Modifying Theory of Reasoned Action to Determine Online Mutual Fund Investor Behavior

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Abstract. Market penetration for mutual fund investments is still very low compared to other investment instruments such as deposits, gold, property, stocks, and peer-to-peer lending. Thus, the opportunity for mutual fund investment to develop in Indonesia is still very large. This study was conducted to determine what factors influence the behavior of online mutual fund investors by modifying the theory of reason action. The factors used to measure the behavior of online mutual fund investors are investor attitudes, subjective norms, financial literacy, financial performance, and investment intentions. The survey was conducted online to respondents from various regions in Indonesia. Sampling of 1117 respondents using the purposive sampling method. The results showed that partially investor attitudes, subjective norms, financial literacy, financial performance have a positive and significant effect on investment intentions. Investment intention as a mediating variable has a positive and significant relationship to consumer behavior. The results of this study are expected to be used by mutual fund sellers who are expected to be able to implement effective marketing strategies that can increase their managed funds and increase the number of online mutual fund customers in Indonesia, as well as increase the attractiveness of these mutual funds.

1 Introduction

The greater the economic growth of a country, the greater the income of its population (Tomizawa et al., 2020). As income increases, people's standard of living increases. Improving people's standard of living has triggered the search for attractive investments (Kölbel et al., 2020). So that people began to realize that investment is a means to protect their wealth and increase their number at the same time (Lee & Yong, 2018).

This research focuses on investment in Indonesia. Popular investments for Indonesians today are in the form of deposits, gold, property, stocks, peer-to-peer lending, mutual funds, and Indonesian retail bonds (ORI). Mutual funds are an attractive alternative to financial asset products and play an important role in the economy of a country. Generally, mutual funds are retail products designed to target retail or individual investors (Arathy et al., 2015).

However, the market share of the mutual fund industry in Indonesia is still relatively low. Data from The Indonesian Central Securities Depository (KSEI) 2020, shows that there are only 3,165,315 mutual fund investors. This, of course, is still relatively small considering that Indonesia is ranked fourth in the world with a population of around 270 million. Assets under management or mutual fund managed funds are also still far behind other countries, which only amount to Rp573.5 trillion (OJK 2021). Meanwhile, based on data from the Central Statistics Agency (BPS, 2020), Indonesia's gross domestic product (GDP) has reached Rp15,833.9 trillion and per capita income of Rp59.1 million. Total assets worldwide invested in regulated mutual funds in 2020 amounted to $54.9 trillion, but the managed value of mutual funds in Indonesia was only $40 billion (OJK, 2020).

The percentage of mutual fund penetration in 2020 among ASEAN countries, namely Indonesia 3%, Philippines 5%, Singapore 21%, Thailand 31%, and Malaysia 31%. This penetration rate is measured by the amount of mutual fund managed funds to GDP. The low penetration of mutual funds in Indonesia is because most Indonesian household wealth is still placed on traditional alternative products such as savings and time deposits (Noerhidajati et al., 2021). This is evidenced by Financial Services Authority (OJK) data which shows that the financial literacy index in Indonesia has only reached 38.03%. This means that the population of Indonesia who is well literate (knowledgeable and has confidence about financial service institutions and products, including features, benefits and risks, rights and obligations related to financial products and services, and has skills in using financial products and services) is still small, only 38 out of 100 residents. In addition, investment culture is also related to subjective norms.

Investment is currently growing in line with technological advances. Investing with the help of the internet or technology is one of the e-business activities that makes it easy for investors (Ramayah et al., 2009). Many studies have been conducted to measure the...
behavior of online mutual fund investors, that the desire to continue investing is influenced by perceived usefulness and perceived ease of use (Dewi & Rahadi, 2020; Shulhan & Oetama, 2019), investment decisions can also be influenced by financial literacy and the theory of planned behavior (Raut, 2020).

This study looks for a gap from previous research, by modifying the action-reaction theory to measure the behavior of online mutual fund investors. It is assumed that in relation to mutual funds, yield beliefs (financial performance) affect attitudes towards investment behavior, while social reference beliefs affect subjective norms. Then together the attitude towards behavior and subjective norms affects the intention to act. And finally, the intention to act affects investment behavior or behavior (East, 1993; Ramayah et al., 2009).

1.1 Objectives

Based on the problem phenomena that have been described in the research background, the objective of this study is to further identify what factors influence investment intentions that lead to mutual fund investment behavior for investors in Indonesia.

2 Literature review

Mutual funds are investment vehicles funded by investors, traded in diversified holdings and professionally managed by asset management companies (Nguyen et al., 2018). Mutual funds have various attractive advantages for investors, namely strategy, diversification, convenience, professional management, and low costs (Baker et al., 2020). Online mutual funds are defined as the process of investment transactions such as buying and selling mutual funds over the Internet (Ramayah et al., 2009).

2.1 Theory of reasoned action

The discussion of actual behavior about intentions is called the theory of reasoned action (TRA). TRA introduced consists of personal factors and social factors (Ajzen & Fishbein, 1980). Personal factors refer to attitudes which are a person's positive or negative assessment of a particular behavior (Gerber et al., 2018). While social factors refer to subjective norms or specifically people's perceptions of social pressure to perform or not to perform certain behaviors (Effendi et al., 2020). According to TRA, the stronger a person's intention to do a certain thing, the greater the certain behavior that will be carried out (Ajzen, 1991).

2.2 Investment behavior

Investment ownership is a real behavior shown by investors. Their research also found that investors' investment intentions have a significant positive effect on investment ownership (Sivaramakrishnan et al., 2017). Mutual fund investors are investors who invest their money or invest their funds in mutual fund products. Mutual fund investor behavior is indicated by investment behavior, which in our study is represented by mutual fund ownership. Ownership in mutual fund investments is expressed in units of various mutual fund products.

2.3 Attitude

Attitude refers to the degree to which a person has a favorable or unfavorable attitude towards the behavior in question (Ajzen, 1991). If an individual holds an attitude that supports a certain behavior, it is likely that he will develop a positive intention to perform that behavior (Ajzen, 1991; Raut, 2020).

H1 = Attitude has a positive effect on investment intention

2.4 Subject norm

Subjective norms are perceived social pressures to perform or not to perform a behavior (Ajzen, 1991). Social pressure here is given by people who are close to the individual such as parents, spouse, children, co-workers, etc. Subjective norms are perceived social pressures to perform or not to perform a behavior. Research that has been done concludes that subjective norms can affect a person's investment intentions. This relationship is positive, meaning that if close friends and family suggest or invest, investors will increase their investment (Ajzen, 1991; Raut, 2020).

H2 = Subjective norms has a positive effect on investment intentions

2.5 Financial literacy

Financial literacy is financial knowledge that leads to informed decision making (Ouachani et al., 2021). Investors who have better knowledge about mutual funds choose mutual funds not only based on performance but also considering other criteria (Kaur, 2018). Financial literacy is a measure of the extent to which a person understands financial concepts and has the ability and confidence to manage personal finances through appropriate decision making, short-term and long-term planning, while taking into account changing economic conditions (Ajzen, 1991). Financial literacy has a positive relationship with investment intentions, the more investors have good financial literacy, the more investors have the desire to invest (Raut, 2020; Guzman et al., 2019).

H3 = Financial literacy has a positive effect on investment intentions

2.6 Financial performance

Financial performance as a financial return that is expected to be obtained by investors from funds placed in an investment product (Raut, 2020). Investment performance refers to a measure of investor satisfaction with the level of return on investment obtained compared to investors' expectations based on their investment
behavior (Trang & Tho, 2017). The financial performance of a mutual fund has a positive relationship with investment intentions, the better the financial performance of a mutual fund, the higher the investor's intention to invest (Herawati & Yulianita, 2020; Raut, 2020).

H4 = Financial performance has a positive effect on investment intentions

2.7 Intention

The central factor in the TRA is the individual’s intention to do something that is manifested in behavior. Intention is assumed to be an indication of motivation that influences a behavior. Intention can be seen in terms of the intention to invest and the intention to keep investing (Ajzen, 1991). Intentions are assumed to capture the motivational factors that influence behavior and to indicate how hard people are willing to try or how much effort they put into their behavior (Trang & Tho, 2017).

In general, the stronger the intention to engage in a behavior, the stronger the performance. Intention can thus be interpreted as a predictor of behavior (Effendi et al., 2020; Trang & Tho, 2017).

H5 = Investment intention has a positive effect on investment behavior

3 Methods

The type of research used in this research is quantitative research. The quantitative research approach used is associative research with the aim of analyzing the effect of attitudes, subjective norms, financial literacy, and financial performance on investment intentions that lead to online mutual fund investment behavior.

In this study, the questions on the questionnaire were measured using an interval scale. The interval scale is a scale that states the categories, ratings, and construction of services (Sivaramakrishnan et al., 2017). Likert scale with 5 intervals (measurement from strongly disagree to strongly agree) will be used to measure attitudes, subjective norms, financial literacy, financial performance, investment intentions, and investment behavior.

The data in this study will be analyzed using the partial least squares structural equation modeling (PLS-SEM) method. This analytical method is used to determine the relationship between the observed variables and latent variables, whether attitudes, subjective norms, financial literacy and financial performance affect investment intentions, and to determine whether investment intentions affect investment behavior in mutual funds (Sekaran & Bougie, 2016).

4 Data collection

The population in this study are mutual fund investors in Indonesia, totaling 3,165,315 people (KSEI, 2020). The sample in this study was 1,117 which was taken on 20-21 June 2021 with purposive sampling technique. Purposive sampling is a sampling technique by determining certain criteria that are in accordance with the research objectives so that it is expected to be able to answer research problems (Sivaramakrishnan et al., 2017). The criteria for selecting the sample include that the respondents are Indonesian citizens domiciled in Indonesia, the age of the respondent is over 18 years, and the respondent has invested in mutual funds at least twice.

5 Results and discussion

5.1 Respondents

The largest number of respondents in this study were men (55%), aged 20-29 years (52.1%), domiciled in Jawa (77.4%), high school education (20.9%), and worked as a private employee (53.4%).

Table 1. Characteristic of respondents.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>618</td>
<td>55.30%</td>
</tr>
<tr>
<td>Female</td>
<td>499</td>
<td>44.70%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20 yo</td>
<td>24</td>
<td>2.1%</td>
</tr>
<tr>
<td>20-29 yo</td>
<td>582</td>
<td>52.1%</td>
</tr>
<tr>
<td>30-39 yo</td>
<td>345</td>
<td>30.9%</td>
</tr>
<tr>
<td>40-50 yo</td>
<td>131</td>
<td>11.7%</td>
</tr>
<tr>
<td>&gt;50 yo</td>
<td>35</td>
<td>3.1%</td>
</tr>
<tr>
<td>Domicile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jawa</td>
<td>865</td>
<td>77.4%</td>
</tr>
<tr>
<td>Sumatra</td>
<td>78</td>
<td>7.0%</td>
</tr>
<tr>
<td>Sulawesi</td>
<td>20</td>
<td>1.8%</td>
</tr>
<tr>
<td>Kalimantan</td>
<td>46</td>
<td>4.1%</td>
</tr>
<tr>
<td>Other</td>
<td>38</td>
<td>9.7%</td>
</tr>
<tr>
<td>Last education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary School</td>
<td>5</td>
<td>0.4%</td>
</tr>
<tr>
<td>Junior High School</td>
<td>14</td>
<td>1.3%</td>
</tr>
<tr>
<td>Senior High School</td>
<td>233</td>
<td>20.9%</td>
</tr>
</tbody>
</table>
Diploma | 97 | 8.7%
Bachelor | 609 | 54.5%
Magister | 159 | 14.2%

Occupation
- Full Time Investor | 43 | 3.8%
- Student | 139 | 12.4%
- Private employees | 596 | 53.4%
- Professional | 170 | 15.2%
- Entrepreneur | 150 | 13.4%
- Pensionary | 19 | 1.7%
Total | 1117 | 100%

### Table 2. Convergent validity.

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance (KK)</td>
<td>0.788</td>
<td>0.791</td>
<td>0.876</td>
<td>0.702</td>
<td>Valid &amp; Reliable</td>
</tr>
<tr>
<td>Financial Literacy (LK)</td>
<td>0.611</td>
<td>0.633</td>
<td>0.794</td>
<td>0.564</td>
<td>Valid &amp; Reliable</td>
</tr>
<tr>
<td>Intention (NI)</td>
<td>0.817</td>
<td>0.821</td>
<td>0.879</td>
<td>0.646</td>
<td>Valid &amp; Reliable</td>
</tr>
<tr>
<td>Subject Norm (NS)</td>
<td>0.835</td>
<td>0.838</td>
<td>0.901</td>
<td>0.753</td>
<td>Valid &amp; Reliable</td>
</tr>
<tr>
<td>Investment Behavior (PI)</td>
<td>0.834</td>
<td>0.834</td>
<td>0.890</td>
<td>0.669</td>
<td>Valid &amp; Reliable</td>
</tr>
<tr>
<td>Attitude (SP)</td>
<td>0.755</td>
<td>0.769</td>
<td>0.858</td>
<td>0.669</td>
<td>Valid &amp; Reliable</td>
</tr>
</tbody>
</table>

*Sig. 0.05

### Table 3. Discriminant validity (HTMT ratio).

<table>
<thead>
<tr>
<th></th>
<th>KK</th>
<th>LK</th>
<th>NI</th>
<th>NS</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>KK</td>
<td></td>
<td>0.859</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LK</td>
<td>0.834</td>
<td></td>
<td>0.789</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NI</td>
<td>0.575</td>
<td>0.532</td>
<td>0.603</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>0.674</td>
<td>0.764</td>
<td>0.848</td>
<td>0.447</td>
<td></td>
</tr>
<tr>
<td>PI</td>
<td>0.692</td>
<td>0.803</td>
<td>0.782</td>
<td>0.529</td>
<td>0.739</td>
</tr>
</tbody>
</table>

#### 5.2 Validity & reliability test

Validity test is a test of how well the developed instrument can measure certain concepts intended by the researcher (Sivaramakrishnan et al., 2017). Based on Table 2, all questions regarding Investment behavior (PI), attitude (SP), subjective norm (NS), financial literacy (LK), financial performance (KK), and investment intention (NI) obtained an average variance extracted (AVE) score higher than 0.5 (Sekaran & Bougie, 2016). Therefore, all items in the questionnaire were declared valid.

Reliability test is a test that shows the extent to which the measurement is free from error so that it can guarantee a consistent measurement (Sivaramakrishnan et al., 2017). Based on Table 2, all questions regarding attitude (SP), subjective norm (NS), financial literacy (LK), financial performance (KK), investment intention (NI) and investment behavior (PI) obtained a higher composite reliability value greater than 0.7 (Sekaran & Bougie, 2016). Therefore, the questionnaire was declared reliable.

#### 5.3 Structural equation model

Structural equation model (SEM) is used to explore causal relationships between variables in the form of path maps (Sarstedt & Cheah, 2019).

Figure 1 shows the path map analysis with the results whether there is a relationship between variables. Measurement models can reflect the relationship between implicit and explicit variables, and the corresponding equation is the measurement equation (Sarstedt & Cheah, 2019).

This study uses a significance value of 5% so that the t table value is 1.96. Table 4 is the hypothesis result of using smartpls 3.0 to determine the relationship between variables.
Table 4. Hypothesis result.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T Stat</th>
<th>P-Values</th>
<th>R²</th>
<th>Q²</th>
<th>F²</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁: SP -&gt; NI</td>
<td>0.293</td>
<td>0.294</td>
<td>0.027</td>
<td>11.04</td>
<td>0.000</td>
<td>0.122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H₂: NS -&gt; NI</td>
<td>0.153</td>
<td>0.153</td>
<td>0.023</td>
<td>6.614</td>
<td>0.000</td>
<td>0.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H₃: LK -&gt; NI</td>
<td>0.126</td>
<td>0.126</td>
<td>0.026</td>
<td>4.792</td>
<td>0.000</td>
<td>0.021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H₄: KK -&gt; NI</td>
<td>0.364</td>
<td>0.364</td>
<td>0.030</td>
<td>12.097</td>
<td>0.000</td>
<td>0.573</td>
<td>0.367</td>
<td>0.167</td>
</tr>
<tr>
<td>H₅: NI -&gt; PI</td>
<td>0.703</td>
<td>0.702</td>
<td>0.021</td>
<td>34.093</td>
<td>0.000</td>
<td>0.494</td>
<td>0.326</td>
<td>0.977</td>
</tr>
</tbody>
</table>

*Sig. 0.05

The coefficient of determination test is used to determine the ability of a variable to explain other variables (Sivaramakrishnan et al., 2017). The R² for NI value of 0.573 indicates that the variables of attitude (SP), subjective norm (NS), financial literacy (LK), and financial performance (KK) can explain the variable investment intention (NI) of 57.3%, while the remaining 42.7% is explained by other variables outside the research model. The R² for PI value of 0.494 indicates that the investment intention (NI) variable can explain the investment behavior (PI) variable by 49.4%, while the remaining 50.6% is explained by other variables outside this research model.

Based on Table 4, the t-stat value is greater than t-table (11.04 > 1.96) and the p-value is smaller than 0.05 (0.000 < 0.05), and a positive coefficient value of 0.293 indicates that attitude has a positive effect on investment intentions. This explains, if the attitude increases by 1 unit and the value of other independent variables remains, investment intention will increase by 0.293 units.

The t-stat value is greater than t-table (6.614 > 1.96) and the p-value is smaller than 0.05 (0.000 < 0.05), and a positive coefficient value of 0.153 indicates that subjective norms have a significant positive effect on investment intention. This explains, if the subjective norm increases by 1 unit and the value of the other independent variables remains, the investment intention will increase by 0.153 units.

The t-stat value is greater than t-table (4.792 > 1.96) and the p-value is smaller than 0.05 (0.000 < 0.05), and a positive coefficient value of 0.126 indicates that financial literacy has a significant positive effect on investment intention. This explains, if financial literacy increases by 1 unit and the value of other independent variables remains, investment intention will increase by 0.126 units.

The t-stat value is greater than t-table (12.097 > 1.96) and the p-value is smaller than 0.05 (0.000 < 0.05), and a positive coefficient value of 0.364 indicates that financial performance has a significant positive effect on investment intention. This explains, if financial performance increases by 1 unit and the value of other independent variables remains, investment intention will increase by 0.364 units.

The t-stat value is greater than t-table (34.093 > 1.96) and the p-value is smaller than 0.05 (0.000 < 0.05), and the positive coefficient value is 0.703. shows that investment intention has a positive effect on investment behavior. This explains, if investment intention increases by 1 unit, investment behavior will increase by 0.703 units.

6 Conclusion

Attitude has a positive relationship with investment intention (Raut 2020), this attitude is assumed as investors...
prefer the choice to invest in mutual funds because of the wide product choice. Therefore, the best advice for the mutual fund industry players is to provide more choices of mutual fund products with various strategic focuses from Investment Managers, such as mutual funds that focus on LQ45 stocks, IDX30 stocks, second liner stocks, infrastructure sector, commodities, etc. So that investors can choose investment products according to their beliefs so that they can be more confident in investing. So that it can improve attitudes that can encourage investment interest for online mutual fund investors.

Subjective norm has a positive relationship with investment intention (Raut 2020), this subjective norm is assumed because my family prefers to invest in mutual funds. Therefore, the best advice is, the mutual fund industry players need to think about how to develop education that can reach the family environment, by collaborating with the school to hold a mutual fund socialization seminar to parents. Approaches that can be taken include holding a talk show introducing mutual funds as an investment to meet long-term educational funding needs, such as preparation for college for children and to meet the needs of old age.

Financial literacy has a positive relationship with investment intentions (Herawati & Yulianita, 2020; Raut, 2020). Financial literacy is assumed as investors who consider choosing to invest in mutual fund products with a long investment period (eg 5 to 10 years) to get big profits. Therefore, the best advice for the mutual fund industry is to educate the public that maximum profit in investing in mutual fund products cannot be obtained instantly or in a short time because the value of online mutual funds fluctuates.

Financial performance has a positive relationship with investment intentions (Raut, 2020; Trang & Tho, 2017) and financial performance is assumed as investors who feel that the return from mutual funds is equal to or higher than the return that is the benchmark (related index or average of similar products). Therefore, the best advice for the mutual fund industry (in this case Investment Managers) is to establish a strategy to achieve optimal results in order to achieve results above the benchmark. Investment Managers need to facilitate the Investment Management Team with investment management training equipped with appropriate benchmark simulations to improve their competence, so they can manage their investment portfolios better and produce mutual fund products with higher performance than benchmarks. So that it can improve financial performance that can encourage investment interest.

Investment intention has a relationship with investment behavior. Investment intentions are assumed by investors who want to continue investing in mutual funds because their returns are better than other investment instruments. Thus, the best advice would be the mutual fund industry players (in this case Investment Managers) need to improve the performance of mutual fund products in order to obtain higher returns than other investment instruments. Investment Managers also need to provide performance data on other investment instruments from various time periods.

References


