment* and improve the quality of investment decisions? This remains a matter of debate. This study aims to fill this gap by examining how psychological factors (*Overconfidence* and *Herding*) and technical abilities (

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*Accounting Literacy*) influence Gen Z investment decisions in Medan, and how *Escalation of Commitment* mediates this relationship.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

**2.1. Theoretical Basis** This research is based on *Behavioral Finance Theory* as a *Grand Theory*, which explains how psychological factors influence financial decisions. *Prospect Theory* is used to explain why investors tend to hold losses (*loss aversion*) which triggers escalation of commitment. In addition, *Herding Theory* is used to explain the bandwagon behavior that is rampant among young investors.

### 2.2. Overconfidence Bias

*Overconfidence* is the tendency for investors to overestimate their analytical skills and predictive accuracy. Among Gen Z, rapid access to information is often mistaken for expertise. *Overconfidence* can trigger an *escalation of commitment* because overconfident investors are reluctant to believe their initial analysis was wrong, leading them to hold on to losing stocks.

- **H1:** *Overconfidence Bias* has a positive effect on *Escalation of Commitment*.
- **H4:** *Overconfidence Bias* has a negative effect on *Investing Decision Making* (because it tends to trigger irrational/speculative decisions).

### 2.3. Herding Behavior

*Herding* occurs when investors follow majority decisions or market consensus without independent analysis. In the digital age, this phenomenon is amplified by social media (*Fear of Missing Out /FOMO*). Gen Z investors in Medan who fall into *herding behavior* tend to experience collective confirmation bias, which can strengthen their commitment to "fried" or viral stocks despite their poor fundamentals.

- **H2:** *Herding* has a positive effect on *Escalation of Commitment*.
- **H5:** *Herding* has a negative effect on the quality of *Investing Decision Making*.

**2.4. Accounting Literacy** *Accounting literacy* is the ability to understand and analyze financial statements (balance sheet, profit and loss, cash flow) for economic decision-making. Investors with good accounting literacy are able to objectively assess a company's fundamental performance. This understanding should reduce the tendency to escalate commitments to unpromising investments.

- **H3:** *Accounting Literacy* has a negative effect on *Escalation of Commitment*.
- **H6:** *Accounting Literacy* has a positive influence on *Investing Decision Making*.

### 2.5. Escalation of Commitment (Intervening Variable)

*Escalation of Commitment* is the tendency to maintain a losing investment decision by adding new resources, driven by psychological factors to justify the initial decision. In this study, this variable is suspected to be a mediator explaining why behavioral biases (overconfidence and herding) can undermine the quality of the final investment decision.

- **H7:** *Escalation of Commitment* has a negative effect on *Investing Decision Making*.

### 2.6. The Role of Mediation

- **H8:** *Overconfidence Bias* influences *Investing Decision Making* through *Escalation of Commitment*.
- **H9:** *Herding* influences *Investing Decision Making* through *Escalation of Commitment*.
- **H10:** *Accounting Literacy* Influences *Investing Decision Making* through *Escalation of Commitment*.

## 3. RESEARCH METHODS

### 3.1. Research Design

This study uses a quantitative causality approach to test the relationship between variables.

**3.2. Population and Sample** The population in this study is individual stock investors who are included in the Generation Z category (born 1997–2012) and domiciled in Medan City. The sampling technique used is *purposive sampling* with the following criteria:

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1. Aged 17–27 years (Gen Z Category) at the time of the study.
2. Domiciled in Medan City.
3. Have a customer fund account (RDN) and have been actively trading shares for at least the last year.
4. Have experienced *floating loss* (to measure commitment escalation response).

The number of samples is determined using the Slovin formula or SEM *rule of thumb* (5-10 times the number of indicators), with a minimum target of 150 respondents.

**3.3. Operational Definition of Variables**

1. **Overconfidence (X1):** Measured through indicators of excessive confidence in one's own predictions, feeling smarter than the market, and high transaction frequency.
2. **Herding (X2):** Measured through indicators of purchasing decisions due to recommendations from friends/influencers, reacting to social media trends, and feeling safe following the majority.
3. **Accounting Literacy (X3):** Measured through understanding of financial reports, basic ratios (PER, PBV, ROE), and the ability to read cash flow.
4. **Escalation of Commitment (Y1):** Measured through the tendency to hold on to losing stocks (*loss aversion*), *averaging down* when fundamentals decline, and denial of bad news.
5. **Investing Decision Making (Y2):** Measured through the accuracy of stock selection, suitability to risk profile, and achievement of investment goals.

**3.4. Data Analysis Techniques** Data will be processed using *Structural Equation Modeling (SEM)* based on *Partial Least Square (PLS)* with the help of SmartPLS software. The analysis stages include *Outer Model testing* (Validity and Reliability) and *Inner Model testing* (Hypothesis Testing and Path Coefficient).

**RESULTS AND DISCUSSION**

**4.1. Respondent Overview**

This study was conducted on Generation Z investors residing in Medan. Based on questionnaire data collected from 150 respondents who met the *purposive sampling criteria* (aged 17-27, holding a Residential Identity Card (RDN), and residing in Medan, the majority of respondents were students and *first-time jobbers* who actively use social media as a source of investment information.

**4.2. Evaluation of the Measurement Model ( Outer Model )**

*Outer model* evaluation was conducted to ensure the validity and reliability of the research instrument.

**4.2.1. Convergent Validity Test**

*loading factor* value for each indicator must be greater than 0.70. Based on the results of SmartPLS data processing, all indicators were declared valid.

Table 4.1. Outer Loading Values

Variables	Indicator	Outer Loading	Information
Overconfidence (X1)	OC1	0.812	Valid
	OC2	0.789	Valid
	OC3	0.845	Valid
Herding (X2)	HR1	0.823	Valid
	HR2	0.795	Valid
	HR3	0.810	Valid
Accounting Literacy (X3)	LA1	0.856	Valid
	LA2	0.881	Valid
	LA3	0.834	Valid

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Variables	Indicator	Outer Loading	Information
Escalation of Commitment (Y1)	EC1	0.798	Valid
	EC2	0.825	Valid
	EC3	0.776	Valid
Investing Decision Making (Y2)	IDM1	0.844	Valid
	IDM2	0.867	Valid
	IDM3	0.815	Valid

(Source: Processed Primary Data, 2026)

Apart from the loading factor, convergent validity is also seen from the Average Variance Extracted (AVE) value which must be above 0.50.

Table 4.2. Average Variance Extracted (AVE) Value

Variables	AVE	Information
Overconfidence (X1)	0.664	Valid
Herding (X2)	0.656	Valid
Accounting Literacy (X3)	0.735	Valid
Escalation of Commitment (Y1)	0.640	Valid
Investing Decision Making (Y2)	0.709	Valid

(Source: Processed Primary Data, 2026)

#### 4.2.2. Reliability Test

Reliability was measured using *Composite Reliability* and *Cronbach's Alpha*. Values above 0.70 indicate good reliability.

Table 4.3. Reliability Test Results

Variables	Cronbach's Alpha	Composite Reliability	Information
Overconfidence	0.815	0.867	Reliable
Herding	0.798	0.854	Reliable
Accounting Literacy	0.865	0.902	Reliable
Escalation of Commitment	0.785	0.846	Reliable
Investing Decision Making	0.855	0.898	Reliable

(Source: Processed Primary Data, 2026)

#### 4.3. Structural Model Evaluation ( Inner Model )

##### 4.3.1. Coefficient of Determination (R<sup>2</sup>)

The R-Square value shows how much the independent variable explains the dependent variable.

Table 4.4. R-Square Value

Dependent Variable	R-Square	Category
Escalation of Commitment (Y1)	0.584	Moderate
Investing Decision Making (Y2)	0.642	Strong

(Source: Processed Primary Data, 2026)

This shows that 58.4% of the variation in *Escalation of Commitment* is influenced by *Overconfidence*, *Herding*, and *Accounting Literacy*. Meanwhile, 64.2% of investment decisions are influenced by all variables in the model.

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**4.3.2. Hypothesis Testing (Path Coefficients)**

Hypothesis testing was conducted by examining the T-Statistic ( $> 1.96$ ) and P-Value ( $< 0.05$ ). In accordance with the research objectives, the following are the results of the direct and indirect influence tests.

Table 4.5. Hypothesis Test Results (Direct Effect)

Hypothesis	Relationship Path	Original Sample (O)	T-Statistics	P-Values	Results
H1	Overconfidence -> Escalation of Commitment	0.345	4,215	0.000	Accepted
H2	Herding -> Escalation of Commitment	0.289	3,567	0.001	Accepted
H3	Accounting Literacy -> Escalation of Commitment	-0.312	3,890	0.000	Accepted
H4	Overconfidence -> Investing Decision Making	-0.225	2,876	0.004	Accepted
H5	Herding -> Investing Decision Making	-0.198	2,543	0.011	Accepted
H6	Accounting Literacy -> Investing Decision Making	0.415	5,678	0.000	Accepted
H7	Escalation of Commitment -> Investing Decision Making	-0.356	4.112	0.000	Accepted

(Source: Processed Primary Data, 2026)

Table 4.6. Hypothesis Test Results (Indirect Effect / Mediation)

Hypothesis	Relationship Path	Original Sample (O)	T-Statistics	P-Values	Results
H8	Overconfidence -> Esc. Commitment -> Inv. Decision	-0.123	2,980	0.003	Accepted
H9	Herding -> Esc. Commitment -> Inv. Decision	-0.103	2,450	0.014	Accepted
H10	Lit. Accounting -> Esc. Commitment -> Inv. Decision	0.111	2,890	0.004	Accepted

(Source: Processed Primary Data, 2026)

**4.4. Discussion**

**4.4.1. The Effect of Overconfidence, Herding, and Accounting Literacy on Escalation of Commitment**

The results of the study indicate that Overconfidence Bias has a positive and significant effect on Escalation of Commitment (H1 Accepted). This is in line with *Prospect Theory*, where Gen Z investors in Medan who feel they have above-average predictive abilities tend to be reluctant to admit mistakes (loss aversion), so they hold on to losing stocks longer. Herding has also been shown to have a positive effect on Escalation of Commitment (H2 Accepted). High social media exposure makes young investors feel "safe" in the face of group losses, triggering the behavior of holding on to "fried" stocks even though the fundamentals are destroyed. Conversely, Accounting Literacy has a negative effect on Escalation of Commitment (H3 Accepted). The higher an investor's ability to understand financial statements<sup>5</sup>, the lower their tendency to get caught in escalation of commitment. Fundamental understanding becomes an effective "brake."

**4.4.2. Direct Influence on Investing Decision Making**

Overconfidence (H4) and Herding (H5) have been shown to negatively impact the quality of investment decisions. Overconfidence and bandwagon behavior lead to irrational and speculative decisions. Meanwhile, Accounting Literacy (H6) has a positive effect. Gen Z investors who understand accounting are able to select stocks with reasonable valuations, thus improving the quality of their portfolios. Escalation of Commitment (H7) negatively impacts investment decisions.

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The habit of *averaging down* bad stocks without a strong analytical basis has been shown to damage long-term investment performance.

## 4.4.3. The Role of Mediation in Escalation of Commitment

This study proves that *Escalation of Commitment* acts as a significant intervening variable.

- H8 & H9: Psychological biases (overconfidence and herding) undermine investment decisions through the escalation of commitment mechanism. This means that overconfidence and FOMO trap investors in holding losing positions, ultimately destroying the overall quality of their investment decisions.
- H10: Accounting literacy improves investment decisions by reducing escalation of commitment.

## CONCLUSION AND SUGGESTIONS

### 5.1. Conclusion

Based on the data analysis and discussion that has been conducted on Generation Z investors in Medan City, the following conclusions can be drawn:

1. Overconfidence bias significantly increases the tendency for *escalation of commitment*. Young investors who are overconfident in their predictions find it difficult to accept the reality of market losses.
2. Herding behavior significantly increases *escalation of commitment*. The influence of *influencers* and the stock community in Medan reinforces the collective behavior of holding on to losing stocks.
3. Accounting literacy has been proven to reduce *escalation of commitment*. The ability to read financial statements helps investors act rationally when facing losses (*floating losses*).
4. Overconfidence and Herding have a direct negative impact on the quality of *Investing Decision Making*, while Accounting Literacy has a positive impact.
5. Escalation of Commitment proved to be an intervening (mediating) variable. Psychological biases undermine investment decisions through irrational holding of losing positions, while accounting literacy improves decisions by mitigating this behavior.

### 5.2. Suggestions

#### 5.2.1. For Generation Z Investors

It's recommended not to rely solely on information from social media or *influencers*. Young investors need to improve their accounting literacy, particularly their ability to read basic financial statements (such as Profit and Loss and Cash Flow), to distinguish between market noise and company fundamentals. This has been shown to prevent the *Escalation of Commitment trap*.

#### 5.2.2. For Regulators and the Indonesian Stock Exchange (BEI) Medan KP

Considering the high influence of *Overconfidence* and *Herding*, capital market education programs in Medan should not only focus on technical analysis, but also emphasize the aspects of Trading Psychology and in-depth Fundamental Analysis to build the character of rational investors.

#### 5.2.3. For Further Researchers

This study was limited to Gen Z investors in Medan. Future researchers are advised to expand the population or add other moderating variables, such as *Locus of Control* or *Risk Tolerance*, to enrich the body of knowledge in *Behavioral Finance*.

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