THE EFFECT OF INVESTMENT KNOWLEDGE, RISK PERCEPTION, INVESTMENT MOTIVATION, AND TECHNOLOGICAL EASE ON STOCK INVESTMENT INTEREST IN THE YOUNG GENERATION

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Abstract
This study investigates the effect of investment knowledge, risk perception, investment motivation, and technological ease on stock investment interest of the young generation in the Yogyakarta Regency. The small number of young investors in Indonesia motivated this study. The sampling method is multistage sampling, and the respondent number is 125, aged 17-30 years. This study implements the multiple regression model to test the hypotheses. The empirical evidence shows that Investment Knowledge, Investment Motivation, and Ease of Technology were statistically significant at α1%, while Perception of Risk was not statistically significant. The results indicate that the better the investment knowledge, the higher investment motivation. The easier the technology will give more interest in the stock investment capital market for the younger generation. These suggest that the way to improve young investors' involvement in the capital market, among other things, are improvement in investment knowledge, investment motivation improvement, and increase the ease of technology.

Keywords: Investment Knowledge, Risk Perception, Investment Motivation, Ease of Technology, Investment Interest.

1. Introduction
The Investor in Indonesia Stock Exchange (IDX) in 2017-2020 shows the increasing number. Based on Indonesia Central Securities Depository (2020) the number of investor in 2017-2020 are 1,222,668; 1,619,372; 2,484,454; and 3,880,753 respectively. The percentage growth in 2018, 2019, and 2020 are 32%, 53%, and 56%, respectively. The data show that there is a large increasing investor number in IDX. But, unfortunately, the investor number in IDX is small enough compared to the population in Indonesia and Bank Accounts.

Table 1 shows the total growth number of bank account in Indonesia. The bank account number in 2017, 2018 and 2019 are 242,396,164; 275,764,037 and 301,697,955. Those numbers show that the account number is much higher than the investor number in IDX. The percentage of investor numbers in IDX to the bank account number in the same years is 0.50%, 0.59%, and 0.82%. There are increasing percentages within three years, but the numbers are less than 1%. The small percentage of investors in IDX to bank account explains that most Indonesian investors are less interested in IDX investment.
The total population in Indonesia is 270 million in 2020 (BPS-Statistic Indonesia, 2020). The number of productive ages is 202.96 million (75.69% of the total population), comprising three groups. The percentage of the three groups, Z Generation (born in 1997-2012, age 8-23 years), Millennial (born in 1981-1996, age 24-39 years), and X Generation (born in 1965-1980, age 40-55 years) are 27.94%, 25.87%, and 21.88% respectively.

The total number of investors in 2020 is 3.9 million, too small compared to the number of productive age (202.96 million), let alone compared to the entire population (270 million). The small portion number of investors in IDX then raises the question, what factors affecting investment intention in the capital market.

Some studies support the argument that investment knowledge and awareness affect investment intention in the capital market (Rudhy, 2013; Pajar, 2017; Amhalmad and Irianto, 2019; Mastura et al., 2020). Other variables, the technological growth, will make stock price movements more accessible, so will increase the investment interest (Raditya et al., 2014 and Tandio and Widanaputra, 2016). Some studies support the argument that technology affects investment interest (Mastura et al. (2020), but another study found that there is no effect of technology on investment interest (Tandio and Widanaputra, 2016).

Risk perception and motivation are variables that are believed to affect investment, among others. Risk is associated with deviation or deviation from the outcome received and expected (Trisnatio and Pustikaningsih, 2017). In their study, Raditya et al. (2014) found that risk perception affects investment interest. Other studies (Trisnatio and Pustikaningsih, 2017) found that risk perception has a negative and significant effect on investment interest, while Tandio and Widanaputra (2016) found that perceptions of risk have no impact on investment interest. Some studied support the argument that motivation influences investment interest (Pajar, 2017; Amhalmad and Irianto (2019). But, in their studies (Hati and Harefa, 2019 and Hermawati et al., 2012), motivation does not affect investment interest.

This study analyses the effect of investment knowledge, risk perception, investment motivation, and technological ease on the stock investment of the young generation. The low level of investors in IDX compare to the bank account number and the Indonesian population motivated...
this study. Another motivation is that there are conflicting results in empirical evidence regarding factors that influence the investment interest.

2. Literature Review and Hypotheses

A stock market is a tool for companies to increase long-term funding needs by selling stocks or issuing bonds (Hartono, 2017). Law No. 8 of 1995 defines the stock market as an activity related to public offerings and securities trading, public companies related to the securities they issue, and institutions and professions related to securities. Stock, bonds, and other instruments in the capital market allow investors to invest their funds and return. Investment is a delay in current consumption to be included in productive assets for a certain period (Hartono, 2017). In simple terms, investment means investing a certain amount of funds or capital and expect to get more outstanding results (Rudiwantoro, 2018).

Stock is one of the exciting instrument investments in the capital market. According to Hartono (2017), the stock is a sign of equity participation or ownership of a company.

The youth is a potential generation that encourages new, innovative, and creative knowledge to build the nation. The youth has an essential role as a milestone for change, and as the nation's successor, the youth must be able to play their part in various fields, including the economic sector (Irianto and Febrianti, 2017). Muin (2019) said that the youth is a potential human development asset and position in the community and the country. Therefore the youth must play an active role as agents of change in all aspects of life and national development, including stock investment. The younger generation is essential because this generation is expected to force the Indonesian economy (Rudhy, 2013).

2.1. Investment Knowledge and Investment Interest hypothesis

Investment knowledge is the basic knowledge that an individual has to invest in (Pajar, 2017). The investment decision is often motivated by the experience and appreciation of the investment. Awareness and understanding of investment require knowledge of the forms of investment, the advantages to be obtained, the returns to be earned, the risks to be borne, the trading mechanism, methods of analysis both fundamental and vertical, and others relevant to investment (Pajar, 2017). Adequate knowledge is needed for an investor to prevent losses when investing in the stock market, such as investment fund instruments (Hati and Harefa, 2019).

According to Pajar (2017), most investors buy investment products based solely on knowledge of the returns they would receive without understanding the risks to be borne. Based on the above argument, it is not shocking that there are still many cases of investment fraud that promise large profits, resulting in significant losses. This argument would indirectly affect the lack of confidence of potential investors to invest, resulting in the value of awareness of their investment products for potential investors (Pajar, 2017). Based on research by Pajar (2017), Amhalmad and Irianto (2019), and Mastura et al. (2020), investment awareness has had a substantial impact on investment interest. The first hypothesis in this study is:

**H1: Investment knowledge affects investment interest**
2.2. Risk Perception and Investment Interest hypothesis

According to Trisnatio and Pustikaningsih (2017), perception is a view or understanding, how someone views or interprets something. Whereas risk is an adverse event, the risk arises because of uncertainty (Hanafi, 2016). According to Trisnatio and Pustikaningsih (2017), the risk often associated with deviation or deviation from the outcome received and expected. Riyadi (2016) states that investment risk can be interpreted as a deviation from the expected profit. Meanwhile, according to Tandio and Widanaputra (2016), the risk is a factor that everyone, including investors, usually fears. Each investor can accept different risks, some can take low risks, but some are able and ready to get high risks.

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H2: Perceptions of risk affects investment interest.

2.3. The Investment Motivation and Investment Interest hypothesis

Motivation is a condition in a person that encourages the individual's desire to take specific actions to achieve goals (Situmorang et al., 2014). Someone's act must be based on fulfilling their needs and wants; for example, someone decides to invest (Pajar, 2017).

Someone is investing if they meet their substantial needs, such as psychological needs and security. So the motivation to invest arises because someone's significant needs have been met, so the following requirements to be completed are social needs, appreciation needs, and self-actualization (Kusmawati, 2011). Motivation influences investment interest. Potential investors will be interested in investing if their colleagues, relatives, and environment have invested (Riyadi, 2016). If someone has the desire/urge to invest, he will tend to turn this urge into a concrete action that shows his interest in investing (Pajar, 2017). Based on Pajar (2017) research and Amhalmad and Irianto (2019), it is explained that investment motivation affects investment interest. The third hypothesis is as follows.

H3: Investment motivation affects investment interest

2.4. The Ease of Technology on Investment Interest hypothesis

Attitudes or views and intentions to invest will not go well without the infrastructures that support investment activities. Technology makes it easy for potential investors to invest in the capital market. This convenience is marked by online securities trading facilities, better known as online trading (Wulandari et al., 2017). The online trading facility is part of technological advances, especially in the capital market sector, to facilitate buying and selling transactions in the capital market. Meanwhile, according to Tandio and Widanaputra (2016), this convenience will directly impact the interest in investing in shares for the community, especially the younger
generation, because this generation is arguably aware of the technology. With online trading facilities, investors can make buying and selling transactions online so that this becomes an incentive to invest in stocks. Based on previous research conducted by Mastura et al. (2020), that technology influences investment interest, then the fourth hypothesis is as follows.

**H4: Ease of technology affects investment interest**

### 3. Research Methods

#### 3.1 Population And Sample

The population in this study is people who live in Yogyakarta. The sampling technique was multistage sampling, a method using 2 (two) or more combinations of different sampling methods. The first method is the purposive sampling technique, while the second is the convenience sampling method. Some criteria in purposive sampling are students or non-students who live in Yogyakarta age 17-30 years. The minimum respondent's number is 100, with all variables times 20 (5x20), as Khasanah (2018).

#### 3.2 Dependent Variable

Investment interest is a person's desire to find out about investment types, willingness to spend time to learn more about investing, attend investment training and seminars, and try to invest (Kusmawati, 2011). Someone interested in investing, that person will pay attention to something and accompanied by his desire to know and learn about investing, the characteristics are as follows:

- The desire to get investment.
- Willing to take the time to learn more about investing.
- Trial or practicing investing.

#### 3.3 Independent Variable

1) **Investment Knowledge (X1)**

Investment knowledge is fundamental knowledge about investment (Kusmawati, 2011). It is measured base on three indicators, a basic understanding of stock valuation, the level of investment risk, and the return rate on investment.

2) **Perception of Risk (X2)**

We can define perceived risk as a person's perception of uncertainty and the negative consequences a person may receive because risk perception is related to uncertainty. Negative thoughts appear in one's mind and perceive the uncertainty as something detrimental. The indicators used to measure risk perception are adapted from Pavlou (2003) research in Trisnatio and Pustikaningsih (2017) that three indicators can measure risk perception. Specifically, there are certain risks, experiencing losses, and thinking that risk.
3) Investment Motivation (X3)

According to Pajar (2017), investment motivation encourages a person to take action related to investment. Here are indicators measuring motivation:

• Motivation starts from a change in energy or energy in a person.
• Motivation is characterized by the emergence of feelings that lead to an individual state of mind.
• Motivation is characterized by reactions to achieve a goal.

4) Ease of Technology (X4)

This study defined technology as the respondent's perception of the availability of facilities because of technological advances such as online stock trading, the ability of the mobile trading system, which makes the stock investment process more accessible if it affects their investment interests (Tandio and Widanaputra, 2016). The indicators in measuring technological progress are convenience and comfort (Yusuf, 2019).

3.5. Method

This study implements a Regression model to test the hypotheses. The variables were measured using questionnaire instruments with 5 Likert scales. The regression model is as follows:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \] ............ (1)

Where:

- \( Y \): Investment Interest
- \( X_1 \): Investment Knowledge
- \( X_2 \): Perception of Risk
- \( X_3 \): Investment Motivation
- \( X_4 \): Ease of Technology
- \( e \): Error
- \( \beta_0 \): Constant
- \( \beta_1, \beta_2, \beta_3 \): coefficient

4. Results and Discussion

4.1 Respondent Description

The respondents are grouped base on gender, age, education and job employment, and income. Based on gender, female respondents in the study are 84 (67%), while male respondents are 41 (33%). The respondent's age classification: 11 (9%) respondents are aged 17-20 years old, 110 (88%) respondents are 21-25 years old, and 4 (3%) respondents are aged 26-30 years old. Most of the respondents are female and 21-25 years old.

Based on education levels and job employment, 104 (83%) respondents are students, 10 (8%) are private employees, one respondent (1%) works as entrepreneurs, and 10 (8%) respondents work in other fields. The respondents’ income classification are: less than IDR 1,000,000 (55 respondents (44%)), between IDR 1,000,000 until 2,500,000 (56 respondents (45%)), between IDR 2,600,000 until IDR 4,000,000 (9 respondents (7%)), and more than IDR 4,000,000 (5 respondents (4%). Most of the respondents are students and the income less than IDR 1,000,000.
4.2. Descriptive statistics

Table 2 describes descriptive statistics covering the range, minimum, maximum, average (mean), and standard deviation. The mean of investment interest is 3.93 on the scale of 1 until 5. This number suggests that the investment interest is not high enough. The lowest mean is the perception of risk (3.31), followed by investment motivation (3.89), ease of technology (4.10), and investment knowledge (4.15).

<table>
<thead>
<tr>
<th>Information</th>
<th>Investment Knowledge</th>
<th>Perception of Risk</th>
<th>Investment Motivation</th>
<th>Ease of Technology</th>
<th>Investment Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>Range</td>
<td>2.00</td>
<td>2.67</td>
<td>3.00</td>
<td>2.33</td>
<td>2.62</td>
</tr>
<tr>
<td>Minimum</td>
<td>3.00</td>
<td>2.33</td>
<td>2.00</td>
<td>2.67</td>
<td>2.38</td>
</tr>
<tr>
<td>Maximum</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Mean</td>
<td>4.15</td>
<td>3.31</td>
<td>3.89</td>
<td>4.10</td>
<td>3.93</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>0.37985</td>
<td>0.54360</td>
<td>0.60882</td>
<td>0.55755</td>
<td>0.57063</td>
</tr>
</tbody>
</table>

4.3. Multiple Regression Analysis

The results of the regression analysis used to test the hypothesis are as shown in table 3. The F value is 60.950, and the significant value is 0.000.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-3.370</td>
<td>2.985</td>
<td>-1.129</td>
<td>0.261</td>
</tr>
<tr>
<td>Investment Knowledge</td>
<td>0.247</td>
<td>0.069</td>
<td>3.578</td>
<td>0.000</td>
</tr>
<tr>
<td>Perception of Risk</td>
<td>-0.036</td>
<td>0.049</td>
<td>-0.740</td>
<td>0.461</td>
</tr>
<tr>
<td>Investment Motivation</td>
<td>0.348</td>
<td>0.058</td>
<td>6.017</td>
<td>0.000</td>
</tr>
<tr>
<td>Ease of Technology</td>
<td>0.561</td>
<td>0.088</td>
<td>6.402</td>
<td>0.000</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.659</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Statistic</td>
<td>60.950</td>
<td></td>
<td>Sig 0.000</td>
<td></td>
</tr>
</tbody>
</table>

Note: The regression model has been tested and passes for validity, reliability, and classical assumption tests (normality, multicollinearity, heteroscedasticity, and linearity.).
The Hypothesis testing is as follows.

1) **Investment Knowledge Effect and Investment Interest**

The t value of the investment knowledge variable is 3.578, positively significant at \( \alpha 1\% \). This significant number means that hypothesis 1 (H1), investment knowledge (X1), affects investment interest (Y) is accepted. The result shows that the better the investment knowledge, the higher the investment interest. This result suggests that investment knowledge could increase investment knowledge. This result support previous studies by Pajar (2017), Amhalmad and Irianto (2019), and Mastura et al. (2020), which found that investment knowledge has a positive and significant effect on investment interest.

2) **Risk Perception and Investment Interest**

The t value of the risk perception variable is -0.740, not statistically significant, then the hypothesis 2 (H2) is not supported. The result shows that risk perception (X2) does not affect investment interest (Y). One explanation of why the hypotheses are not supported is that risk perceptions are subjective and situational, so there will be differences among individuals in the same object (Septyanto, 2013). Every individual's point of view of risk must be different. Some people are risk-seekers, risk-neutral, and others don't dare to take risks (risk-averse). The results align with Tandio and Widanaputra (2016) research, which states that risk perception does not affect the investment interest variable.

3) **The Effect of Investment Motivation on Investment Interest**

The investment motivation variable has a value of 6.017, statistically significant at \( \alpha 1\% \). This significant variable means that hypothesis 3 (H3) is accepted, investment motivation (X3) positively affects investment interest (Y). The result suggests that the higher the investment motivation, the higher the investment interest. The result supports previous studies conducted by Amhalmad and Irianto (2019) and Pajar (2017), which state that investment motivation has a positive and significant effect on investment interest.

4) **Effect of Ease of Technology on Investment Interest**

The technology convenience variable has at value of 6.402, statistically significant at \( \alpha 1\% \), so hypothesis 4 (H4) is accepted. The result concludes that the ease of technology (X4) positively affects investment interest (Y). The result means that the more accessible the technology, the higher the investment interest, suggesting that investment interest could be achieved by improving the ease of technology in investment. The results align with previous research conducted by Mastura et al. (2020), which states that technology positively and significantly affects investment interest.

5. Conclusion, Limitation, and Suggestion

5.1. Conclusion
This study tested four hypotheses by implementing the regression model of primary data obtained by distributing online questionnaires to Yogyakarta residents. The instruments are arranged on a Likert scale of 1-5. Three of the four hypotheses are supported as follows.

1) The Effect of Investment Knowledge on Investment Interest.
   The investment knowledge positively affects investment interest in shares on the capital market in the young generation. The result suggests that an increase in investment interest of the young generation could be achieved by increasing investment knowledge.

2) The Effect of Investment Motivation on Investment Interest
   The investment motivation positively affects investment interest in shares on the capital market in the young generation. The result suggests that an increase in investment interest of the young generation could be achieved by increasing investment motivation.

3) The Influence of Technology on Investment Interest
   The ease of technology affects investment interest in shares on the capital market in the young generation. The result suggests that increasing the investment interest of the young generation could be achieved by increasing the ease of technology.

The empirical evidence in this study did not support one hypothesis between Risk Perception and Investment Interest. The study found that there is no effect between the risk perception variable and investment interest.

5.1 Limitation
This research has been carried out under scientific guidelines and procedures. However, this study still has limitations. Namely, the sample used is limited to a youth of 17-30 years. Thus this research cannot be generalized to all investors.

5.2 Suggestion
From the discussions and conclusions that have been discussed, the suggestion for further research is to expand the research sample in several universities or regions so that the sample involves not only one area. Studies covering a larger area can be done by applying the Central Java and Yogyakarta Special Region, the island of Java, or even reaching all provinces in Indonesia to give comprehensive results in Indonesia.

Reference


Indonesia Central Securities Depository (2020), Indonesia Capital Market Statistics


