

Determinants of Cryptocurrency Investment Among Students at STAI Sulthan Syarif Hasyim Siak

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Article history

Received : 01 July 2024

Revised : 10 October 2024

Accepted : 30 December 2024

Abstract

Introduction: Indonesia which has entered the 4.0 era, has caused rapid technological developments. More clearly about digital currency that is decentralized finance known as cryptocurrency. Currently, the growth of cryptocurrency is very significant because the number of investors is mostly millennials and generation z who are more open-minded with technology.

Purpose: This research aims to determine the effect of income, investment motivation, and investment knowledge on the interest of students at STAI Sulthan Syarif Hasyim Siak in cryptocurrency investment.

Methodology: The research method used in this study is a descriptive qualitative with involving 97 respondents from STAI Sulthan Syarif Hasyim Siak, department of Islamic Economics, who were taken by the purposive sampling method. Then, the research data was tested using several analyses, namely descriptive statistical tests, outer model tests, inner model tests, and hypothesis testing. Data collection using simple random sampling and the data analysis technique uses structural equation modeling (SEM) with the Smart PLS-4 application.

Findings: This research showed that the income variable had a positive and significant effect on interest in cryptocurrency investment. On the other hand, the investment motivation variable didn't significantly affect interest in cryptocurrency investment, while the investment knowledge variable had a positive and significant effect on interest in cryptocurrency investment.

Paper Type: Research Article.

Keywords: Income; Investment Motivation; Investment Knowledge; Investment Interest; Cryptocurrency

Introduction

Indonesia which has entered the 4.0 era, has caused rapid technological developments (Amhalmad & Irianto, 2019). Investment instruments have entered a new era, namely digital currency based on decentralized finance, namely financial transactions between users that take place on special blockchain technology that is free from regulations and

authorities of any currency agency including the state or government (Malik et al., 2023).

More clearly about digital currency that is decentralized finance known as cryptocurrency, it is explained that cryptocurrency is not a currency as in general but a digital currency, because it is not physical, but cryptocurrency can fulfill the basis of being an asset, because it is recognized by its users to have a value and is used as a medium of payment (Low & Tan, 2021). Cryptocurrency is a digital currency that uses cryptographic techniques to create and run digital currency (Ahamad et al., 2019). Cryptography is a special method that and only authorized parties understand it (Bastin et al., 2019).

A very familiar cryptocurrency from the first time it appeared until now is Bitcoin (Nuryadi et al., 2025). Reporting from coingecko.com in October 2023, the current market capitalization of all cryptocurrencies has reached \$1,097,406,456 and trading 24h volume reached \$22,807,917,327 of which the market capitalization was dominated by Bitcoin at 47.14% of the 10,034 types of crypto-currency. And from data referring to DataIndonesia.id sourced from the commodity futures trading supervisory agency (Bappebti), it is currently recorded that the number of investors in Indonesia has reached 17.25 million investors in april 2023. The number increased by 3.52 million investors from the position in april 2022 which amounted to 13.73 million investors (Hasyim et al., 2023).

Currently, the growth of cryptocurrency is very significant because the number of investors is mostly millennials and generation z who are more open-minded with teknologi (Hafiz & Harianti, 2024). Based on data from the ministry of trade, more than 50% of cryptocurrency investors in Indonesia are in the range of 18-35 years (Colombo et al., 2023).

The focus of research for the income variable in research Saraswati & Wirakusuma (2018) concluded that income at pesantren Darush Shalihah students has a positive influence on investment interest, while in research Hidayat & Kayati (2020) the income variable has no effect on investment interest. Then for the investment motivation variable in research Atmaja & Widoatmodjo (2024) that the investment motivation variable has a positive influence on investment interest. While in research Fauzianti & Retnosari (2022) investment knowledge variable in accounting students at Tidar University have a positive effect on investment interest, in research Silvia (2021) investment knowledge variable doesn't effect on investment interest.

The selection of student as the object of research because young investors have several advantages such as in terms of time environment, high motivation, know and the knowledge gained from learning on campus so that it can applied to cryptocurrency investment.

Methodology

The This research uses a descriptive-quantitative-analytic method or approach with several stages, namely testing hypotheses, measuring data, interpretation and description of results, and making conclusions. Quantitative research is study based on the philosophy of positivism, used to examine certain samples and populations, collect data using research instruments, and analyze quantitative data with the purposes of test and describe established hypotheses.

The research was conducted at STAI Sulthan Syarif Hasyim Siak in Mei 2024. The population in this study are student STAI Sulthan Syarif Hasyim Siak of department Islamic economic. From the entire population, the sample was determined by purposive sampling method. The sample that obtained as 97 respondents. Data testing in quantitative research using PLS-SEM (Partial Least Squares Structural Modeling) using several analyses, namely descriptive statistical tests and hypothesis testing with the help of SmartPLS 4 software.

Results and Discussion

Descriptive Analysis

In this study, qestionnaires were distributed using google form through media social and come directly to the STAI Sulthan Syarif Hasyim Siak. Total quetionnairescan be processed for analisis. Analysis of caraccteristics includes.

Table 1. Age of Respondents

Age	19	20	21	22	23
Total respondents	9	8	49	26	5

Sources: Researcher (2024)

As shown in table 1 above distribution age respondents is as follows: 19 years old as many as 9 respondents, 20 years old as many as 8 respondents, 21 years old as many 49 respondents, 22 years as many as 26 respondents, and 23 years as many 5 respondents.

Table 2. Gender of Respondents

Type gender	Male	Famale
Total respondents	46	51

Sources: Researcher (2024)

In table 2 above, it can be seen that the gender of the respondents is 46 male respondents and 51 female respondents.

Table 3. Occupation of Respondents

Occupation	Private Employee	Freelance	Not working	Other.
Total respondents	34	29	25	9

Sources: Researcher (2024)

At table 3 at above can be seen the occupation from respondents as much as 34 respondents as private employees, 29 respondents as freelance, 25 respondents did not work and as many as 9 respondents as other workers.

Table 4. Respondents have Knowledge Cryptocurrency

Knowledge	Yes	No
Total respondents	79	18

Sources: Researcher (2024)

In table 4 above, it can be seen that 79 respondents who have knowledge about cryptocurrency consist of 42 male respondents and 37 female respondents and 18 respondents who do not have knowledge about cryptocurrency consisting of 4 male respondents and 14 female respondents.

Variable Analysis

This study uses three independent variables, namely income, investment motivation and investment knowledge then use one dependent variable, namely investment interest.

Table 5. Research Variable

Code	Mean	Standard Deviation	Criteria
P11	3.856	1.399	Agree
P12	4.000	1.235	Agree
P13	3.804	1.433	Agree
M11	4.124	1.212	Very Agree
M12	3.856	1.316	Agree
M13	4.062	1.250	Very Agree
P1	4.237	1.119	Very Agree
P2	4.134	1.145	Very Agree
P3	4.052	1.205	Very Agree
M1	4.165	1.216	Very Agree
M2	4.113	1.130	Very Agree
M3	4.093	1.293	Very Agree
M4	3.979	1.308	Agree
M5	4.000	1.260	Agree
M6	4.031	1.296	Very Agree
M7	3.814	1.677	Agree

Sources: Researcher (2024)

Based on the analysis of each question in the table above, it can be explained as follows:

1. In the question with code P11, it can be seen that the average value of 3.856, which means that the respondent agrees with the question, then for the standard deviation value has a value smaller than the average value, which is 1.399, which means that the data distribution is evenly distributed.
2. In the question with code P12, it can be seen that the average respondent answers agree with the average value of 4000 which means that respondents agree with the question, then the standard deviation value has a value smaller than the average value of 1.235, which means that the data distribution is evenly distributed.

3. In the question with code P13, it can be seen that the average respondent answers agree with an average value of 3.804, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.433, which means that the data distribution is evenly distributed.
4. In the question with code M11, it can be seen that the average respondent answers very agree with an average value of 4.124, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.212, which means that the data distribution is evenly distributed.
5. In the question with code M12, it can be seen that the average respondent answers agree with an average value of 3.856, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.316, which means that the data distribution is evenly distributed.
6. In the question with code M13, it can be seen that the average respondent answers Very agree with an average value of 4.062, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.250, which means that the data distribution is evenly distributed.
7. In the question with code P1, it can be seen that the average respondent answers Very agree with an average value of 4.237, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.119, which means that the data distribution is evenly distributed.
8. In the question with code P2, it can be seen that the average respondent answers very agree with an average value of 4.134, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.145, which means that the data distribution is evenly distributed.
9. In the question with code P3, it can be seen that the average respondent answers very agree with an average value of 4.052, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.205, which means that the data distribution is evenly distributed.
10. In the question with code M1, it can be seen that the average respondent answers very agree with an average value of 4.165, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.216, which means that the data distribution is evenly distributed.
11. In the question with code M2, it can be seen that the average respondent answers very agree with an average value of 4.113, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than

the average value, which is 1.130, which means that the data distribution is evenly distributed.

12. In the question with code M3, it can be seen that the average respondent answers very agree with an average value of 4.093, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.293, which means that the data distribution is evenly distributed.
13. In the question with code M4, it can be seen that the average respondent answered agree with an average value of 3.979, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.308, which means that the data distribution is evenly distributed.
14. In the question with code M5, it can be seen that the average respondent answers agree with an average value of 4.000, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.260, which means that the data distribution is evenly distributed.
15. In the question with code M6, it can be seen that the average respondent answers very agree with an average value of 4.031, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.296, which means that the data distribution is evenly distributed.
16. In the question with code M7, it can be seen that the average respondent answers agree with an average value of 3.814, which means that the respondent agrees with the question, then for the standard deviation value has a smaller than the average value, which is 1.677, which means that the data distribution is evenly distributed.

Outer Model Analysis

Outer model analysis is carried out using validity and reliability tests on SmartPLS4 in the validity tests, the steps taken are to look at convergent validity and discriminant validity. Then for the reliability test is to look at the composite reliability and Cronbach's alpha.

Validity Test

1. Convergent Validity

To test convergent validity, the outer loading value and AVE value are used. An indicator is declared to fulfill convergent validity is a good category if the value outer loading > 0.70 and the AVE value (Ghozali, 2021).

Table 6. Outer Loading Value

Indicator	Outer Loading Value
P11	0.821

P12	0.817
P13	0.861
M11	0.825
M12	0.824
M13	0.875
P1	0.913
P2	0.911
P3	0.888
M1B	0.867
M2	0.884
M3	0.848
M4	0.912
M5	0.901
M6	0.870
M7	0.815

Sources: Researcher (2024)

From the results of the outer loading analysis in the table 6 above, it can be seen that all indicators have an outer loading value >0.7, meaning this indicators can measure it is variable and this variable fulfill convergent validity in the valid category. The following are the results of the outer loading value analysis:

- a) The income variables with indicators P11-P13 all indicators have a value of >0.7, meaning that income indicators can measure investment interest variables.
- b) Investment motivation variables are measured by indicators M11-M13, all indicators have a value of >0.7, meaning that investment motivation indicators can measure investment interest variables.
- c) Investment knowledge variable with indicators P1-P3, all indicators have a value of >0.7, meaning that income indicators can measure investment interest variables.

Table 7. Outer Loading Value

Variable	AVE
Income	0.694
Investment motivation	0.709
Knowledge	0.817
Interest	0.760

Sources: Researcher (2024)

The AVE results in the table above show that the income, investment motivation, investment knowledge and investment interest variables are valid.

2. Discriminant Validity

Discriminant validity testing can be seen from the fornell lacker criterion value and cross loading. In this data processing using SmartPLS 4, discriminat validity testing can be seen from the fornell lacker criterion value and cross loading.

Table 8. Fornell Lacker Criterion

	X1	X2	X3	Y
XI	0.833			

X2	0.787	0.842		
X3	0.777	0.735	0.904	
Y	0.792	0.753	0.795	0.872

Sources: Researcher (2024)

Fornell lacker criterion assessment is by looking at the *diagonal correlation* value of the variable must be greater than that of other variables (Latan & Ghozali, 2015). From the results of the fornell lacker criterion test in the table above, it can be explained as follows:

- The investment income variable has the highest value for the variable, which is 0.833 compared to other variables. So it can be said that income variable is valid.
- The investment motivation variable has the highest value for the variable, which is 0.842 compared to other variables. So it can be said that income variable is valid.
- The investment knowledge variable has the highest value for the variable, which is 0.904 compared to other variables. So it can be said that income variable is valid.
- The investment interest variable has the highest value for the variable, which is 0.872 compared to other variables. So it can be said that income variable is valid.

Table 9. Cross Loading

	Income	Investment Motivation	Investment Knowledge	Investment Interest
P11	0.821	0.812	0.680	0.608
P12	0.817	0.557	0.567	0.634
P13	0.861	0.613	0.690	0.736
M11	0.614	0.825	0.662	0.769
M12	0.662	0.824	0.510	0.504
M13	0.724	0.875	0.654	0.506
P1	0.671	0.622	0.913	0.733
P2	0.694	0.704	0.911	0.701
P3	0.742	0.670	0.888	0.723
M1	0.690	0.835	0.758	0.867
M2	0.741	0.678	0.653	0.884
M3	0.741	0.715	0.710	0.848
M4	0.683	0.611	0.704	0.912
M5	0.695	0.617	0.702	0.901
M6	0.691	0.610	0.699	0.870
M7	0.567	0.475	0.608	0.815

Sources: Researcher (2024)

According to Ghozali (2021) for cross Loading the variable value with the variable indicator value must be greater than the value of other variable indicators.

From the cross loading test results in table 9 above, it can be seen that the value of each incators on the variable is greater than the indicator of other variables. This means that the indicators used in this study have good discriminant validity in compiling their respective variables or are said to be reliable.

Reliability Test

The reliability test is carried out by evaluating the composite reliability and Cronbach’s alpha values. The measuring instrument is declared reliable if the composite reliability value and cronbach’s alpha > 0.70 (Ghozali, 2021).

Table 10. Composite Reliability

Variables	Composite Reliability
Income	0.789
Investment Motivation	0.872
Investment Knowledge	0.889
Investment Interest	0.950

Sources: Researcher (2024)

It can be seen in table 10 above that the composite reliability test shows that the variables of income, investment motivation, investment knowledge and investment interest have a composite reliability value >0/7, meaning that these results show that each variable has met the composite reliability so that it can be concluded that the variable has a high level of reliability and can be said to be reliable.

Table 11. Cronbach’s Alpha

Variables	Cronbach’s Alpha
Income	0.781
Investment Motivation	0.810
Investment Knowledge	0.888
Investment Interest	0.947

Sources: Researcher (2024)

It can be seen from table 11 above that the results the Cronbach’s alpha test results show valid that the variables of income, investment motivation, investment knowledge and investment interest have a cronbach’s alpha value >0.7, meaning that these results show that each variable has met cronbach’s alpha so it can be concluded that the variable has a high level of reliability and can be said to be reliable.

Inner Model Analysis

Inner model testing is done to see relationship cause and effect between variables that cannot be measured directly by looking at the r-square value. The r-square test is constructs can be explained by exogenous constructs. The r-square value >0.75 can be said that the model is strong. 0.50 can be said to be a medium model and <0.50 can be said to be a weak model (Hair et al., 2022).

Table 12. R-Square Test

	<i>R-square</i>
Investment Interest	0.716

Sources: Researcher (2024)

It can be seen from table 12 above that the effect of income, investment motivation, investment knowledge effects investment interest by 0.716 and it can be concluded that all independent variables effect the dependent variable by 71% and the remaining 29% is explained by other variables outside this study.

Hypothesis Testing

1. Path Coefficient

Path coefficient can be seen if the value is in the range of 0-1 the hypothesis is positive, while if the value is in the range -1 -0 it is negative (Hair et al., 2022).

2. T-Statistics and P-Values

The resulting t-statistic test value must be >1.96 and p-values <0.05 using 5% alpha so that the hypothesis has a significant effect (Latan & Ghazali, 2015).

Table 13. Path Coefficient and T-Statistics & P-Values

Hipotesis	Update	Path Coefficient	T-Statistic	P-Values	Results
H1	PI-M	0.322	2.262	0.026	Affected
H2	MI-M	0.215	1.730	0.087	No Effectuated
H3	P-M	0.388	3.285	0.001	Effectuated

Sources: Researcher (2024)

The results of the hypothesis test can be explained as follows:

H1: From the results of testing the path coefficient with a value of 0.322, then p-values of 0.026 and with a t-statistic value of 2.262. so it can be stated that H1 is accepted.

H2: From the results of testing the path coefficient with a value of 0.215, then p-values of 0.087 and with a t-statistic value of 1.730. so it can be stated that H2 is rejected.

H3: From the results of testing the path coefficient with a value of 0.388, then p-values of 0.001 and with a t-statistic value of 3.285. so it can be stated that H1 is accepted.

Conclusion

Based on data analysis from the results of this study conducted on students at STAI Sulthan Syarif Hasyim Siak, department of Islamic economic, it can be concluded that income has a positive effect and significant on interest investment at cryptocurrency. This implies that individuals with higher levels are more likely to show interest in investing in cryptocurrencies.

Investment motivation has doesn't effect on investment interest in cryptocurrency. This shows that even though there is motivation within the individual, this does not mean an increased interest in cryptocurrency. Investment knowledge has a positive and significant effect on investment interest in cryptocurrency. This implies that individuals with higher investment knowledge show an increased interest in cryptocurrency investment.

For future researchers, it is hoped that they can expand the sample and research context, expand the research sample to various universities and department for increase the generalizability of the results. Also include external factors that may affect investment interest in cryptocurrency. In addition, it can also examine the

investment or consumption patterns of students who are not interested in investing in cryptocurrency.

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