

ANALYSIS OF HEURISTIC BEHAVIOR ON INVESTMENT DECISION IN INDONESIA AS AN EMERGING MARKET COUNTRY

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Abstract

Stock investment decisions are the process of selecting a specific alternative from the evaluation of a number of alternative stocks that can provide the expected return. Stock investment decisions are influenced by investor behavior factor, there is a behavior bias one heuristic consisting of representativeness, availability bias, anchoring, gambler's fallacy and overconfidence. This study seeks to analyze the heuristics that drive investment decisions in Indonesia as an emerging market (a case study of millennial investors in West Java). This study uses quantitative methods. The type of data used in this study is primary data. The primary data used in this study are questionnaire-style survey results including heuristic variables (anchoring, availability, gambling errors, conservatism, overconfidence, and representativeness), investment performance, fundamental anomalies, and technical anomalies. Distribute questionnaires to respondents and fill them out. Observation. The study population is millennial (young) investors in the stock market. The sampling methodology for this study used non-probability sampling with random sampling techniques. This survey used a sample of 100 respondents. His SEM (Structural Equation Model) data analysis using PLS (Partial Least Squares) software was used in this study.

Keywords: Heuristic Factors, Investment, Millennial Investors, and PLS

JEL Classification Code: M31, M20, M21

1. INTRODUCTION

Investment is a capital placement made at this time with the expectation that will provide a return profits in the future. Success in investing can be generated through research, gathering information and maintaining a clear mind so that you don't make and experience losses in making investment decisions. Investors make choices sell and buy which can provide maximum profit and minimize costs (Madaan and Singh, 2019).

Throughout 2020, the number of in the Indonesian Capital Market, consisting of stock, bond and mutual fund investors, increased by 56% to 3.87 million Single Investor Identification (SID) as of December 29 2020. This increase in was 4 times more the highest since the last 4 years from 894 thousand investors in 2016. In addition, share investors also increased by 53% to a total of 1.68 million SID. Then, when viewed from the number of active daily investors, as of December 29 there were 94 thousand investors or an increase of 73% compared to the end of last year. The increase in the number of investors as well as daily investor transaction is certainly the result of the efforts of the Financial Services Authority (OJK) together with the Self-Regulatory Organization (SRO) to prioritize socialization and education related to investment in the capital market to the public. Along with the increasing participation of domestic retail investors, a new trading transaction record was achieved in 2020, namely the highest daily share transaction frequency on December 22, 2020 of 1,697,537 transactions (Anggia., et al, 2022).

Table 1.1: Composite Stock Index

Period	IHSG				Trade total		
	Max	Min	last	Δ (%)	Vol	Value	Frequency
2017	6,355.654	5,250.968	6,355.654	19.99	2,913,246.48	1,813,095.24	74,977.99
2018	6,689.287	5,633.937	6,194.498	-2.54	2,983,533.13	2,047,354.54	93,593.30
2019	6,547.877	5,826.868	6,299.539	1.70	3,680,110.00	2,237,370.16	117,182.24
2020	6,325.406	3,937.632	5,979.073	-5.09	2,871,220.49	2,231,483.25	166,507.51
2021	6,723.386	5,760.584	6,581.482	10.08	5,568,401.81	3,317,522.89	325,415.97
April 2022	7,276.193	7,078.760	7,228.914	20.90	512,546.78	357,622.86	28,719.31

Source : OJK, 2022

Based on the above table, from 2020 to 2022, the stock price increased with an increase of 20.90%, and the frequency of stock trading in April 2022 was 28,719,310 times. The data shows that by April 2022, investor interest in investing has increased. This is because investors make investment decisions by looking at the investment performance of investors they want to go to.

With this technological development, Indonesian millennials have come to understand the importance of investing as part of supporting the country's economy by investing their funds in the capital market for future benefits. The capital market itself occupies a very important position in the country's economy as a vehicle for corporate financing and as an investment vehicle for investors. Investors expect returns when they invest money. Yields are the single most sensible way for investors to compare different investment options and different types of investment returns (Jensen and Jones, 2020).

There is no denying that the capital/stock market is a valuable investment vehicle. However, many people are reluctant to invest in the stock market because they fear that the uncertainty and risks of the stock market can lead to huge losses. The risks associated with the stock market are not fully understood. A prudent investor always seeks to minimize risk as much as possible without sacrificing potential returns. Economic uncertainty is a very important factor in financial analysis for researchers and practitioners, as it helps to understand how investors make decisions in the presence of uncertainty (Escobari and Jafarnejad, 2019). The risks associated with equity investments arise primarily from two sources:

(a) company-specific factors such as major customers, unsuccessful lawsuits and major regulatory actions; and (b) general economic shocks such as changes in interest rates. Risks arising from company-specific factors are called idiosyncratic risks, and risks that affect the market as a whole are called systematic risks (January 2018).

The expected rate of return of the portfolio held by an investor is considered to play a certain role in investment decisions. In addition, research continues into the factors that influence expected returns. The first weakness is that the processes used for decision making are built on the assumptions the model needs to work, but these assumptions do not fully reflect real-world conditions. (Mubarik, 2017).

Due to the investment phenomenon that occurs in DIY as reported by jogja.antaranews.com, the number of investors in the capital market reached 28,312 investors in August 2017, and increased to 20,320 investors in August 2016. There was a significant increase of 39.3% from According to Irfan Noor Riza, head of the Yogyakarta Special Region Representative Office of the Indonesia Stock Exchange, the deal showed promising figures as the number of investors increased, and in August 2017, he From 376 he reached 950 billion. \$1 billion by August 2016 (Hakim, 2017).

According to IDX DIY, supporting the investment gallery will be very effective for the growth of capital market investors in the special region of Yogyakarta. In response, IDX DIY plans to expand its investment gallery at universities in the Yogyakarta Special Region to increase knowledge of capital markets for scholars and students. IDX DIY itself has opened investment galleries in 33 public and private universities in Yogyakarta Special Region. A heuristic theory is defined as a rule of thumb that an individual applies in uncertain situations

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Grand Theory (Behavior Finance)

In essence, behavioral finance attempts to apprehend and provide an explanation for real investor and marketplace conduct as opposed to theoretical investor conduct. This concept differs from traditional (or standard) finance in that it's far primarily based totally on assumptions approximately how buyers behave with inside the marketplace. Investors who desired to construct higher portfolios started out to understand that they couldn't depend completely on concept or mathematical fashions to provide an explanation for character buyers and marketplace conduct. According to Professor Statman stated that a person's price range are modeled as "rational," even as a person's economic conduct is modeled as "ordinary." This may be interpreted that "ordinary" human beings may also behave irrationally, however the truth is that nearly no person behaves flawlessly rationally on the subject of price range and coping with ordinary things (Pompian, 2016)

Pompian (2016), behavioral finance is ready information how human beings make choices, each personally and collectively. By information how buyers and buyers behave, it's far viable to alter or adapt this conduct to enhance financial consequences. In diverse examples, understanding and integration of economic conduct can result in superior/higher consequences for buyers (Pompian, 2016). Behavioral finance is a examine that research how mental phenomena have an effect on economic aspects (Shefrin, 2000 in Nareswari, et al, 2021). Behavioral finance ambitions to apprehend the consequences of investor conduct withinside the marketplace concerning selection making primarily based totally on mental factors (Nareswari., et al, 2021)

Jahazeb. et al (2012) outline behavioral finance because the examine of the way people interpret and act on statistics to make the proper funding choices. Olsen (1998) in Jahazeb. et al (2012) emphasised that behavioral finance does now no longer provide an explanation for

rational conduct or display incorrect choices, however instead tries to apprehend and are expecting economic markets systematically.

Behavioral finance concept primarily based totally on psychology seeks to apprehend how feelings and cognitive mistakes have an effect on the conduct of character buyers (Kengatharan and Kengatharan, 2014). Much of the studies executed withinside the area of behavioral finance stems from paintings in cognitive psychology that's the examine of the way human beings such as buyers think, cause and make choices. According to Gitman and Joehnk (2008) in Bakar and Yi (2016), researchers in behavioral finance accept as true with that investor choices are encouraged through some of ideals and preferences. The ensuing ideals and biases will reason buyers to overreact to sure forms of economic statistics and underreact to others, main them to make irrational choices and influencing their risk-taking conduct. The concept of behavioral finance is capable of shape heuristic theories referred to as regulations of thumb. Heuristics make selection making simpler specifically in complicated and unsure environments through the usage of not unusualplace feel to resolve a problem. Heuristics additionally simplify the selection making system through figuring out a distinct set of standards to be evaluated (Jordan, et al, 2012). Hirt and Block (2012) country that heuristics regularly depend upon discovery and are used to reach at most suitable solutions.

2.2. Invest

Investment can be interpreted as an activity in which a specified amount is invested in one or more assets for a specified period of time in hopes of generating income or enhancing the value of the investment. An investor's objective in any investment activity is to generate future income or rate of return (return) (Puspitaningtyas and Kurniawan, 2012).

Buying stocks is an investment activity because stocks can generate income in the form of dividends and their value is expected to increase in the future. Stock investment returns can take the form of capital gains and dividend yields. Return on investment is a metric to improve investor welfare. An investor's expectation of an investment is sometimes to get the maximum return for a certain level of risk (Puspitaningtyas, 2012).

2.3. Investment Decision Theory

The investment decision theory used in this study is signal theory. Asymmetric information theory, also known as signaling theory, was developed in economics and finance on the premise that insiders generally have better information about a company than outside investors. In fact, management doesn't know much about future stock prices and interest rates. But they certainly understand and know the company's prospects (Jesilia and Purwaningsih, 2020:158). According to Brigham and Houston (2018:187), a signal is an action taken by a company to provide investors with guidance on management's view of the company's prospects. The signals given are information about what management has done to fulfill the wishes of the owners, i.e. the shareholders. This information is important to investors and business professionals because it provides information, indications or explanations regarding past, current and future going concern conditions and implications for business.

This theory is based on the assumption that management and shareholders do not have equal access to company information. As a matter of course, management has better information about the company than shareholders, so there is information asymmetry between management and shareholders. This information asymmetry forces managers to signal the market about the state of the company. To enable the public to assess the company's future prospects. The relevance of signaling theory to this study is that companies are encouraged to share their financial reports with outside parties, with the goal of avoiding information asymmetries between the company and outside parties. . Through these financial reports, investors can learn about the company's financial performance, as the reports contain financial indicators that reflect the state of the company.

2.4. Heuristik

Heuristic concept is described regularly of thumb, which people use in conditions of uncertainty to make easy and green choices (Tversky and Kahneman, 1974 in Abdin., et al, 2017). Kahneman and Tversky, (1979) in Abdin. et al (2017) discovered that irrational human beings use heuristics of their selection making due to the fact they fail to choose ideal probabilities. Heuristics are beneficial if time is restricted and facts is restricted (Abdin., et al, 2017). Therefore, irrational human beings do now no longer acquire all of the facts, they simply comply with a few intellectual shortcuts that make their selection-making technique less complicated, easier and greater green (Abdin. et al, 2017)

Kahneman and Tversky (1974) introduce 3 heuristics that may be utilized by character traders of their selection making which might be representativeness, availability and retention. Waweru., et al (2008) delivered one greater heuristic to the list, particularly overconfidence. Investors observe intellectual shortcuts to selection making as opposed to reviewing objectively available facts. Different techniques that human beings use to lessen the attempt related to their duties are referred to as heuristics (Kahneman and Tversky, 1979 in Farooq and Sajid, 2015) illustrating that making use of heuristics can result in terrible choices. Implementation of heuristic choices because of time constraints.

Heuristics are shortcuts and regulations of thumb because of mistakes processing information. Heuristics are beneficial for alleviating cognitive efforts in order that the selection-making technique turns into less complicated so it would not take an excessive amount of time. And on the opposite hand, occasionally heuristics motive inevitable bias (Kadir, 2016). Heuristics are an vital issue of selection making primarily based totally on regulations of thumb (Jay and Perkins, 1997 in CAO., et al, 2021). However, there are numerous research confirming that heuristics create numerous biases in complicated conditions. Heuristics play an vital position with regards to making pressing choices inside a restricted time (Chand and Runco, 1993 in CAO., et al, 2021).Based at the descriptions of the critiques above, it may be concluded that heuristics is a person's manner of wondering in fixing a trouble or fixing troubles with the aid of using searching, finding, gathering reasssets of numerous information associated with beyond occasions or occasions associated with the trouble at hand.

2.5. Fundamental anomalies and Technical Anomalies

Fundamental analysis is the most common way to calculate the value of stock investments. Again, this is often overlooked by investors (De Souza., et al. 2018; Richards and Willow, 2018; Khan, et al., 2017; Barber and Odean, 2008). Decisions based on heuristics can lead to stock market anomalies. Pompian and Wood (2006) define a fundamental anomaly as a form of ignorance that occurs when stock performance valuations use only a small subset of the criteria. Fundamental anomalies, when related to behavior, occur when investors focus on popular stocks and ignore stock fundamentals. Fundamental anomalies can also occur when investors overreact to price changes (Abdin, et al, 2017).

Fundamental anomalies refer to anomalies in the trading of financial instruments with respect to elements of fundamental analysis. A fundamental principle of fundamental analysis relates to the fact that the market price of a financial instrument is the result of supply and demand for the instrument itself (Bako and Cristina, 2013). A technical anomaly of Charles Henry Dow's theory in Bako and Cristina (2013), the basis of which is factually related:

- a) Market activity to update everything. The price of a listed financial instrument is considered the intersection of supply and demand to reflect security through the impact of its value on various factors. The purpose of technical analysis is not to identify the factors that influence prices, but only to analyze price movements and their movements over time.
- b) Existing configuration. As technical analysis attempts to provide a model of market price evolution based on historical data, configurations offer multiple ways in which a particular outcome can be expected.
- c) History tends to repeat itself. Graphical constructions suggested by technical analysis tend to repeat over time according to human psychological characteristics.

Bako and Cristina (2013) point out that technical analysis involves many losses, the most important of which are:

- a) Technical analysis is performed by analysts without the exclusion of human and subjective factors. This means that technical analysis predicts how the same data will be interpreted by analysts based on data analysis that relies heavily on subjective factors. • Technical analysis is based on extrapolation of events and time shifts of quotes. It is the subject of probability theory, the future, the unknown of mankind. Technical analysis looks at futuristic themes that mankind has long coveted.
- b) Regarding the stochastic nature of evolution, technical analysis teaches us that it is concerned with determining probabilities in the stock market and does not care about certainty.
- c) Information used in technical analysis may be inaccurate or imprecise and may distort results (eg forecasts).

EMH shows that capital market share prices reflect all relevant information. The basic concepts behind the formation of technical analysis are inconsistent with EMH. Pompian and Wood (2006) argue that this discrepancy between technical analysis and the efficiency of market hypotheses ultimately forms a technical anomaly in capital markets.

2.6. Operational Theory

The study uses heuristic variables that influence investment performance. Pompian's (2021) heuristic variable factors include anchoring, overconfidence, representativeness, availability, gambling error, and conservatism. Anchoring is defined as an investor's judgment based on preliminary information, where decisions are made on the basis of prior information. Anchoring can help investors confirm their investment decisions and remove doubts as to why the market is not performing as planned or expected (Zahera and Bansal, 2018).

Novianto and Robin (2021), Silwal and Bajracharya (2021), Shah, et al, (2018), Ahmad, et al (2017) Anchoring strongly influences investors' investment decisions Malik. , et al (2022)) anchoring has an indirect impact on investment performance. Abdin., et al (2017), Hesniati and Lasmiyanto (2020) Anchoring does not indirectly affect investment performance (investment performance).

Availability is observed when investors prefer to invest in local companies with which they are familiar or where asset information is readily available. Investors prefer to invest in tools with more information than full analysis. Rasheed et al., 2018). Ahmad et al. (2018), Bakar and Yi (2016), Ikram (2016), Novianto and Robin (2021), Shah, et al. (2018), Ahmad et al. (2017) Bakar and Yi (2016) Availability strongly influences investor investment decisions (investment decisions). Malik, et al (2022), Silwal and Bajracharya (2021), Hesniati and Lasmiyanto (2020) Availability directly affects investment performance

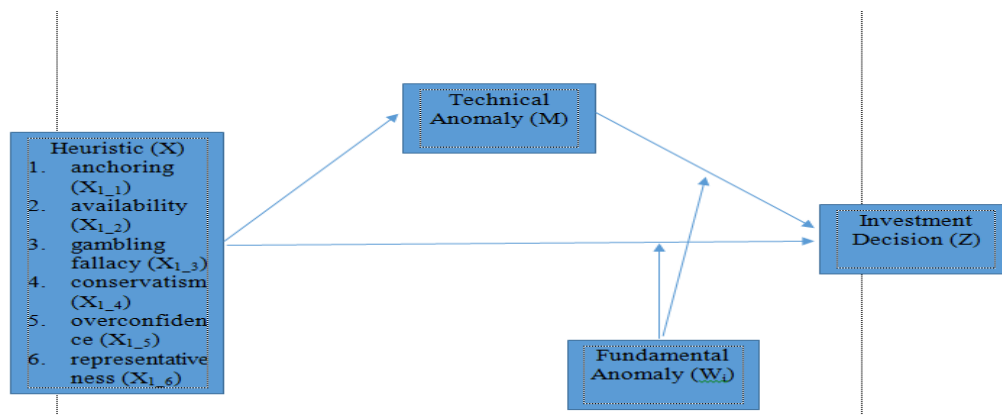
The availability of Abdin et al. (2017) No indirect impact on investment performance. The Gambler's Fallacy is a heuristic behavior that uses the frequency of past events to predict future outcomes. The gambler's fallacy stems from our tendency to assume that random events that have occurred many times in the past will occur more or less frequently in the future (Boynton, 2003 in Cao, et al., 2021). Investors believe that market events that have occurred frequently in the past will occur less frequently in the future (Matthew, 2010 in Cao, et al., 2021). Malik, et al. (2022) the gambler's fallacy does not directly affect investment performance. Conservatism is defined as the differential verifiability required to record gains and losses (Watts, 2003). Conservatism is the mental process by which people cling to previous views and assessments at the expense of acknowledging new information (Pompian, 2021). Malik, et al. (2022), Thomas (2018) Conservatism directly affects investment performance.

Bakar and Yi (2016), Zhang, et al. (2015) Conservatism has a significant impact on investment decisions and investment performance. According to Chitra and Jayashree (2014), conservatism is related to investment performance. Fundamentally, overconfidence can be interpreted as an unwarranted belief in one's intuitive thinking, judgment, and cognitive abilities (Pompian, 2021). Russo and Schoemaker (1992) Overconfidence occurs when someone believes they can assess their knowledge or skills without the recommendation of

others. Overconfidence refers to exaggerating the likelihood that you are right. This is the tendency of individuals to exaggerate the accuracy of their initial judgments about a particular situation and to be reluctant to reevaluate their initial judgments because of their arrogance. It is a combination of targets and related factors. B. External justice of one's age (Bhutta and Shah, 2015). The more investors feel they have a higher level of competence in the capital markets, the more often they trade. Older investors believe in their own abilities and do not consider other investment factors in their investment activities (Christanti and Mahastanti, 2011). Glaser and Weber (2007) found that investors with above-average perceptions of investment skills and past performance are more active in trading financial markets. Ivanda (2010) proves that in Indonesia demographics – male gender, age and higher education – make investors feel they have it.

2.7. Hypotheses

The hypothesis in this study is that heuristic variables (anchoring, availability, gambling fallacy, conservatism, overconfidence, representativeness) have a significant effect on investment decisions moderated by fundamental anomalies and technical anomalies. The influence of heuristic variables (X1) (anchoring (X1_1), availability (X1_2), gambling fallacy (X1_3), conservatism (X1_4), overconfidence (X1_5), representativeness (X1_6)) has a significant effect on investment decisions (Y) moderated by fundamental anomalies (Z1) and technical anomalies (Z2) can be described with arrows as follows:



3. RESEARCH METHODS AND MATERIALS

3.1. Research Object

The research object is what is at the center of the research, i.e. what lies at the core of the research question (Arikunto, 2013). This research focuses on millennial investors (young people). Sugishirono's (2017) research object is the attribute or characteristic or value of a person, thing or activity for which certain variables are considered and conclusions drawn. The subject of this study is capital markets.

3.1.1 Types of data

The data types used in this study are:

primary data. Sekaran and Bougie (2016) Primary data are data obtained directly for subsequent analysis to find the solution or problem under study. The main data used in this study are questionnaire-style survey results on heuristic variables (anchoring, availability, gambling errors, conservatism, overconfidence, representativeness), investment performance, fundamental anomalies, and technical anomalies. , observe the respondent

3.1.2 Population

According to Sugiyono (2017), a population is a generalization consisting of objects/subjects with specific properties and characteristics set by researchers for their study, after which conclusions are drawn. The study population is millennial (young) investors in the stock market. The sampling method in this study used a non-probabilistic sampling method by random sampling, that is, a chance-based sampling method (individuals were obtained during the study and were suitable as a research sample) (Sugishirono, 2017). This survey used a sample of 100 respondents.

3.1.3 Samples

The sample size determination in this study is based on the opinions of Sekran and Bougie (2016), which provide practical rules for determining sample size. For most studies, a sample size greater than 30 and less than 500 is adequate. The reason the researchers used random sampling is that not all of them may or even exist when the study was scheduled to take place.

3.2. Instrument

Data collection methods are the methods used by researchers to collect research data. Data collection in this study is done via a questionnaire. A questionnaire is a data collection method in which respondents, employees, ask written questions through questionnaires (Yukanjin, 2013). Questionnaires for this study have either been completed or provided with responses. The vehicle for this research is a questionnaire. Questionnaire evaluation in this study using Likert scale. According to Sugiyono (2017), "Likert scales are used to measure the attitudes, opinions, and perceptions of individuals or groups of people towards social phenomena." In this study, researchers used a type of instrument with questionnaires or single-score questionnaires with the following provisions: That is, "strongly agree" (SS) was rated 4 points, and "agree" (S) was rated 3 points. He gave 2 points (TS) for "disagree" and 1 point (STS) for "strongly disagree" (Sugishirono, 2017). The reason the researchers dispelled/strongly agreed was that the resulting study was unbiased. Respondents' responses were summarized as a whole, showing respondents' heuristic variables (anchoring, availability, gambling errors, conservatism, overconfidence, representativeness), investment performance (investment performance), fundamental anomalies, and technical his anomalies. will be This is measured by dividing the respondent's total score by the highest total score, multiplying by 100%, and summing. Arikunto (2013:258) By the following criteria: 1) Good > 75%, 2) Fairly Good 60-75 and 3) Poor < 60

3.3. Analysis Technique

This descriptive statistical analysis helps provide an overview/description of the research variables derived from the respondent's responses. This analysis provides a summary or description of the data consisting of mean (average), standard deviation, maximum and minimum (Ghozali, 2019:19).

Analysis of respondent characteristics in this writing is age and education. The formula used in analyzing the characteristics of respondents is:

$$P = (f/N) \times 100$$

Information:

P = percentage

N = number of frequencies

F = number of times the percentage was searched

SEM (Structural Equation Model) data analysis using PLS (Partial Least Squares) software was used in this study. Structural Equation Modeling (SEM) is widely used in various scientific fields and was developed as a solution to various problems encountered in multivariate analysis. Latan (2012) in Haryono (2017:10), Structural Equation Modeling is a second-generation multivariate analysis technique that combines factor analysis and pathway analysis, allowing researchers to use a number of indicators to map the relationship between multiple extrinsic and intrinsic factors. It states to allow relationships to be tested and inferred simultaneously. Structural equation modeling is a second generation of multivariate analysis techniques that allow researchers to explore the relationships between complex variables recursively and non-recursively to get a complete picture of the entire model (Haryono, 2017:9).

PLS (Partial Least Squares), according to Wiyono (2011), is one of his SEM (Structural Equation Modeling) techniques that allows direct analysis of latent variables, indicator variables and measurement errors. PLS (Partial Least Squares) is a powerful analytical method because it is applicable to all data scales, does not require many assumptions, and does not require large sample sizes. PLS (Partial Least Square) can also be used to describe whether there is a relationship between latent variables. Haryono (2017:377), the purpose of PLS (Partial Least Square) is to predict the dependent variable by including many independent variables.

The population used included the owner, manager or both in an SME in Central Java, Indonesia. The study used a targeted sampling methodology with multiple criteria, namely (1) at least 3 years of experience to ensure business knowledge and business performance development, and (2) annual turnover of IDR.up to 50,000,000 (3) less than 100 employees and (4) willingness to provide information. The locations of potential participants were tracked using a snowball sampling technique. The basic data was then collected by the management. Questionnaire for 400 respondents, of which 347 (86.75%) could be evaluated.

4. RESULTS

4.1. Measurement Model

Respondents' answers to questions about heuristic behavior can be seen in table 1. The first question for representativeness of respondents most chose agree (39.17%) and strongly agree (30%). The second question for representativeness of respondents is many agreed (49%) and strongly agree 36%). The first question of availability of respondent bias most chose agree (35.83%) and strongly agree (35%). For the second question of availability bias, most respondents chose hesitate (46.47%). The first question of respondents anchoring most chose agree (49.2%) and strongly agree (25%). The second question is anchoring, most prefer agree (39.17%) and hesitate (27.5%). The question of gambler's fallacy, respondents chose hesitate answer (46.67%), and the overconfidence question most respondents chose was agree (45, 83%) and strongly agree (25.83%).

Table 1
Respondents' answers to question about heuristic behavior

Question	1. Strongly Disagree	2. Disagree	3. Hesitate	4. Agree	5. Strongly Agree
Representativeness1	4,17%	5%	21,67%	39,17%	30%
Representativeness2	3,33%	5,83%	20%	40,83%	30%
Availability bias1	4,17%	8,33%	22,5%	35,83%	29,17%
Availability bias2	5,83%	7,5%	46,67%	24,17%	15,83%
Anchoring1	0%	1,67%	24,17%	49,2%	25%
Anchoring2	7,5%	13,33%	27,5%	39,17%	12,5%
Gambler's fallacy	5,83%	10,83%	46,67%	30%	6,67%
Overconfidence	0%	6,67%	21,67%	45,83%	25,83%

The result of data processing of Structural Equation Model (SEM) can be seen in Table 2

Table 2
The result of data processing of SEM with PLS method

Variable	Question	Beta	CR	AVE	R ²	Cronbach's Alpha
Representativeness	Representativeness 1	0.808	0,838	0,721		0,619
	Representativeness 2	0,883				
Availability Bias	Availability bias 1	0,844	0,830	0,710		0,591
	Availability bias 2	0,841				
Anchoring	Anchoring 1	0,630	0,743	0,598		0,354
	Anchoring 2	0,894				
Gambler's Fallacy	Gambler's fallacy	1,00	1,00	1,00		1,00
Overconfidence	Overconfidence	1,00	1,00	1,00		1,00
Investment Decision			0,268	0,423	0,302	-0,008

Main loading value shows the relationship between variables with the indicator. According to Hair et al. (2010) a minimum main loading value of 0.50 is considered to have a strong and significant relationship. Composite reliability (CR) > 0.700 and to explore a research value of 0.60 is acceptable (Mudaet al, 2017). Average Variance Extracted (AVE) for each variable > 0,500 where 50% or more indicators should be taken into account (Hair et al., 2012). Cronbach's alpha shows the accuracy of parameter estimates (Chin2010). The relationship between the variable with the question/indicator has a main loading value above 0.5 so it has a

strong and significant relationship. Average Variance Extracted (AVE) is used to measure the amount of variance that can be captured by its construct compared to the variance caused by measurement error. AVE also as a condition of discriminant validity is achieved. Representativeness, availability bias, anchoring, gambler’s fallacy and overconfidence, have an AVE above 0.50 so as to achieve validity requirements. Investment decision has an AVE value below 0.50 indicating that the indicator has a high average error rate. Composite reliability (CR) shows internal consistency that is high composite reliability value shows the consistency value of each indicator in measuring its construct. CR values for representativeness, availability bias, anchoring, gambler’s fallacy and overconfidence variables above 0.70, reflect acceptable indicator reliability (Muda, 2017 and Sadalia et al., 2017). The value of CR investment decision of 0.268 means less good reliability. Investment decision has R square 30,2% which means investment decision able to explain equation model in this research is 30,2%. The result hypothesis this study can be seen in Table 3.

Table 3
Result Hypothesis

<i>Hypothesis</i>	<i>Relationship</i>	<i>T - Value</i>	<i>Beta</i>	<i>Result</i>
H1	Representativeness → Investment Decision	4,148	0,367	Significant
H2	Availability Bias → Investment Decision	2,955	0,307	Significant
H3	Anchoring → Investment Decision	0,339	-0,037	No Significant
H4	Gambler’s Fallacy → Investment Decision	0,609	0,064	No Significant
H5	Overconfidence → Investment Decision	0,553	-0,055	No Significant

Based on the value of beta (path coefficient) and T - value. Beta value between -0.055 to 0.367, T value as a reference of a significant or no significant hypothesis. The results of hypothesis representativeness have a significant positive effect on investment decision. So the hypothesis is accepted. It can be seen from beta value 0,367 and T-value 4,148. The T-value value > 1.645 yields a significant estimated value of 5%. The availability bias has a significant positive effect on investment decision with beta value 0,307 and T - value 2,955. Anchoring has no effect on investment decision with beta -0,037 and T-value 0,339. Gambler’s fallacy has no effect on investment decision with beta 0.064 and T-value 0.609. Overconfidence has no effect on investment decision with beta -0.055 and T-value 0,553

5. DISCUSSION

Representativeness has a significant positive effect on investment decision. This hypothesis is in accordance with research Tversky and Kahneman (1974) that investment decision is influenced by representativeness. But not in accordance with Wickham’s research, 2003) that representativeness inhibits investment decision. And research Research Wu and Liu (2009) that representativeness leads to weakness / decrease earnings. The availability of bias has a significant positive effect on investment decision. In accordance with research Schwarz et al. (1991) that the availability of bias may affect the assessment for investment decision. Not in accordance with research Khan 2015 that the availability of bias have negative correlation and no effect on investment decision. Anchoring has a negative correlation and has no effect on investment decision. In accordance with Wilson et al. (1996) that anchoring has no effect or

correlation toward investment decision. Not in accordance with research Kaustia et al. (2008) who found that anchoring greatly affected the expectation of long-term stock returns that affected investment decision.

Research Chang et al. (2014) found that there was a positive relationship between anchoring and returns on investment decision. Gambler's fallacy has a positive beta but has no relationship to investment decision. In line with Chandra and Kumar's (2011, 2012) research that gambler's fallacy has no effect on investment decision of Indian investors. Arthur, 2015 found that investors with gambler's fallacy were not involved in high-risk stocks and therefore had no effect on investment decision. In contrast to research (Rakesh, 2013) gambler's fallacy has a significant negative / negative relationship with investment decision. Jayaraj (2013) proves that investors are affected by Gambler's fallacy that ultimately affects investment decision. This study found that overconfidence has no effect on investment decision. Different from research (Barber and Odean, 2001) that overconfidence has an effect on investment decision. Zacharakis and Shepherd (2001) suggest that overconfidence negatively affects investment decision. Odean (1998) states that overconfidence causes investors to trade more which has an effect on investment decision.

6. CONCLUSION

This research of this study obtained some conclusions, namely: There is a significant relationship between representativeness and availability toward investment decision. But there is no relationship between anchoring, gambler's fallacy and overconfidence toward investment decision evaluated three dimensions of MO, namely MIG, MID, and MIR. Since other variables examined by Narver and Slater (1990) were not included, future research may advance marketing knowledge by assessing their roles in improving AMC and BP. Based on the results of research and conclusions obtained in this study, the suggestions required by the author are as follows:

- This research is still far from perfect, hence more research is needed by looking at also effect of other behavioral bias like prospect, market and herding to investment decision.
- This research is still within the scope of investors of Medan, this research should be continued to other major cities in Indonesia.
- Investors need continuous education and high commitment to be guided in practice so that will remain consistent in investing and have a good investor behavior and ultimately produce good investment decisions and profitable and obtain the expected investment performance.
- The implication of this research is that the managers of securities firms must know and understand exactly the behavior of investors before offering their investment products.

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