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Rasch Analysis on Investment Decision Anomalies in Indonesian Islamic capital market

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Abstract

Purpose *– This Research aims to understand what behavioural anomalies are in making investment decisions in the Indonesian Islamic capital market and what factors are behavioural anomalies in making investment decisions in the Indonesian Islamic capital market.*

Methodology *- This Research uses a quantitative approach by applying Rasch analysis to measure five types of investment behaviour anomalies. Data was collected using a questionnaire.*

Findings *- The endowment and its items are considered the primary considerations for investors. On the other hand, Anchoring and Adjustment of all the items are not considered the primary consideration. Meanwhile, Conservatism, Optimism and Hindsight spread to both categories of items. The difference in responses by gender was found that only on the item, feeling greater comfort and optimism with their employer's stock, felt that investing there was less risky than investing elsewhere. Meanwhile, the difference in responses based on age was found that the age of thirties most often gave a different response from other respondents, especially in the indications of Endowment and Hindsight. In comparison, the difference in responses at the age of forties occurred in the items indicating optimism. Financial service providers are advised to offer the most suitable financial products based on gender differences. The most important thing is that in their thirties, an age group that tends to maintain their investment for a longer time and that investment decisions and risks in share ownership where they work are responded differently by gender.*

Keywords: *Behavior Finance, Investment Decision, Rasch Analysis.*

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1. INTRODUCTION

Everyone carries out investment activities, whether they are done consciously or not. In simple terms, the purpose of investors making investments is to obtain returns in financial terms, namely economic welfare. Investing compares the risk with the expected return (Van Dinh, 2021; Maneemaroj, Lonkani, & C., 2021). These two basic parameters are critical considerations for every investor before making investment decisions. Investors' decisions are closely related to investor behaviour towards risk (Friedman & Roley, 1987). Every individual is inherently averse to or averse to risk, so most investors seek to obtain the best returns but without risk or having the lowest risk/risk averse (Cohn, Lewellen, Lease, & Schlarbaum, 1975).

On the other hand, some investors are willing to take risks. This investor will choose the best of the best returns, even though the amount of risk is also high / risk taker (Polkovnichenko, Wei, & Zhao, 2019). The next type is investors willing to take a certain level of risk, considering several factors that affect investment in the future. So the decisions used to make investment decisions are based on realism/risk-neutral criteria (Bruno, Ahmed, Shapiro, & Street, 2016).

Investors can choose a wide range of securities that can be invested to maximize the expected returns (Lintner, 1965). In simple terms, investors can manage and analyze securities using a 2-step process: securities analysis and portfolio management. When an investment portfolio has been formed, investors must always consider carefully and wisely when to make revisions if necessary (Mroua & Abid, 2014). Active investors believe they will be able to find securities under-priced and are in a position to adjust the market to security prices on the new information they have. Passive investors who buy securities will then be held for a certain period until they are sold when there is a reasonably good price increase, according to investors and expect dividends. Both understand that security prices will only change when new information enters the market. Where the arrival of further information is never known in time, including its weight and effect on security prices, changes in security prices cannot be predicted by anyone in the market.

Information is an essential basis for decision-making. Market investors need information about the securities they have or will hold. The faster and more complete this information is obtained or accessible, the quicker investors can make decisions, considering that all of this information will directly affect each security's selling price and buying price. The Indonesian capital market is semi-strong (Ryandono, Muafi, & Guritno, 2021). This situation is where prices reflect past prices and all published information. In other words, investors cannot earn above-normal profits by utilizing public information.

On the other hand, the positive achievements of the Indonesian capital market are reflected in the increasing public interest in investing (OJK, 2021). The total number of investors in the Indonesian capital market as of December 29, 2021, has increased by 92.7 per cent to 7.48 million investors from the previous 3.88 million investors at the end of December 2020. This significant interest and growth show the importance of understanding investor behaviour, especially in receiving information. The efficient market hypothesis only applies when investors act rationally in every investment activity. But the reality is that in the market, many irrational actions are taken by investors (Al Mamun, Syeed, & Yasmeen, 2015). This action can cause an anomaly in decision-making by investors.

Market anomaly is a condition that is irregular, inappropriate or deviates from the efficient market hypothesis (Frankfurtera & McGoun, 2001). The anomaly here is one of the phenomena

that exist in the market, where things are found that should not exist if it is considered that an efficient market exists. So anomalies are deviations or oddities that occur or, in other words, are not as usual. Anomalies are also often referred to as events that cannot be predicted so that something that happens will change from ordinary events. With these considerations, it becomes crucial to understand investors' decision-making anomalies. With this knowledge capital, the risk of market changes can be minimized. At least we know some of the possible market changes on the information available and absorbed by the market. So, we need to understand what behavioural anomalies are in making investment decisions in the capital market and what factors are behavioural anomalies in making investment decisions in the capital market. This article is expected to provide a different point of view from previous research because it is the first to understand investor behaviour using the Rasch model.

2. LITERATURE REVIEW

In simple terms, investment means some actions to put money, energy, time, etc., into something to make a profit or get a profit or appreciation in the form of money, energy, time, etc. Preference refers to an increase in the value of an asset over time. Investment always involves spending a certain amount of capital today (time, effort, money, or assets) with the expectation of a greater return in the future than what was initially put in (Becker, 1962). Investment can refer to any medium or mechanism used to generate future income, including bonds, stocks, properties and businesses. In addition, buying a property that can be used to produce goods can be considered an investment. Investment decisions relate to investors or top management of a company concerning the number of funds to be used in investment opportunities (Myers & Majluf, 1984).

The type of asset the company will invest the funds in is referred to as an investment decision. These assets, by time, are divided into two categories: Long-Term Assets and Short-Term Assets. Making investment decisions is essential because, after all, no one knows whether the expected return on investment will be achieved? Or how much profit is obtained from the investment? Is it as expected? The question that can be answered with certainty is that the results are uncertain.

The next interesting question is how should rational individuals behave under risk and uncertainty? Decision-making means the adoption and application of rational choices in an efficient manner. Making a decision is choosing among several alternative courses of action. It can even mean choosing between taking action or not taking action at all. Simon's Decision Making Theory (Simon, 1997) also considers psychological aspects. Internal factors such as stress and motivation, among others, limit an individual's ability to solve complex problems. In short, decisions are based on limited rationality, and humans behave differently when risk and uncertainty are involved (Park & Shapira, 2017). One should pursue goals or make decisions that affect minimum risks and complications rather than focusing on maximizing profits. Simon suggests that there is never one best course of action or decision. It is because one cannot have complete information about something. Therefore, there will always be a better action or decision. Anomalies, marked deviations from the efficient market hypothesis, are identified by persistent abnormal returns that differ from zero and whose direction is predictable (Jegadeesh, 1990). However, calculating what constitutes an average return relative to the risk incurred depends on the asset pricing model used. Abnormal behaviour can be indicative of deficiencies in the underlying asset pricing model. When high returns persist in certain classes of securities, or

relative to certain valuation factors, they may compensate for excess risk rather than be genuinely anomalies.

Understanding and detecting bias is the first step in overcoming the effect of bias on financial decisions. Pompian divides the bias into two types based on cognitive and emotional. Cognitive biases are systematic mental errors that occur when people process and interpret information in the world around them and influence their decisions and judgments. Cognitive bias occurs due to limitations in objective review caused by the tendency of the human brain to perceive information through the filter of experience and personal preferences. The human brain is mighty but has limitations. Emotional bias usually occurs spontaneously based on the individual's personal feelings at the time a decision is made. This bias may also be deeply rooted in personal experiences that influence decision-making. This study will focus on Anchoring and adjustment bias, Conservatism bias, Hindsight bias (representing cognitive bias), Endowment bias, and Optimism bias (representing emotional bias) (Pompian, 2012). These five anomalies were chosen based on the bias that most often prov

Anchoring and adjustment bias is a psychological heuristic that affects how people perceive probability. Investors who exhibit this bias are often influenced by buying numbers or volatile price levels, or price indices and tend to stick to these numbers when faced with questions such as "Should I buy or sell these securities?" or "Is the market currently overvalued or undervalued?" (Pompian, 2012). This situation is especially true when introducing new information about securities further complicates the situation. Rational investors treat this new information objectively and do not reflect the purchase price or target price in deciding how to act. Anchoring and adjustment bias, however, implies that investors view new information through an essentially curved lens. They place undue emphasis, which is statistically arbitrary and psychologically determined.

Bias conservatism is a mental process in which people hold fast to their previous views or assumptions at the expense of acknowledging new information. Conservatism bias can cause investors to react less to further information, retaining impressions obtained from previous forecasts rather than acting on updated information (Pompian, 2012).

Endowment bias is described as a mental process in which differential weights are placed on the value of an object. First introduced (Thaler, 1980) is that people often demand more to give up an object than they will be willing to pay to get it. This situation is called the endowment effect. The value depends on whether one owns the item and is faced with the loss or whether one does not hold the item and has the potential to acquire it. This loss is considered more significant than the amount of the associated gain if the object is just added to his endowment when a person loses a thing that is part of his endowment.

Optimism bias is defined as the difference between one's expectations and the outcome that follows. If expectations are better than reality, the bias is optimistic; if reality is better than expected, the bias is pessimistic. Optimism bias is a cognitive bias that makes people think they are more likely to succeed or less at risk of falling or experiencing adverse events than they are (Pompian, 2012). The optimism bias is the mistaken belief that our chances of experiencing adverse events are lower and our chances of experiencing positive events are higher than others. Excessive optimism creates speculative bubbles in financial markets (Shefrin & Statman, 2013).

People who suffer from a hindsight bias tend to think that events are predictable, even though they are not. This behaviour is triggered by actual results being more easily understood by people's

minds than an infinite series of outcomes that can occur but do not materialize (Pompian, 2012). Therefore, people tend to overestimate the accuracy of their predictions. It is not to say that people cannot make accurate predictions, just that people may believe that they are making accurate predictions in hindsight.

3. METHODOLOGY

Primary and secondary data were collected to conduct this study. This paper emphasizes the qualitative approach. Primary data were collected through a self-administered structured questionnaire with 26 questions for five behavioural anomalies in investment decisions. The questionnaire was made in Indonesian because all the respondents were Indonesian and used to use the Indonesian language. The questionnaire was developed using a 5-point Likert Scale, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. About 200 investors are considered the population to conduct this research from different brokers on the Indonesian Islamic capital market. Among them, 174 were selected as samples using the stratified random sampling technique. Instead, secondary data were collected from research articles published in international and national journals. Researchers also studied several authentic books and web links related to behavioural anomalies and investors' investment decisions.

The data collected through the questionnaire was evaluated by Rasch analysis because the analysis method allows the ordinal data from the questionnaire to be converted into interval data. The Rasch model is the most appropriate method for fundamental research in human science where an instrument (questionnaire) is used, and its measurement produces ordinal data (Bond & Fox, 2015). The Rasch analysis is based on probability. They are allowing people's responses to be accurately predicted on all items that fit the measurement model, using only the person parameter (as a person measure) and item parameters on the same scale (as a difficulty measure) (Fraser & Dorman, 2011). The Rasch model converts item scores measured on a Likert rating scale (which is ordinal data) into an interval scale called "logarithmic probability units" (logit). Most of the logit values in practice are between 5.00 and 5.00 (Engelhard, 2013; Sumintono & Widhiarso, 2015). Item and person fit statistics show the extent to which the data obtained are appropriate, reliable and following the essential measure and provide information about the quality of the measurement.

Several indications in the Rasch model are crucial for both the person and the item (Boone, Staver, & Yale, 2014). Some are psychometric traits, such as the outfit mean square (MNSQ. The evaluation of the model begins by observing the MNSQ outfit value, where the value must be between the intervals 0.5 and 1.5. It means that it is suitable for measurement. Suppose the MNSQ value does not lie in that interval. In that case, it is necessary to study the ZSTD outfit value obtained, which should be between the intervals 1.9 and 1.9, indicating that the data has reasonable predictability. Internal reliability consistency refers to the average correlation between instrument items. The Cronbach coefficient is used as an index of internal reliability consistency: if the value is close to 1, it indicates that the internal measurement consistency is good.

Data was tabulated with Microsoft Excel software and analyzed using Winstep version 3.73. Data that has a suitable measurement interval and meets all the criteria for the validity and reliability of the instrument in the Rasch model.

4. RESULTS AND DISCUSSION

Summary statistics provide general information about respondents' quality, the instruments used, and the interactions between persons and items. Table 1 shows that the measurements give excellent and reliable results. The results of the analysis contain two outputs, person-output and item-output. The people data in the table shows whether the respondent is statistically fit or not, while the item table describes whether the items used in the instrument are fit or not. The mean of person-output is -0.09 logit (μ<0.00), which indicates that respondents generally tend to disagree on the behaviour of anomalies attributed to investment decision-making behaviour. The grouping of people and items can be seen from the separation value. The more separation, the better the quality of the instrument in terms of all respondents and items. The larger the size, the more likely it is to identify groups of respondents and groups of items. With the value of person separation 3.66, there are [(4 x 3.66) + 1]/3 = 5.21 rounded up to 5, which means there are five groups of respondents. The item reliability value is 0.66, indicating that the item attributes used have sufficient reliability. The 26 items measured are [(4 x 1.44) + 1]/3 = 2.25 rounded to 2, meaning that there are two groups of items, ranging from the easiest to the most difficult to agree on respondents.

Table 1 Summary of Instrument Statistics: Reliability of Person and Item

	Mean	Separation	Reliability	Cronbach's α
Person	-0.09	3.66	0.93	0.94
Item	0.00	1.40	0.66	

Cronbach's alpha value measures reliability, the interaction between person and item as a whole, which has a value of 0.94. This value indicates that the reliability of instrument has outstanding reliability. In other words, the results show the suitability of the person and item attributes used. The item reliability value is 0.66, indicating that the item attributes used have sufficient reliability.

Table 2. The Category of Items based on Their Logit Value

Category	Logit item	Item	Indicator
More difficult to be considered			
Anchoring and Adjustment	.31	N1	I tend to make general market forecasts too close to current levels.
Anchoring and Adjustment	.28	N5	Can be anchored (director) on the economic state of a particular country or company.
Conservatism	.25	N8	Stick to optimistic initial impressions of some positive developments.
Optimism	.21	N19	I prefer to get good news about the market or investments and may tend to be optimistic.
Anchoring and Adjustment	.17	N3	Tend to get too close to their initial estimates when new information is learned about the company.

Anchoring and Adjustment	.15	N2	I tend to forecast the index in a more narrow way than historical fluctuations might suggest.
Anchoring and Adjustment	.13	N4	Tend to make a percentage estimate that a particular asset class may rise or fall based on the current rate of return.
Optimism	.11	N17	Believe that will get a return like the market.
Optimism	.10	N18	I read too many "fun" forecasts, such as analyst earnings forecasts or self-research analyses, by reading company reports that show a bright outlook.
Hindsight	.10	N22	When an investment appreciates, it tends to rewrite memories to portray positive developments as if they were predictable. So it can inspire excessive risk-taking.
Conservatism	.09	N6	Hold fast to views or estimates.
Optimism	.09	N21	Invest near local geographic areas.
Optimism	.05	N16	Feel greater comfort and optimism with their employer's stock, feeling that investing there is less risky than investing elsewhere.
Easier to be agreed or considered			
Conservatism	.01	N10	When presented with complex data, sticking to previous beliefs is easy.
Endowment	.00	N11	I am retaining inherited/owned securities, regardless of whether holding on to those securities is financially wise.
Optimism	-.08	N15	I thought that other companies are more likely to experience declines than their own companies at work.
Endowment	-.11	N14	I retain securities that have been inherited or purchased as they become accustomed to the behavioural characteristics of these investments.
Hindsight	-.11	N23	When it comes to bad results, it tends to block the memory of previous incorrect predictions to reduce embarrassment.
Optimism	-.15	N20	I think that I am an above-average investor.
Endowment	-.16	N13	Withholding securities that have been inherited or purchased because they do not want to incur the transaction costs associated with selling the securities.
Hindsight	-.17	N26	I give too much credit to financial managers when mutual funds are performing well.

Hindsight	-.17	N25	The financial manager/manager may only benefit from good times or good fortune when the mutual fund is performing well.
Conservatism	-.21	N7	Behave too rigidly when presented with new information.
Endowment	-.25	N12	Holding the securities that have been purchased (already owned), often without considering a rational financial/market calculation.
Conservatism	-.32	N9	I tend to be slow to react to new information.
Hindsight	-.34	N24	Too much blaming the manager/finance manager when the mutual fund underperforms.

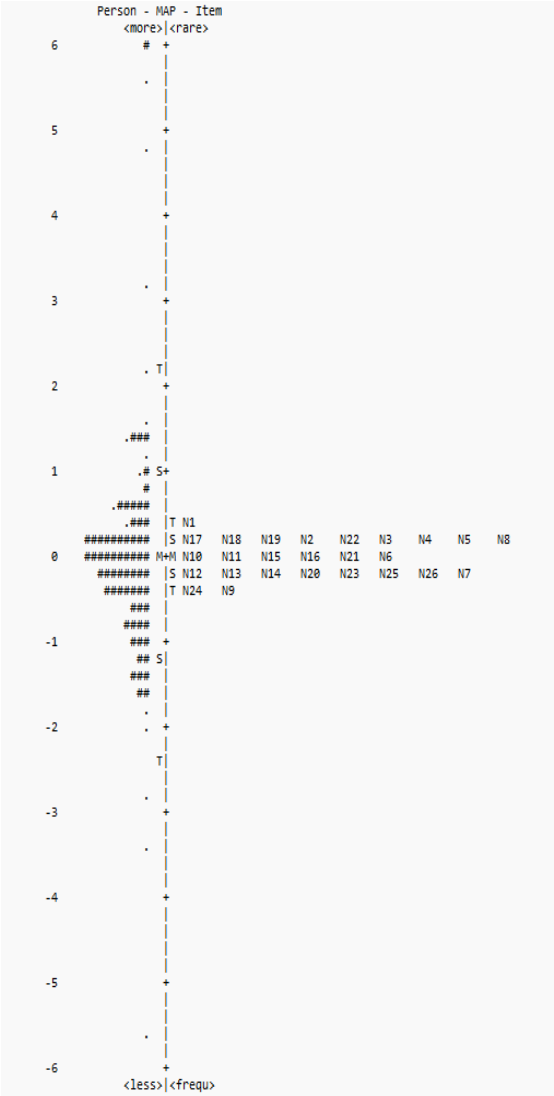

Figure 1. Item–Person Map

From the right side of the item-person map, most respondents agree that the N1 indicator indicates that most agree (I tend to make general market forecasts too close to current levels) with logit value = 0.31. Meanwhile, indicator N9 (Tends to be slow to react to new information) with logit value = -0.32, and indicator N24 (Too much blaming the manager/finance manager when the mutual fund underperforms) with logit value = -0.34, are the most difficult indicators for respondents to agree.

Instrumen, item and rating scale validity

The unidimensionality of the instrument is an important measure to evaluate whether the developed tool can measure what it should count, in this case, the anomaly construct of investment decisions. The Rasch model analysis uses principal component analysis of the residuals, which measures the extent to which the diversity of the instruments measures what should be measured.

Table 3. Standardized Residual Variance (in Eigenvalue units)

Variance	Empirical (%)
Total raw variance in observations	100
Raw variance explained by measures	38.9
Raw variance explained by persons	16.5
Raw variance explained by items	22.4
Raw unexplained variance	61.1
Unexplained variance in 1st contrast	12.6
Unexplained variance in 2nd contrast	4.7
Unexplained variance in 3rd contrast	4.1
Unexplained variance in 4th contrast	3.7
Unexplained variance in 5th contrast	3.3

It can be seen that the raw variance data measurement results are 38.9%. Table 3 shows that the minimum unidimensionality requirement of 20% can be met (Sumintono & Widhiarso, 2015). The variance that the instrument cannot explain should ideally not exceed 15%. The table shows the highest is 12.6%, while the rest is below 10% (4.7%, 4.1%, 3.7%, and 3.3%). So it can be concluded that the instrument meets the requirements and can measure investment decision anomalies.

Table 4 Item Fit Order

Item	INFIT MNSQ	Item	INFIT MNSQ
N7	1.71	N25	.94
N9	1.71	N19	.92
N24	1.50	N2	.87
N23	1.40	N3	.86
N12	1.31	N1	.83
N4	1.20	N26	.85
N5	1.07	N14	.80
N10	1.04	N11	.80

N6	1.00	N17	.77
N8	1.00	N13	.73
N20	1.00	N22	.69
N21	.99	N15	.67
N25	.92	N18	.66
N19	.90	N16	.62

To check fit and misfit items, we will use the INFIT MNSQ value of each item, and the mean and standard deviation values are summed (1.00 + 0.29 = 1.29). Then, the logit value greater than this indicates the item is a misfit (INFIT MNSQ > 1.29). Thus based on this criterion, the following items are indicative of misfit are: Behave too rigidly when presented with new information (N7), Too much blaming the manager/finance manager when the mutual fund underperforms (N24), When comes to bad results, it tends to block the memory of previous incorrect predictions to reduce embarrassment (N23), and Holding the securities that have been purchased (already owned), often without considering a rational financial/market calculation (N12).

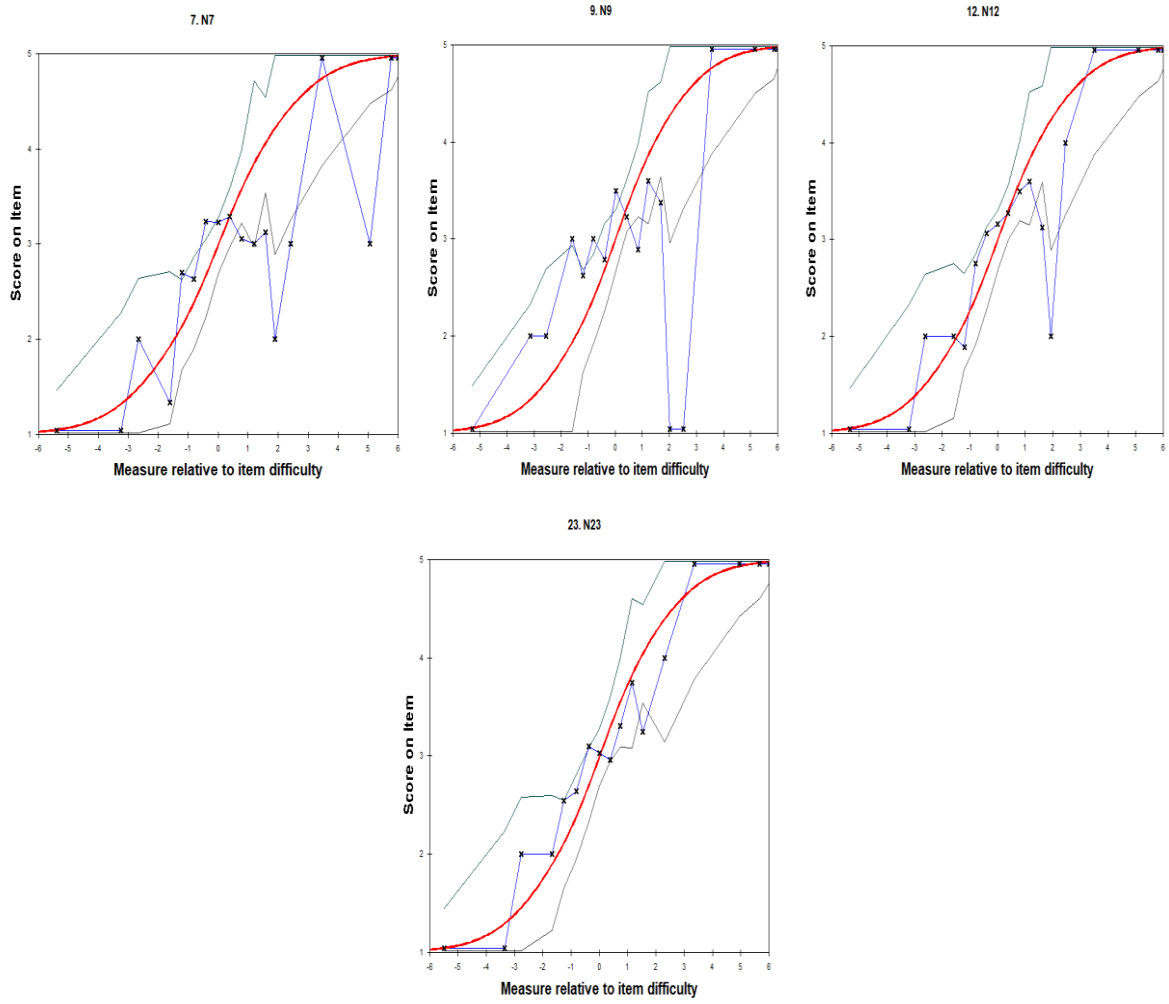

Figure 2. Measure Relative to Item Difficulty

There appears to be a response under the confidence space curve on the curves N7, N9, N24, N23, and N12.

Table 5. Summary of Category Structure

Category	Obsvd Average	Andrich Threshold
1	-1.53	NONE
2	-.61	-2.36
3	-.04	-.26
4	.43	.30
5	1.80	2.32

Based on this table, it can be seen that the average observation starts from a choice of score 1 (strongly disagree) logit -1.53 to a selection of score 5 (strongly agree). It can be seen that there is an increase in the average sequentially. This result is in line with the size of Andrich Threshold, which also increased sequentially from NONE to 2.32. Based on the results of this verification, it can be said that the selected category is correct. This result means that respondents can distinguish each type they choose.

Next, it will be shown whether or not the items given have a bias in specific categories of respondents. In this study, two demographic data were included, gender (male and female) and age range. The tendency in the items can be identified based on the probability value of the item, which is below 5%.

Table 6. Differences in Response to Items

Item	Gender	Age	Item	Gender	Age
N12		.0134 (3)	N18		.0366 (4)
N13		.0411 (3)	N20		.0265 (4)
N14		.0217 (3)	N22		.0279 (3)
N16	.0255		N24		.0380 (5)

Figure 3 DIF Class Specification: Gender and Age

Based on the tables and graphs, item N16, "Feel greater comfort and optimism with their employer's stock, feel that investing there is less risky than investing elsewhere". There are differences in responses between men and women. Meanwhile, there are three items of respondents in their thirties who differ from other age groups in responding to items: Keeping the securities that they have bought (already owned), often without considering rational financial/market calculations (N12), Retaining securities that have been inherited or purchased because they do not wish to incur transaction costs associated with the sale of securities (N13), Retaining securities that have been inherited or purchased due to familiarity with the behavioural characteristics of these investments (N14), When an investment appreciates, it tends to rewrite memories to depict positive developments as if they were predictable. So that can inspire excessive risk-taking (N22).

Differences in responses were also shown in the forties age group to the item: I read too many "fun" forecasts, such as analyst earnings forecasts or self-research analyses, by reading company reports that show a bright outlook (N18), and Thought I was an above average investor (N20). Meanwhile, the fifties age group responded differently to the item: Too much blame the manager/financial manager when the mutual fund underperforms (N24). These data also show that the twenties age group did not respond differently from the sample to all items.

Based on the analysis done in The category of items based on their logit value and with consideration of Item fit order, it appears that the investor behaviour anomaly and endowment of all items are considered the primary consideration. This result shows the tendency of respondents to keep their investments for an extended period. This finding further strengthens the belief that after decades of the endowment is a crucial anomalous aspect of investment behaviour (Kahneman, Knetsch, & Thaler, 1991). On the other hand, Anchoring and Adjustment of all the items are not considered the primary consideration. The findings in Indonesia are the same as those found in Tunisia. A survey study was conducted to determine how the bias affects investment behaviour in the Tunisian stock market. This survey is for investigative purposes and is based on multiple factorial correspondence analyses. The results reveal that Tunisian investors do not suffer from the Anchoring and Adjustment bias (Ziane, 2015). This result may change the belief that the most common bias affecting decision-making is anchoring based on the 2000-2015 literature study

(Kansal, 2015). Meanwhile, Conservatism, Optimism and Hindsight spread to both categories of items.

The items of most significant consideration were found: Managers/financial managers may only benefit from good timing or good fortune when the mutual fund is performing well, and Over-praising the manager/finance manager when the mutual fund performs well. Both are indicators from hindsight with the same logit value of -0.17. Next, Retain securities that have been inherited or purchased because they do not want to incur transaction costs associated with selling securities. It is an indicator of endowment with a logit of -0.16. Thinking that I am an above-average investor indicates optimism with a logit of -0.15. From these results, it can be seen that financial managers are given consideration only when they perform well. The second consideration is holding more securities because investors are unwilling to bear the transaction costs. Lastly, most respondents feel that they are investors with above-average abilities.

On the gender bias, it was found that only at felt greater comfort and optimism with their employer's stock and that investing there was less risky than investing elsewhere. This result indicates optimism with a personal response difference of 0.0255 (DIF class specification Gender). This result shows that specifically on this item, male and female respondents gave different responses. The age bias found that those in their thirties most often reacted differently from other respondents. Withholding securities that have been inherited or purchased because they do not want to bear the transaction costs associated with the sale of securities (0.0411), Holding securities that have been inherited or purchased due to familiarity with the behavioural characteristics investments (0.0217), both indicators of the endowment. When an investment appreciates, it tends to rewrite memories to portray positive developments as if they were predictable. So that it can inspire excessive risk-taking (0.279), the Hindsight indicator shows that investors have a stronger tendency to hold their assets longer in their thirties. But when the investment is appreciated, they tend to think as if they had predicted it. While the difference in responses at the age of forties occurred on the item Reading too many "fun" forecasts such as analysis of analysts' earnings forecasts or self-research conducted by reading company reports that showed a bright outlook (0.0366), and Thinking that I am an above average investor (0.0265). Both are indicators of optimism. In his forties, he seems to tend to be optimistic. This optimism is because they feel they can make forecast analyses and experience longer than other investors.

Age has always been an important factor and has a significant relationship with investment behaviour (Huberman & Jiang, 2006). Gender is another important demographic attribute influencing investment decision-making and investor behaviour (Gunay & Demirel, 2011). For financial service providers to offer the most suitable financial products for investors of different genders, understanding gender differences in individual investment behaviour is critical (Speelman, Clark-Murphy, & Gerrans, 2013). Both are consistent with previous findings that the main factors affecting investment behaviour and investors' decisions are age and gender (Kabra, Mishra, & Dash, 2010; Fung, 2014). The results of this study further reinforce the importance of deepening the demographic aspects of age and gender in understanding investment decision anomalies (Zhang & Zheng, 2015).

5. CONCLUSION

This study aims to understand what behavioural anomalies are in making investment decisions in the Indonesian Islamic capital market and what factors are behavioural anomalies in making investment decisions in the Indonesian Islamic capital market. It was found that the endowment and its items are considered the primary considerations for investors. This result shows the tendency of respondents to keep their investments for an extended period. On the other hand, Anchoring and Adjustment of all the items are not considered the primary consideration. Meanwhile, Conservatism, Optimism and Hindsight spread to both categories of items. The item of most significant consideration is found in: consideration of financial managers is given only when they perform well. The second consideration is holding more securities because investors are unwilling to bear transaction costs, and most respondents feel they are investors with above-average abilities. On the gender bias, it was found that only the item felt greater comfort and optimism with their employer's stock and felt that investing there was less risky than investing elsewhere. Meanwhile, on the age bias, it was found that the age of thirties most often gave a different response from other respondents, especially in the indications of Endowment and Hindsight. Meanwhile, the difference in responses at the age of forties occurred in the items indicating optimism.

The implications of this research are for financial service providers to offer the most suitable financial products for investors of various genders, understanding gender differences in individual investment behaviour. The most important thing is that the 30s are the age group that tends to maintain their investment for a longer time and that the investment decisions and risks in share ownership where they work are responded to differ based on their gender. It is recommended that future research should explore the profile of investors in their 30s with consideration of gender as well as what type of investment they are considering. The result will benefit financial service providers in focusing their service marketing strategy.

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