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Determining Investment Decision Making on Cryptocurrency assets in Indonesia: The Role of Covid-19's Perceived Knowledge

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Abstract

This study aims to investigate the impact of several variables such as gambler bias, herding, risk perception, knowledge of COVID-19, attitudes, overconfidence, and financial literacy as moderators on investors' investment decisions in the Indonesia cryptocurrency market. The research uses a quantitative method with hypothesis analysis. The research data is in the form of answers collected from a Google form of 400 respondents. The data was analyzed using Partial Least Square-Structural Equation Modelling (PLS-SEM). The results of the study show that the variables of gambler bias, risk perception, knowledge of COVID-19, attitude and overconfidence have a significant positive influence on investors' investment decisions in Indonesia. Meanwhile, the herding variable has an insignificant positive influence on investment decisions. In addition, the influence of financial literacy variables does not have a significant influence in mediating investors in terms of investment decision-making. Investor psychology has an important role in investment decisions, which cannot be completely controlled just by improving the financial literacy of investors. The next research is to expand the respondent base to ensure a more comprehensive and representative sample, so that it will help in capturing various perspectives and investor behavior more broadly in the Indonesia cryptocurrency market. In addition, it is necessary to increase the depth of analysis by including additional variables beyond those that have been studied in this study.

Keywords: *Decision Making; Cryptocurrency; Investment; Financial Behaviour.*

INTRODUCTION

People used to make financial investments in the form of stocks and bonds. However, along with the development of technology that caused the world to evolve and produce something new in terms of investment, cryptocurrencies based on the blockchain system, many people are interested and moving to these investments. In addition, cryptocurrencies in the future will also be utilized as digital currencies, which are different from conventional money that we generally encounter (Nurbarani and Soepriyanto, 2022).

The most crucial component of behavioural finance is the decision-making process. An investor should act rationally in every action, but this is not the case in cryptocurrencies. Investors are often faced with conditions of uncertainty and various other risks. Investors should already have the latest data and information regarding investment perspectives, and investors, in decision-making, are influenced by financial behaviour (Agustin & Lysion, 2021).

Cryptocurrencies were first launched to the global community in 2008, in writing with the initials "Satoshi Nakamoto," but officially introduced in 2009 (Ayedh et al., 2020). Cryptocurrencies, known as digital currencies in this era of globalization, are used as payment. On the other hand, Cryptocurrencies can also be used as an investment option. The increase in crypto investors continues to grow, which initially was only 4 million investors in 2020 and increased again until, in February 2022, it reached 12.4 million. The Commodity Futures Trading Supervisory Agency (Bappebti) released

the number of crypto investors in Indonesia until August 2022, totalling 16.1 million investors with a percentage increase of 43.75%, from January-August 2022 (Humas, 2022).

One of the reasons why cryptocurrencies have captured the hearts and attention of investors and aspirants alike is that their prices have been constantly increasing over time, and their price increases have been extraordinary (Xi et al., 2020). According to a survey titled "2022 Global State of Crypto Report", 41% of Indonesians own crypto assets, making Indonesia the first highest out of 20 other countries that own crypto assets. It was noted that in 2019, the coronavirus (COVID-19) started to spread around the world, with 632 million confirmed cases with a mortality rate of 6.5 million globally and 6 million confirmed cases in Indonesia with a mortality rate of 159 thousand (WHO, 2022). This fast-transmitting virus has devastated the world economy (Phan and Narayan, 2020).

Investor behaviour is influenced significantly by psychological factors. Based on current conditions, the psychology of the greater community has been dramatically affected due to the emergence of COVID-19, which has resulted in a sudden pandemic. This psychological condition will undoubtedly interfere with the decision-making process of the general public (Naseem et al., 2021). Behavioural Finance has been studied since the 1950s and is a theory that discusses conditions; behavioural finance also has some alternative approaches based on financial standards, which psychologically influence investors' decision-making in the capital market (Sukandani et al., 2019).

The more investors in the capital market, the more investment decisions will be made. Based on previous research on investment decisions, several factors influence behavioural finance on investment decision-making, including gambler's fallacy, herding, risk perception, perceived knowledge of COVID-19, attitude, overconfidence, and financial literacy. Setyowati (2022) revealed that the number of young people investing in crypto doubled from the end of 2020 to 2021, with a percentage of >100%. The survey included 1,939 crypto investors, and the report showed that millennial crypto investors made up the majority of crypto buyers at 64%, followed by Gen Z at 23% and Gen X at 12%. This is because millennials, who were born between 1981 and 1996, are considered a risk-loving generation. They understand and can accept the consequences of whatever will happen to their crypto assets, so they often act irrationally (Widyastuti, 2021).

The discussion above signifiy the importance of financial behaviour to determining financial decision making. Extending the Theory of Planned Baheviour, this study involving some financial behaviour variables, namely gambler's fallacy, herding, risk perception, attitude, and overconfidence. Aside from numeros studies on this topic, this study will contribute to the recent literature twofold. First, as many studies revealed that Covid-19 pandemic has significant direct impact in Indonesia market (e.g. Agustin, 2021), we incorporate perceived knowledge of covid-19 as one of the independent variables. Second, this study focuses on cryptocurrency market considering the rapid growth of this financial asset in Indonesia which is still scarcely found.

M. Rahman and Gan (2020) define an investor as an individual who treats money as an investment product to target the expected return. An investor's priority in investment is to find ways to maximize returns and minimize risk. The definition added by Kishori and Kumar (2016) is that investment decisions are made to seek and achieve better returns in the future and are paid at the expense of current profits. Ahmad and Shah (2022) also said something similar: Investment is purchasing assets from all available resources. In the case of the capital market, the asset in question refers more to wealth in terms of money, which can make it into tradable securities and instruments. The capital market also assumes that investors always have reliable information so that investors can consistently make rational investment decisions (Ben Ameur et al., 2020).

Gambler's fallacy is a misrepresentation of decision-making based on past events. If an event occurs continuously, it is likely that the event will not happen again. On the other hand, if the event does not occur often, it is likely that the event will occur in the future (F. Rahman and Dewi, 2023). Introducing the concept of the fallacy of inappropriate investor confidence in future events based on

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something that has happened in the past is known as the Law of Small Numbers or Monte Carlo Fallacy. It says that when an investor makes decisions based on minimal sources of information, it shows his belief in the law of small numbers (Jain et al., 2021). The researcher found a significant influence between Gambler's Fallacy and Investment Decision that investors make overly optimistic forecasts based on limited positive information. Quaicoe and Eleke-Aboagye (2021) structural capital significantly influences investment decisions. Most investors make investment decisions in such a way as to minimize the level of regret because of the choices they have made that turn out to be incorrect. This research was also proven by Yusra (2018), Rahman and Dewi (2023), and Dewi (2022).

Ahmad and Shah (2022) argue that "risk perception" is an investor's view of the percentage of risk, wealth, and knowledge based on experience. Deb and Singh (2018) state that Risk Perception is a process of considering things such as wealth, risk of future returns, and supporting valuable information for decision-making. According to Rosyidah and Lestari (2013), risk perception is a person's evaluation of a threatening situation, which highly depends on the person's psychology and circumstances. Marheni et al., (2023) concluded that perceived risk significantly influences investment decisions. Researchers say that the higher the risk of returns experienced, the higher the returns will be obtained. This was proven in the research results conducted by P and Kumar (2014), which prove the positive influence of risk perception on investment decisions. However, the research results from Rosyidah and Lestari (2013) state that risk perception does not influence investment decisions.

Individuals with insight into COVID-19 have logical thinking and the ability to decide based on information about financial assets (Kumari et al., 2023). The results of this study are also similar to those Akhtar and Das (2019) in India. Han et al. (2020) concluded that investors with broad insight into COVID-19 will stimulate attitudes in predicting investor decisions during a pandemic.

Kumari et al. (2022) found the Theory of Reasoned Action, where an investor's determination can be theorized based on personal and social factors. Generally, where the attitude towards executing behaviour can benefit him, the higher the approval of the social group, the easier it will be for investors to behave well and the stronger the intention. Attitude plays a crucial part in direct action since it reflects the information one possesses about their view. Individuals' actions are influenced by their attitude towards a particular conduct. Individuals will thereafter adopt attitudes towards behaviour that they perceive as favourable in order to act accordingly (Rahadjeng & Fiandari, 2020). Therefore, a positive influence of attitude on behavioural intention is hypothesized by most people. The findings support the central hypothesis by arguing that investors' attitudes positively influence their investment decisions (Raut & Kumar, 2018; Akhtar & Das, 2019; Mahardhika & Zakiyah, 2020; Rahadjeng & Fiandari, 2020).

Overconfidence is a behaviour where a person tends to overestimate. This is caused by a level of self-confidence that has crossed the line, ultimately bringing disaster to an investor, namely, illogically (Hossain and Siddiqua, 2022). Jain et al. (2020) state that overconfidence is a bad cognitive bias; investors tend to underestimate and not believe in their uncertainty in the future. This type of investor will only listen to opinions and suggestions from others if they are confident in their judgment. Rahman and Gan (2020) show that overconfidence significantly affects investment decisions; excessive subjective confidence causes their delusion to be greater than their actual performance. This is supported by the results of research conducted by Jain et al. (2020) namely overconfidence has a significant effect on investment decisions. This research is also supported by Javed et al. (2017), Addinpujoartanto and Darmawan (2020), Budiarto and Susanti (2017), and Rahman and Dewi (2023).

Financial literacy is an insight or knowledge of understanding risk. This knowledge is essential for investors who will make investment decisions. The broader an investor's insight, the more correct the investment decision will be (Hung et al., 2011). Pradhana (2018) said that the higher a person's level of financial literacy, the wiser the person is in making investment decisions. The results of his research also show the interaction and influence of financial literacy on the relationship between overconfidence

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and investment decisions, where financial literacy weakens the negative effect of overconfidence in an investor's investment decision. Research conducted by Setyaningrum (2022) states that financial literacy can weaken overconfidence bias in stock investment decision-making in the millennial generation. Ahmad and Shah (2022) also said the same thing, that financial literacy has a positive influence on investment decisions. Researchers Hassan Al-Tamimi and Anood Bin Kalli (2009) and Wendy (2021) also mentioned something similar.

Based on the introduction, previous research, and conceptual framework above, the following hypothesis is formulated:

H1: Gambler's Fallacy has a significant influence on Investment Decisions.
H2: Herding has a significant influence on Investment Decisions.
H3: Risk perception has a significant influence on Investment Decisions.
H4: Perceived knowledge of COVID-19 has a significant influence on Investment Decisions.
H5: Attitude has a significant influence on Investment Decision.
H6: Overconfidence has a significant influence on Investment Decision.
H7: Overconfidence has a significant influence on Investment Decision, with Financial Literacy as moderation.

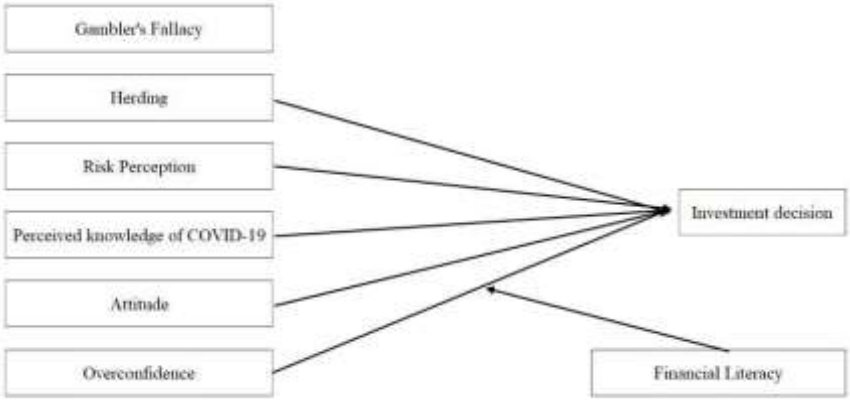

Fig 1. Research Model
Source: Author (2023)

METHODOLOGY

In this study, researchers will use quantitative methods to analyse existing hypotheses. The object of this research is millennial generation investors in Indonesia who invest in cryptocurrency. Data was collected using non-probability sampling techniques, including purposive sampling. Researchers raised the questionnaire method as a data collection technique for this study; the questionnaire will be distributed to Indonesian millennials online via the Google Form platform. The data source used in this research is primary data.

The data analysis method used is Partial Least Square-Structural Equation Modelling (PLS-SEM) using the software Smart-PLS (Partial Least Squares) with version 3.2.9. PLS-SEM is divided into two main analysis points, namely Structural Model assessment (Inner Model) and Measurement Model assessment or outer model (Sarstedt. et al., 2023). In the outer model, there is a validity test consisting of a convergence and discriminant validity test, a reliability test of Cronbach's alpha, and a composite reliability test. In contrast, the inner model has a path coefficients test and an indirect effect test.

RESULT AND DISCUSSION

Result

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Descriptive Statistics

Respondent Demographics Analysis

In Table 1, the data on the number of respondents totalled 400, and the processed questionnaires totalled 400; therefore, 400 respondents were the target sample of the study.

Table 1. Total Respondent Data

Description	Total Respondents
Questionnaires distributed	400
Questionnaires not suitable for processing	0
Processed questionnaire	400
Total Questionnaire	400

Source: Author (2023)

Respondent Descriptive Analysis

Table 2 shows that most questionnaire respondents came from the Riau Islands province by 25.25%. In contrast, the minority of questionnaire respondents came from Bengkulu, Jambi, South Kalimantan, Central Kalimantan, North Kalimantan, and North Sumatra provinces by 0.25%.

Table 2. Respondent Data by Province

Province	Frequency	Percentage (%)
Nangroe Aceh Darussalam	5	1,25
Bali	14	3,5
Banten	3	0,75
Bengkulu	1	0,25
DI Yogyakarta	3	0,75
DKI Jakarta	10	2,5
Jambi	1	0,25
West Java	4	1,0
Central Java	23	5,75
East Java	57	14,25
West Kalimantan	13	3,25
South Kalimantan	1	0,25
Central Kalimantan	1	0,25
East Kalimantan	9	2,25
North Kalimantan	1	0,25
Bangka Belitung Islands	56	14,0
Riau Islands	101	25,25
Lampung	3	0,75
Maluku	2	0,5
West Nusa Tenggara	9	2,25
East Nusa Tenggara	17	4,25
Riau	23	5,75
North Sumatra	1	0,25
West Sumatra	11	2,75
South Sumatra	3	0,75
West Sulawesi	7	1,75
South Sulawesi	11	2,75
Southeast Sulawesi	6	1,5
North Sulawesi	4	1
Total	400	100,0

Source: Author (2023)

Table 3 shows that male respondents were 70.5% and female respondents were 29.5%.

Table 3. Respondent Data by Gender

Description	Total	Percentage (%)
Male	282	70,5
Female	118	29,5
Total	400	100,0

Source: Author (2023)

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Table 4 shows that most questionnaire respondents were in the birth year 1995-2005, which is 64%, and the minority of questionnaire respondents were in the birth year 1975-1984, namely 8.75%.

Table 4. Respondent Data by Year of Birth

Description	Total	Percentage (%)
< 1975	0	0
1975 -1984	35	8,75
1985 - 1994	109	27,25
1995 - 2005	256	64
Total	400	100,0

Source: Author (2023)

Table 5 shows that most Indonesians who answered the questionnaire have a bachelor's degree (44.5%), followed by a diploma (22.25%), high school (14%), junior high school (2.75%), doctoral degree (2.5%) and other (1.25%).

Table 5. Respondent Data Based on Final Education

Description	Total	Percentage (%)
SD – SMP	11	2,75
SMA/SMK	56	14,0
D1	89	22,25
S1	178	44,5
S2	51	12,75
S3	10	2,5
Out of school	5	1,25
Total	400	100,0

Source: Author (2023)

Table 6 shows that most Indonesians who answered the questionnaire were unmarried (69.5%), and the minority were married (30.5%).

Table 6. Respondent Data by Marital Status

Description	Total	Percentage (%)
Not married	278	69,5
Married	122	30,5
Total	400	100,0

Source: Author (2023)

Table 7 shows that most Indonesians who answered the questionnaire are still students (30.75%), followed by entrepreneurs (26.75%), private employees (16%), and civil servants (1.5%).

Table 7. Respondent Data by Occupation

Description	Total	Percentage (%)
Student	123	30,75
Public Employee	6	1,5
Private Employee	64	16,0
Entrepreneur	107	26,75
Total	400	100,0

Source: Author (2023)

Table 8 shows that the majority of Indonesians who answered the questionnaire had incomes below Rp 4,500,000 (50.5%), followed by those with incomes in the range of Rp 4,500,000 - Rp 9,000,000 (26.5%), Rp 9,000,000 - Rp 15,000,000 (16.75%) and more than Rp 15,000,000 (6.25%).

Table 8. Respondent Data Based on Monthly Income

Description	Total	Percentage (%)
< Rp 4.500.000	202	50,5
Rp 4.500.000 - Rp 9.000.000	106	26,5
Rp 9.000.000 - Rp 15.000.000	67	16,75
≥ Rp 15.000.000	25	6,25
Total	400	100,0

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Source: Author (2023)

Table 9 shows that most Indonesians who answered the questionnaire have been investing for 12 - 24 months (53.5%), followed by 6 - 12 months (27.25%), 24 - 36 months (9.25%), 0 - 6 months (6%) and more than 36 months (4%).

Table 9. Respondent Data Based on Length of Investment

Description	Total	Percentage (%)
0 - 6 months	24	6,0
6 - 12 months	109	27,25
12 - 24 months	214	53,5
24 - 36 months	37	9,25
> 36 months	16	4,0
Total	400	100,0

Source: Author (2023)

Model Evaluation Results

Outer Model

Convergence Validity

The output of outer loadings will be valid if the correlation value meets points above 0.60. Another determination of convergent validity is AVE, where if the value meets 0.50 or more, it will be considered valid (Sarstedt et al., 2021).

Table 10. Outer Loadings Test Results

Variable	Outer loadings
AT 1 <- Attitude	0.981
AT 2 <- Attitude	0.983
AT 3 <- Attitude	0.986
FL 1 <- Financial Literacy	0.981
FL 2 <- Financial Literacy	0.992
FL 3 <- Financial Literacy	0.988
GF 1 <- Gambler's Fallacy	0.972
GF 2 <- Gambler's Fallacy	0.99
GF 3 <- Gambler's Fallacy	0.992
GF 4 <- Gambler's Fallacy	0.985
HD 1 <- Herding	0.995
HD 3 <- Herding	0.985
HD 4 <- Herding	0.992
HD2 <- Herding	0.992
ID 1 <- Investment Decision	0.991
ID 2 <- Investment Decision	0.993
ID 3 <- Investment Decision	0.987
OC 1 <- Overconfidence	0.986
OC 2 <- Overconfidence	0.995
OC 3 <- Overconfidence	0.994
OC 4 <- Overconfidence	0.983
PKCVD 1 <- Perceived Knowledge of Covid-19	0.996
PKCVD 2 <- Perceived Knowledge of Covid-19	0.998
PKCVD 3 <- Perceived Knowledge of Covid-19	0.998
RP 1 <- Risk Perception	0.994
RP 2 <- Risk Perception	0.997
RP 3 <- Risk Perception	0.997
RP 4 <- Risk Perception	0.989

Source: Author (2023)

Table 11. Average Variance Extracted (AVE) Test Results

Variable	Average variance extracted (AVE)	Description
Attitude	0.967	Valid
Financial Literacy	0.974	Valid
Gambler's Fallacy	0.969	Valid

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Herding	0.982	Valid
Investment Decision	0.981	Valid
Overconfidence	0.979	Valid
Perceived Knowledge of COVID-19	0.995	Valid
Risk Perception	0.989	Valid

Source: Author (2023)

Based on the results obtained, all variables have high outer loading values, which are above 0.9, which indicates good convergence. The AVE value above 0.9 also shows that the indicators consistently reflect the latent variable being measured.

Discriminant Validity

Table 12. Fornell-Larcker Criterion

Variable	AT	FL	GF	HD	ID	OC	PKCVD	RP
Attitude	**0,983**							
Financial Literacy	0,482	**0,987**						
Gambler's Fallacy	0,608	0,535	**0,985**					
Herding	0,532	0,898	0,592	**0,991**				
Investment Decision	0,598	0,488	0,859	0,549	**0,990**			
Overconfidence	0,573	0,579	0,892	0,625	0,855	**0,989**		
Perceived Knowledge of COVID-19	0,559	0,530	0,883	0,584	0,844	0,984	**0,997**	
Risk Perception	0,570	0,518	0,882	0,569	0,837	0,978	0,986	**0,994**

Source: Author (2023)

According to Table 12, it can be seen that all indicators meet the criteria for discriminant validity, since the AVE square root value on each variable is larger than the constructive correlation value on the other latent variable.

Reliability Test Results

Table 13. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability (rho)	Conclusion
Attitude	0.983	0.984	Reliable
Financial Literacy	0.987	0.993	Reliable
Gambler's Fallacy	0.989	0.99	Reliable
Herding	0.994	0.994	Reliable
Investment Decision	0.99	0.99	Reliable
Overconfidence	0.993	0.993	Reliable
Perceived Knowledge of COVID-19	0.997	0.997	Reliable
Risk Perception	0.996	0.996	Reliable

Source: Author (2023)

The two indicators can be used in Table 15 and Table 16 because all variable test results are valid (values above 0.60) and weighted. All variables show high Cronbach's Alpha and Composite Reliability values, indicating that these variables have good reliability. This shows that the measurement instruments used are reliable and consistent.

Inner Model

Direct Effect Test Results (Path Coefficients)

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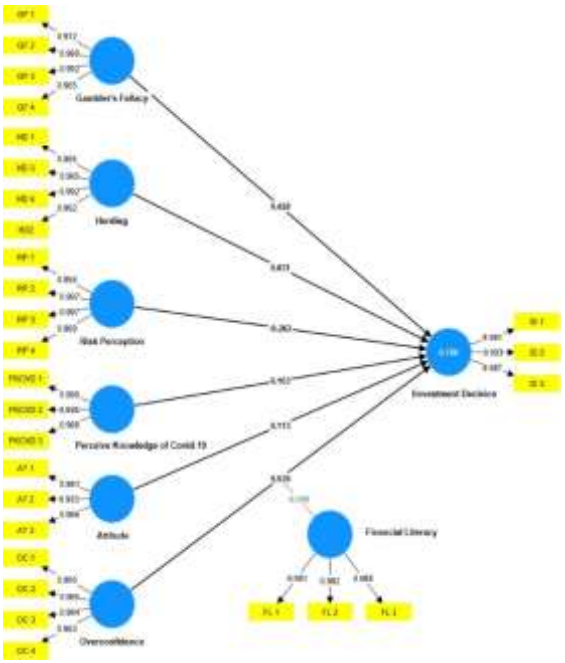

Fig 2. Path Coefficients Test
Source: Author (2023)

Table 17. Direct Effect Test Results (Path Coefficients)

Variable	T stats	P values	Summary
Gambler's Fallacy -> Investment Decision	3.178	0.001	H1: Positive Significant
Herding -> Investment Decision	0.792	0.428	H2: Not Significant
Risk Perception -> Investment Decision	3.074	0.002	H3: Positive Significant
Perceived Knowledge of Covid-19 -> Investment Decision	2.113	0.035	H4: Positive Significant
Attitude -> Investment Decision	2.534	0.011	H5: Positive Significant
Overconfidence -> Investment Decision	4.576	0.000	H6: Positive Significant
Financial Literacy x Overconfidence -> Investment Decision	0.244	0.807	H7: Not Significant

Source: Author (2023)

DISCUSSION

H1: Gambler's fallacy has a significant positive effect on Investment Decisions.

The gambler's fallacy variable significantly positively affects investment decisions with a T-statistic value of 3.718. Therefore, H1, which states that the gambler's fallacy has a significant positive effect on investment decisions, is accepted. The effect of the gambler's fallacy is supported by the nature of investors, who often make decisions based on minimal information sources. This finding aligns with Jain et al. (2020), Quaicoe & Eleke-Aboagye (2021), Justyanita & Agustin (2022) which shows that investors believe that past events will be repeated in the future.

H2: Herding has an insignificant positive effect on Investment Decisions.

The herding variable has a nonsignificant effect on investment decisions with a T-statistic value of 0.792. Therefore, H2, which states that herding significantly positively affects investment decisions, is rejected. Research conducted by Setiawan et al. (2018) and Simões Vieira and Valente Pereira (2015) states that herding is the behaviour of investors who tend to follow other investors' investment decisions, which negatively influences investment decisions. The research results of M. Rahman and Gan (2020) state that herding positively influences investment decisions. Meanwhile, research by Hossain and

Siddiqua (2022) and Pranyoto et al. (2020) shows that herding has no significant effect on investment decisions.

H3: Risk perception has a significant positive effect on Investment Decision.

The risk perception variable significantly positively affects investment decisions with a T-statistic value of 3.074. Therefore, H3, which states that risk perception significantly affects investment decisions, is accepted. Deb and Singh (2018) states that risk perception is an investor trait that views things such as wealth, risk of return, and information based on experience. Based on the test results, it is proven that risk perception has a significant positive effect on investment decisions. This is supported by research from Marheni et al, (2023), Pradikasari and Isbanah (2018), and Ainia and Lutfi (2019).

H4: Perceived Knowledge of COVID-19 has a significant positive effect on Investment Decision.

The perceived knowledge of COVID-19 variable has a significant positive effect on investment decisions with a T-statistic value of 2.113. Therefore, H4, which states that perceived knowledge of COVID-19 has a significant positive effect on investment decisions, is accepted. Cucinelli et al. (2016), Paramita et al. (2018), and Rahadjeng and Fiandari, (2020) claim that having good knowledge will lead to a sound investment attitude. Investors will understand more about making a suitable investment and avoid making mistakes. This finding is comparable to perceived knowledge of COVID-19 above knowledge of finance in terms of making investments. This is supported by research from Kumari et al. (2023) dan Han et al. (2020).

H5: Attitude has a significant positive effect on Investment Decision.

The attitude variable significantly positively affects investment decisions with a T-statistic value 2.534. Therefore, H5, which states that attitude significantly affects investment decisions, is accepted. Fahriani (2019) states that the better the attitude or financial mentality, the better it will be in making investment decisions. This is in line with the results of research from Aisya (2022), Hasanudin et al. (2022), and Damayanti and Fauzi (2020).

H6: Overconfidence has a significant positive effect on Investment Decision.

The overconfidence variable has a positive significant effect on investment decisions with a T-statistic value of 4.576. Therefore, H6, which states that overconfidence significantly affects investment decisions, is accepted. Marheni et al (2023) reveal that the higher a person's confidence in an investment, the higher the investment decision will be. From this study, the test results are also supported by Rona and Sinarwati (2021) who state that overconfidence behaviour will increase if the investor's behaviour has too much confidence without considering existing advice, information, and trends because he is too confident in his abilities. The test results align with the research results from F. Rahman and Dewi (2023). However, this contradicts the research results from Ahmad and Shah (2022) and Hossain and Siddiqua (2022).

H7: Overconfidence has a insignificant effect on Investment Decision with Financial Literacy as moderation.

The overconfidence variable insignificantly affects investment decisions with financial literacy as moderation, where the T-statistic value is 4.576. Therefore, H7 is a variable that has a significant adverse effect on the investment decisions of Indonesian crypto investors. This is not in line with research conducted by Wendy (2021), which states that overconfidence can be minimized if investors have good financial literacy.

Goodness of Fit Model Results
R-Square

Table 18. R-Square Test Results

	R-square	R-square adjusted
Investment Decision	0.786	0.782

Source: Processed Data (2023)

R-square shows the proportion of variation in the Investment Decision variable that the independent variables can explain. The R-square value of 0.786 means that the independent variables in the model can explain about 78.6% of the Investment Decision variable.

Most variables have high multicollinearity and affect statistical analysis, especially those with a relationship with prediction. The error rate when making predictions tends to be higher when many variables have high multicollinearity values.

CONCLUSION

Based on the empirical results, most of the research hypotheses are accepted: gambler's fallacy, risk perception, perceived knowledge of COVID-19, attitude, and overconfidence. Surprisingly, herding found to have insignificant impact on investment decision making. Moreover, the financial literacy failed to be moderating variable between overconfidence and investment decision. This finding is expected to be contributes for investors, goverments, private sectors, regulators and other cryptocurrency participants on determining the decision making. However, there are some limitations on this study. First, as types of cryptocurrencies are more various currently, this study only capture the crypto investor on general. Further study might scrutinize the assets more specificly. Second, this study not incorporating the demographic characteristics such as age or salary which is important on investment decision making particularly in cryptocurrency market.

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