The Affect of Students’ Perceptions About Return, Risk and Operational Supervision on Student Investment Intentions in Agriculture

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ABSTRACT. This study aims to predict student investment intentions in agriculture. The questions in this study are whether students’ perceptions of return affect student investment intentions in agriculture, whether students’ perceptions of risk affect student investment intentions in agriculture and whether students’ perceptions of operational supervision affect student intentions in agriculture. The method used in this research is quantitative method. The research design used an explanatory survey approach. The survey was conducted on students in the province of Banten. The sampling method was purposive sampling. The questionnaire is used to collect data from respondents. Respondents in the study were 400 respondents. Data analysis was performed using Structural Equation Model (SEM) approach using the LISREL 8.80 tool. The analysis technique used is multiple linear regression analysis. The measurement model test was carried out by using the Confirmatory Factor Analysis (CFA) approach. The feasibility test of the model uses 9 indicators of Goodness of Fit (GOFI). Based on the results of the influence test using T-values, students’ perceptions of return influenced student investment intentions in agriculture (T-values 3.79> 1.69), student perceptions of risk influenced student investment intentions in agriculture (T-values = 2.61 > 1.69) and students’ perceptions of operational supervision influenced student investment intentions in agriculture (T-values 7.49> 1.69).

Keywords: Investment Intentions, Perceptions of Return, Perceptions of Risk, Perceptions of Operational Supervision.

1. INTRODUCTION

Indonesia is a very large country, both land and waters. The vast land area is supported by the level of soil fertility and the tropical climate makes Indonesia one of the countries with enormous agricultural potential in addition to its marine potential. Nowadays, food self-sufficiency is a very important thing in Indonesia. With a large amount of land, the fulfillment of the food needs of Indonesia's very large population should be well realized without relying on imports. However, the centralization of industry, economic and business centers in urban areas and the still low distribution of job opportunities have encouraged a very high flow of urbanization. Agriculture is slowly being abandoned. Government programs have not produced agricultural achievements as expected. One of the contributing factors is that the level of community involvement, especially among investors, is still low.

Students as part of society have a very strategic role in developing investment in rural agriculture. Students as intellectual individuals with an open mindset and as recipients of the development baton in the future need to know their perceptions about investment in rural agriculture.

Intention can be said to be a prediction of behavior. Intention is assumed to capture the motivational factors that influence behavior and to show how hard people are willing to try or how much effort they will put into doing the behavior, Ajzen [1]. Several studies on the factors that influence intention have been conducted to predict behavior, including research on investment intentions. Research on investment intention has been shown in several literatures. Research by Sivaramakrishnan et al [2] discusses investment intentions in the stock market, where this study explains broadly that objective financial literacy corroborates most studies on product knowledge in general and investment intentions in particular that find a positive correlation between knowledge and intention. Other research shows that individuals generally decide to invest more money in a bank which is more profitable for them, regardless of the bank's HR practices but in contrast to a group of managers who actually decide to invest more money in a bank with HR practices that they identify more even though less favorable for them, in Ferreira et al. [3].
Research on investment intention in the younger generation was conducted by Palamida et al. [4] in the 97 British and 97 Greek groups which resulted in the finding that human capital is directly and indirectly related to investment intentions through subjective norms and consequently personal attitudes and perceived behavioral control, while social capital is only indirectly related to investment intentions through perceived behavior control. Several studies in the capital market Taufiqoh [5], Devyanti [6], Fahmi [7] and Salsabila [8] concluded that the perception of return has a significant effect on student investment intention, but different results were produced in the research of Purboyo et al [9] and Setyowati et al [10] where it was explained that the perception variable of return did not have a significant effect on student interest in investing.

Another study conducted by Trang & Tho [11] explains that risk perception has a direct positive impact on investment performance and intention and also has an indirect effect on intention to invest through investment performance. Somewhat different results are suggested by Salsabila [8], Setyowati [10], Septyanto & Adhikara [12], Irijayanti [13] and Hamid et al [14] which state that risk perception affects investment intention. Another study, Elfahmi [15] stated that risk perception has an effect on its role as a moderating variable for financial knowledge on investment intention.

The perceptions of operational oversight appear to have never been studied before. This is because the investment intentions examined in previous studies are in an environment or areas that are easily accessible and supported by good technology such as the securities market. However, investment in agriculture is characterized by a different situation. Agriculture is generally located in rural areas, while the campus as a gathering place for students is generally located in urban areas. This condition raises the distance between the subject (potential investor) and the object of investment (agricultural land). This causes operational supervision to emerge as an obstacle for potential investors, although it must first be tested whether the prospective investors' perceptions of operational supervision sufficiently influence their intention to invest or not.

Based on the description above, the research questions are:
1. Does the perception of return affect investment intentions in agriculture?
2. Does the perception of risk affect investment intentions in agriculture?
3. Does the perception of operational supervision affect investment intentions in agriculture?

1.1 Investment Intentions
Psychology is a factor that influences investment intention. Theory of Planned Behavior or commonly known as TPB by Ajzen [16] suggests how intention is explained by means of attitudes, norms and controls. Attitude is an individual evaluation both positive and negative about involvement in a behavior. Norms explain individual beliefs about close social relationships that can encourage their involvement in a given behavior. Ajzen [17] also explains how control requires individuals' belief whether they have the abilities needed to engage in a behavior, including the ability to properly control the environment or specific behavior. Social norms transfer special values that can lead to favorable perceptions of a given behavior put forward by Prislin [18]. Furthermore, the research of Palamida et al [4] explains how individuals are willing to invest their human and social capital, but they do so by following different psychological processes. Thus, it is not only the types of resources that individuals wish to invest in an enterprise, but psychological variables also play a role in the process. Furthermore, Palamida et al. [4] explained that individuals tend to invest a lower level of capital to engage in entrepreneurial activities and show the role of intangible resources in the investment process.

1.2 Perception Of Return
The rate of return on an investment is one of the factors that determines whether an investor will invest in the investment product or not. Perceptions of return are defined as assumptions of potential investors regarding returns on investment, Yuliana and Usnan [19]. Investors’ preferences in terms of investing are closely related to their assessment of returns and risks in investing. Fundamental information obtained by investors regarding companies that offer investment such as financial reports, corporate image, the company's relationship to the surrounding environment, who is the main shareholder will affect the perception of expected returns for a potential investor. The perception of return considered by students in investing in agriculture is the distributed net profit.

1.3 Perception Of Risk
Several studies on risk perception were carried out in the areas of online consumer products and services, e- banking and the stock market. For
example, consumer goods focus on product risk, performance risk or financial risk, Dai [20] and Forsythe [21]. Another study, internet banking industry is related to social risk, time loss risk, opportunity risk, cost risk, and information risk, Kassim and Ramayah [22]. What is interesting is that in the financial sector, research by Kahneman & Tversky [23], Barberis & Huang [24], Heitz-Mayfield [25], states that risk perception is measured by attitudes toward risk such as risk taking and risk avoidance. Furthermore, Trang & Tho [11] also examined the perception of risk and investment performance as well as the intention to enter the stock market. It seems that the perceived risks of investing in agriculture have not been adequately explored, particularly the direct or indirect impacts on investment intentions in agriculture in Indonesia. Bauer [26] suggests that perceived risk is defined as "any action by the consumer that will produce unanticipated consequences with anything close to certainty, and some of which tend to be unpleasant”. Perceived risk is also considered as “the individual's subjective expectation to suffer a loss in pursuit of the desired outcome”, Warkentin et al [27].

1.4 Perception Of Operational Supervision

Referring to the perception regarding perceptions in Warkentin et al [27], the perception of operational supervision can be considered as the subjective expectation of individuals not to be able to monitor business operations in pursuit of desired outcomes. Perception of operational supervision can also be interpreted by the assumptions of potential investors regarding operational supervision in investing if it refers to the meaning of perception [19].

We present the framework for this research in Figure 1.

![Figure 1. Framework](image)

Based on the description and concept of thought above, the hypothesis in this study is as follows: H1: Perception of return has an effect on student investment intentions in agriculture
H2: Perception of risk affects student investment intentions in agriculture
H3: Perception of operational supervision has an effect on student investment intentions in agriculture

2. METHODS

This study modifies the research of Palamida et al [4] and the research of Trang & Tho [11] by using variables of perception of return, perceived risk and perceptions of student operational supervision as variables to be tested for their effect on student investment intentions in the real sector in this case the agricultural sector.

The method used in this research is quantitative method. The research design used an explanatory survey approach. The survey was conducted on students in Banten. The sampling method was purposive sampling. The data in the study were obtained directly from respondents using a questionnaire. The number of respondents taken based on the Slovin approach with an error rate of 5%:
\[ n = \frac{N}{1 + Ne^2} \]

\( n \) = Number of samples  
\( N \) = Total population  
\( e \) = Error rate

Data analysis was performed using the Structural Equation Model (SEM) approach using the LISREL 8.80 tool. The analysis technique used is multiple linear regression analysis.

The measurement model test uses the Confirmatory Factor Analysis (CFA) approach with reference to Igbaria et al [28] which uses the guidelines of Hair et al [29] regarding the relative importance and significance of the factor loading of each item, that states **Standardized Loading Factor (SLF) \( \geq 0.50 \) is very significant.**

To see the feasibility of the model, we use 9 Goodness Of Fit (GOFI) indicators, namely:

1. Root Mean Square Error of Approximation (RMSEA) with good fit standard \( \leq 0.08 \)
2. Normed Fit Index (NFI) with good fit standard \( \geq 0.90 \)
3. Non-Normed Fit Index (NNFI) with a good fit standard \( \geq 0.90 \)
4. Comparative Fit Index (CFI) with a good fit standard \( \geq 0.90 \)
5. Incremental Fit Index (IFI) with a good fit standard \( \geq 0.90 \)

\[ n = \frac{239205}{1 + (239205 \times (0.05)^2)} = 399.33 \]

then the sample to be taken is 400 respondents.

We present the results of data collection in the form of univariate summary statistics (Table 1) which is the output of processing with Lisrel 8.80.

### Table 1. Univariate Summary Statistics For Continuous Variables

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>3.408</td>
<td>0.723</td>
<td>94.258</td>
<td>-0.034</td>
<td>-0.300</td>
<td>2.00</td>
<td>5.000</td>
</tr>
<tr>
<td>X2</td>
<td>3.290</td>
<td>0.733</td>
<td>89.772</td>
<td>0.062</td>
<td>-0.328</td>
<td>2.00</td>
<td>5.000</td>
</tr>
<tr>
<td>X3</td>
<td>3.647</td>
<td>0.670</td>
<td>108.824</td>
<td>-0.099</td>
<td>-0.145</td>
<td>2.00</td>
<td>3.000</td>
</tr>
<tr>
<td>X4</td>
<td>3.650</td>
<td>0.674</td>
<td>100.385</td>
<td>-0.336</td>
<td>0.363</td>
<td>1.00</td>
<td>1.000</td>
</tr>
<tr>
<td>X5</td>
<td>3.870</td>
<td>0.651</td>
<td>118.843</td>
<td>-0.083</td>
<td>-0.166</td>
<td>2.00</td>
<td>4.000</td>
</tr>
<tr>
<td>X6</td>
<td>3.323</td>
<td>0.752</td>
<td>85.985</td>
<td>0.080</td>
<td>-0.045</td>
<td>2.00</td>
<td>5.000</td>
</tr>
<tr>
<td>X7</td>
<td>3.425</td>
<td>0.762</td>
<td>89.881</td>
<td>-0.035</td>
<td>-0.200</td>
<td>1.00</td>
<td>1.000</td>
</tr>
<tr>
<td>X8</td>
<td>3.165</td>
<td>0.796</td>
<td>79.476</td>
<td>-0.035</td>
<td>-0.146</td>
<td>1.00</td>
<td>5.000</td>
</tr>
<tr>
<td>X9</td>
<td>3.292</td>
<td>0.932</td>
<td>70.634</td>
<td>0.039</td>
<td>-0.380</td>
<td>1.00</td>
<td>5.000</td>
</tr>
<tr>
<td>Y1</td>
<td>3.415</td>
<td>0.748</td>
<td>91.337</td>
<td>-0.303</td>
<td>0.112</td>
<td>1.00</td>
<td>3.000</td>
</tr>
<tr>
<td>Y2</td>
<td>3.502</td>
<td>0.645</td>
<td>108.604</td>
<td>0.131</td>
<td>-0.232</td>
<td>2.00</td>
<td>10.000</td>
</tr>
<tr>
<td>Y3</td>
<td>3.385</td>
<td>0.664</td>
<td>90.960</td>
<td>0.129</td>
<td>-0.147</td>
<td>2.00</td>
<td>5.000</td>
</tr>
<tr>
<td>Y4</td>
<td>3.445</td>
<td>0.666</td>
<td>102.928</td>
<td>-0.302</td>
<td>0.295</td>
<td>1.00</td>
<td>2.000</td>
</tr>
<tr>
<td>Y5</td>
<td>3.342</td>
<td>0.729</td>
<td>91.694</td>
<td>0.033</td>
<td>0.556</td>
<td>1.00</td>
<td>4.000</td>
</tr>
</tbody>
</table>

Information:

- Perceived independent variable of return (PI) with two indicators, namely X1 and X2.
- Risk Perception (PR) independent variable with three indicators, namely X3, X4 and X5.
- Perception independent variable Operational Supervision (PP) with four indicators, namely X6, X7, X8 and X9. The dependent variable of Investment Intention (MI) with five indicators, namely Y1, Y2, Y3, Y4 and Y5.

The covariance matrix is also presented in table 2.
We tested the measurement model with Confirmatory Factor Analysis (CFA) which we present in FIGURE 2.

In the measurement model test with Confirmatory Factor Analysis (CFA), all indicators have a Standardized Loading Factor (SLF) $\geq 0.50$ which is very significant.

Furthermore, in the Lisrel 8.80 output section, the feasibility of the model will be seen using the 9 Goodness of Fit (GOFI) indicators that we present in table 3.
TABLE 3. Goodness of FIT (Gofi)

<table>
<thead>
<tr>
<th>GOFI INDICATOR</th>
<th>GOFI INDICATOR DESCRIPTION</th>
<th>GOODNESS OF FIT STANDARD</th>
<th>OUTPUT LISREL 8.80</th>
<th>CONCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMSEA</td>
<td>Root Mean Square Error of Approximation</td>
<td>≤ 0.08</td>
<td>0.056</td>
<td>Good fitness</td>
</tr>
<tr>
<td>NFI</td>
<td>Normed Fit Index</td>
<td>≥ 0.90</td>
<td>0.95</td>
<td>Good fitness</td>
</tr>
<tr>
<td>NNFI</td>
<td>Non-Normed Fit Index</td>
<td>≥ 0.90</td>
<td>0.96</td>
<td>Good fitness</td>
</tr>
<tr>
<td>CFI</td>
<td>Comparative Fit Index</td>
<td>≥ 0.90</td>
<td>0.97</td>
<td>Good fitness</td>
</tr>
<tr>
<td>IFI</td>
<td>Incremental Fit Index</td>
<td>≥ 0.90</td>
<td>0.97</td>
<td>Good fitness</td>
</tr>
<tr>
<td>RFI</td>
<td>Relative Fit Index</td>
<td>≥ 0.90</td>
<td>0.94</td>
<td>Good fitness</td>
</tr>
<tr>
<td>Std.RMR</td>
<td>Standardized Root Mean Square Residua</td>
<td>≤ 0.05</td>
<td>0.025</td>
<td>Good fitness</td>
</tr>
<tr>
<td>GFI</td>
<td>Goodness of Fit Index</td>
<td>≥ 0.90</td>
<td>0.95</td>
<td>Good fitness</td>
</tr>
<tr>
<td>AGFI</td>
<td>Adjusted Goodness of Fit Index</td>
<td>≥ 0.90</td>
<td>0.92</td>
<td>Good fitness</td>
</tr>
</tbody>
</table>

Seeing table 3, the feasibility of this research model is based on 9 indicators of Goodness of Fit (GOFI), all indicators provide a good fit conclusion. This means that this research model passed the model feasibility test.

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Then the Structural Equation Model (SEM) of Lisrel 8.80 is presented in FIGUREure 3.

FIGURE 3. Structural Equation Model

The structural equation in the Lisrel 8.80 output is:

\[
MI = 0.27*PI + 0.18*PR + 0.47*PP \quad \text{Errorvar.} = 0.60 \quad R^2 = 0.40
\]

Students’ intention to invest in agriculture can be seen in 5 ways:

1. Students are interested and find out about business in agriculture.

2. Students are interested and find out about business in agriculture.

2. They accept that investing in agriculture besides having potential benefits also has risks.
3. They understand and accept that investing in agriculture will consume part of their time.

4. They do not mind sacrificing a certain amount of funds to conduct a survey in the countryside regarding an enterprise/investment in agriculture.

5. They want to participate in a survey of an investment opportunity in their targeted agriculture.

The results of this study also support previous research by Taufiqoh et al. [5], Devyanti [6], Fahmi [7] and Salsabila [8] which concluded that perceptions of return have an effect on students' intention to invest. The findings from the research that examined the perception of returns on investment intentions were that students felt more return in the form of pleasure and satisfaction because they could invest in agriculture and felt pride because of their existence as investors/owners of agricultural businesses in the regions. We cannot use the return perception data with the earnings indicator (quantitative) because the standardized loading factor is below 0.50. This is probably due to their insufficient knowledge of agricultural business. Knowledge of this business can be an opportunity for further research.

Equation (2) shows that the T-value of PR against MI is 2.69 > 1.69, which means that risk perception (PR) affects investment intention (MI). The results of this study support an earlier study by Trang & Tho [11], which explains that risk perception has a direct positive impact on investment performance and intention and also has an indirect effect on intention to invest through investment performance. These results also support the research of Salsabila [8], Setyowati [10], Septyanto & Adhikara [12], Irjayanti [13] and Hamid et al. [14] which states that risk perception affects investment intention. In the results of research examining risk perceptions of investment intentions, we find that students feel more risk in terms of a long period of time in investing in agriculture while they are aware that there is a time value in the form of the interest rate borne in the appraisal of an investment. This is what students perceive as the dominant risk. However, what is interesting is that students feel that risk does not reduce their intention to invest in agriculture, this is confirmed by a positive value on the risk perception coefficient (PR) in equation (2).

Equation (2) also shows that the T-value of PP against MI is 7.49 > 1.69, which means that the perception of operational supervision (PP) affects investment intention (MI). An interesting finding from the results of the perception test of operational supervision on student investment intentions in agriculture is that they do not consider that the operational supervision factor is not an obstacle to their intention to invest in agriculture. The results of this study suggest that their perception of operational supervision is in fact positive on their investment intentions in agriculture, even with a coefficient value that is greater than the coefficient of perceived return. Their perception of operational supervision of student investment intentions in agriculture can be seen in 2 things, first, students find it easy to get data on the realization of the points they have to monitor for measurement at any time quickly, this is interesting because normal agriculture is in rural areas which are usually quite far from cities, but students do not perceive that as an obstacle. Second, students feel that the costs incurred for corrective actions are relatively cheap. It is possible that students' closeness to technology gives them confidence that the control process is relatively cheap due to technology. This could be an interesting further research opportunity.

Equation (2) explains that every increase in every 100% increase in perceived return (PI) will increase 27% investment intention (MI) with the assumption that the risk perception coefficient (PR) = 0 and the perceptual operational supervision coefficient (PP) = 0, or every increase, every 100% increase in perceived risk (PR) will increase 18% of investment intention (MI) with the assumption that the perception of return coefficient (PI) = 0 and the perception coefficient of operational supervision (PP) = 0, or every 100% increase in the perception of operational supervision (PP) will increase 47% investment intention (MI) with the assumption of the perceived coefficient of return (PI) = 0 and the risk perception coefficient (PR) = 0.

The Lisrel 8.80 output in equation (2) also displays the results of the determination test (R2) = 0.40. This means that overall the independent variables in this study only contributed 40% in explaining the dependent variable, the remaining 60% were variables not examined in this study. This 40% contribution opens opportunities for further research by adding other variables.

4. CONCLUSIONS
The conclusions in this study are:
1. Perception of return affects student investment intentions in agriculture.
2. Perceived risk affects student investment intentions in agriculture.
3. Perceptions of operational supervision have an effect on student investment intentions in agriculture.

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