

ANALYSIS OF FACTORS INFLUENCING INVESTMENT INTENTION IN CRYPTOCURRENCY: A THEORY OF PLANNED BEHAVIOR (TPB) APPROACH

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ABSTRACT

In 2021, investors began to switch to investing in high-risk instruments. Cryptocurrency is one type of high-risk investment that is in demand by world investors, especially in Indonesia. However, in 2022, the cryptocurrency market experienced shocks due to several factors followed by several cases in cryptocurrency that harmed investors. Therefore, the purpose of this study is to determine the effect of attitude towards investment, subjective norm, perceived behavioral control, and perceived risk on investment intention in cryptocurrency in 2023 using the theory of planned behavior (TPB) approach. The data used to complete this study used a questionnaire through Google Forms distributed to cryptocurrency investors in JABODETABEK, with an age range of 17 to 35 years with a total of 150 respondents. After analyzing the data, it was found that the variables used in the study had a significant influence on investment intention in cryptocurrency.

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1. INTRODUCTION

Since the COVID-19 pandemic, there has been a slowdown in economic growth which has had a major impact on people's lives globally and in Indonesia. However, according[1], even though the COVID-19 pandemic put pressure on the world economy, in fact it had a positive impact on people's awareness of investing. Communities are encouraged to maintain economic stability by seeking additional income and managing their funds through investment. This is proven through research conducted by[2], that in 2021 there will be an increase in investments made by a third of investors in the world. The research surveyed 23,000 people globally in 32 different locations, found that 46% of investors aged 18-37 years, would have set aside more funds to invest after social restrictions were lifted. This is of course because investors think more about financial well-being so that they make investment a vehicle for managing finances. Investment is an activity of investing money with the expectation of results and an increase in the value of the money[3]. A similar opinion was expressed by[4], that investment is an activity of placing some of the funds owned in the hope of providing benefits in the future. So it can be concluded from some of the quotes above that investment is an activity carried out by someone by investing money in an asset and expecting profits within a certain period of time.

However, according to research conducted by[2] during the COVID-19 pandemic in 2021, investors turned to high-risk investments. In addition, the results of the study state that young investors feel compelled to take greater risks to offset economic uncertainties and worries caused by rising inflation. The sectors that investors have often chosen over the past year are electric vehicle related stocks which are in first place at 24%, both Biotech at 23%, and lastly ranking cryptocurrency and internet tech stocks at 22%.

The trend of investing in high-risk instruments is also growing in Indonesia. According to information quoted from[5] since 2021 there has been a change in the behavior of investors in Indonesia, investment activities in cryptocurrency have become one of the investment instruments that are most in demand by Indonesian investors. The majority of investment penetration in cryptocurrency is carried out by investors with an age range of 21-35 years. Investing in cryptocurrencies in the midst of a pandemic was chosen because it saw a greater chance of return when compared to other instruments such as the capital market, mutual funds and so on. According to data taken from[6] on August 13, 2021 researchers measured crypto asset ownership from people in every country including 27 countries, Indonesia was ranked 3rd in the world as the country with the most cryptocurrency asset holders.

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Cryptocurrencies become one of the latest developments in the field of monetary and finance. According to [7], cryptocurrency is a virtual currency that can be used for online transactions but is also a popular asset that is commonly used to hedge for speculative purposes. Cryptocurrency is different from classic fiat currency which is issued and managed by government authorities, cryptocurrency is managed by a public ledger formed by a company with a large number of contributors [8]. The cryptocurrency was officially launched in 2009 [9]. At the beginning of the launch in 2008 using a white paper published under the pseudonym "Satoshi Nakamoto" or what is known today as Bitcoin. The motivation of Bitcoin's creators was to develop a cash-like payment system that allows electronic transactions but has the advantageous characteristics of cash [10]. Cryptocurrencies enabling owners to exchange funds with each other electronically without the need for a traditionally recognized intermediary [11]. On the other hand, exchanges are made at the moment there are more than 10,000 types of cryptocurrencies being traded including Bitcoin, Ethereum, BNB, and so on [12]. Since its introduction, the issue of high price changes in cryptocurrency has generated debate around the world. For example, the Bitcoin price that was first launched in 2008 was USD 0.008 or Rp. 113.6 and experienced the highest jump to USD 68,300 or Rp. 970,000,000 on November 8, 2021.

But quoting from [13], cryptocurrency prices experienced a significant decline in the first quarter of 2022 due to high inflation rates that caused a major shock to the global market. One of the events that caught global attention was the crash experienced by Terra Luna. The token had touched the all-time high price of Rp. 1,700,000 and fell to Rp. 0.003 on April 5, 2022. This was very surprising to the public considering that Terra Luna was ranked among the 10 most valuable cryptocurrencies. The result of this event several Terra Luna investors experienced depression, to the point of committing suicide because they experienced enormous losses in their investment portfolios [14].

Therefore, this study aims to analyze the factors that influence investor interest in 2023 in investing in cryptocurrency using the theory of planned behavior approach. In addition, variables contained in the theory of planned behavior will be used in this study which have been adapted to research, such as Attitude Towards Investment, Subjective Norm, Perceived Behavioral Control, Investment Intention and added supporting variables namely Perceived Risk.

2. METHODS

2.1. Theory of Planned Behavior (TPB)

Theory of planned behavior (TPB), first described by [15] as a development of the theory of reasoned action (TRA). This theory can be used as a reference as a belief that can influence someone to do something specific. According to [16] views on trust, carried out through a combination of characteristics, qualities and attributes of information which can then influence behavior. [17], said that this theory can be used as a tool to analyze differences in attitudes and intentions that a person has. Theory of planned behavior is a theory that explains a person's attitude in behaving and individual intentions caused by internal and external factors [17]. This theory also illustrates that attitude has an impact on behavior which is the main factor for predicting an action, but it needs to be considered that one's attitude tests subjective norms to measure one's view of behavior. If there are positive actions such as knowledge, encouragement from the environment and there are no obstacles to taking action, then one's intention to take action will be higher [18]. Some previous studies such as [55], [43] and [44] used theory of planned behaviour to measure intention to invest.

2.2. Attitude Towards Investment

Attitude towards investment is a general feeling of someone that indicates their likes and dislikes of the things contained in the investment [19]. According to [20], explained that attitudes towards investment are attitudes adopted from the start when an investor wants to make an investment. According to [21], attitudes towards investment are fundamental to distinguish novice investors who have no experience in investing, so they have not developed a good investment strategy. A similar opinion was expressed by [22] and [23], that attitudes towards investment are attitudes that can develop in investors who invest with the aim of saving. From the several opinions above, it can be concluded that attitude towards investment is an effective benchmark for measuring an investor's attitude towards investment behavior.

2.3. Subjective Norm

According to [19], subjective norm is social pressure that encourages a person to follow or not in certain behaviors. Subjective norms are also mentioned as normative beliefs where a person believes that

the actions taken are supported by the closest environment[24]. According to[25] subjective norms can be described as individual feelings or expectations of the expectations of people in their lives regarding the behavior that needs to be done or not to be done. This aspect will apply if the perceived social pressure comes from important people in one's life[26].

2.4. Perceived Behavioral Control

According to[15] perceived behavioral control interpreted as a person's view with ease or difficulty in carrying out a behavior that reflects the past. This view is determined by the individual's belief in having the capability to perform an action, supported by the available resources[41]. Perceived behavioral control can be used as a tool to predict one's intentions for an action[27]. According to[28], perceived behavioral control is related to the resources owned and the opportunity to do something. If someone thinks that he can act without any obstacles, then the individual will immediately manifest an interest in carrying out an action or behavior that he wants to manifest.

2.5. Perceived Risk Towards Investment

Investment activities are always related to returns and risks. Perceived risk has always been an important topic for academic research. Investor decisions in investing in cryptocurrencies need to measure the potential for risk. The level of risk that will be accepted by each individual investor is different, this depends on the individual's perception of a risk. Perceived risk towards investment is an investor's way of looking at risks in financial assets based on their concern and experience[29]. Perceived risk towards investment is a view of the risks that will affect investors' understanding of finance so that the investment process runs optimally[30]. In investing there must be an element of uncertainty or risk and every investor has a different level of courage in facing this risk. Perceived risk is described as the beliefs, thoughts and opinions of the public regarding losses that may occur as a result of investing in the capital market and creates a feeling of wariness and doubt about investing.[31]. According to[32], Perceived risk towards investment can be described as high or low in their perception of investment risk, therefore if an investor has a high risk attitude it will have an impact on their chances of allocating funds to assets that have high risk. Therefore, Perceived risk always includes psychological and emotional aspects, which will affect the investment assessment and decision making. This condition makes an investor's perceived risk more subjective than objective in a risky situation.

2.6. Investment Intentions

According to[33], intention is a phenomenon that occurs in a person's psychology that shows a desire for a particular object. And according to[18], intention is a rule in an action where there is a time factor and the right opportunity to carry out an action. In the context of this study, intention is used as the basis for the investment intention variable. Someone's interest in investing can be illustrated by someone's desire or dedication to investing.

Deciding to invest is based on the investor's motivation and efforts to take certain actions. The reason for an investor to invest is referred to as investment intention[34]. According to[35] Investment intention is a person's interest in investment, due to having studied investment knowledge or caused by environmental factors and expecting profits. A similar opinion was expressed by[36] that investment intention is a concept that can explain how interested potential investors are in investing in several investment instruments.

2.7. Influence between Attitude Towards Investment and Investment Intention

In research conducted by[37], the positive influence of investor attitude towards cryptocurrency investment is explained by the desire of investors to increase financial stability through investment and empirically shows that the role of attitude has benefits in increasing investor intention to invest in cryptocurrency. Attitude has a positive influence on investment interest because individuals prioritize attitude when making decisions to invest[19]. According to[38] if investors have a positive attitude towards a behavior, there will be opportunities to develop a positive interest in investment. In addition, according[39] attitude owned by investors play a major role in increasing interest in investing. The same thing was stated by[40], if someone has the attitude that investing is a good option for managing finances

and will get positive results, then this will increase the confidence to make an investment. So it can be concluded that the attitude of an investor will affect interest in investing.

Based on previous research, it is suspected that there is a relationship between Attitude Towards Investment and Investment Intention, the following is the hypothesis:

H1: Attitude Towards Investment has a positive influence on Investment Intention

2.8. Influence between Subjective Norm and Investment Intention

On research[41]found that the choice of investors often begins with recommendations from colleagues, friends and relatives. The recommendation aims to influence the interest to invest. According to[42], subjective norms have the ability to positively pressure someone to invest in Islamic bonds. Besides that,[19]found that someone who is interested in investing in the capital market comes from the advice of those closest to them or there is a thought that they need to make an investment. However, according to[43]subjective norms do not affect individual interest in investing. Although there is encouragement in the form of recommendations, the decision to invest remains in the hands of individuals.

Based on previous research, it is suspected that there is a relationship between Subjective Norm and Investment Intention, the following is the hypothesis:

H2: Subjective Norm has a positive influence on Investment Intention

2.9 Influence between Perceived Behavioral Control and Investment Intention

On research[40], argued that someone who has resources in the form of ability can control himself when in a situation to invest so as to increase their interest in investing. According to[43], internal and external resources make it easy for investors to get involved in investments, there by increasing interest in investing in the capital market. In addition, according[44], someone who feels they have the ability to invest will increase their interest in investing. A similar opinion was expressed by[45], operationalizing perceived behavioral control that is felt as the ease of investing will increase one's interest in investing in the company's stock market.

Based on previous research, it is suspected that there is a relationship between Perceived Behavioral Control and Investment Intention:

H3: Perceived Behavioral Control has a positive influence on Investment Intention

2.10. Influence between Perceived Risk Towards Investment and Investment Intention

[46]in his research on the behavior of investors' investment interest found that perceived risk has a significant effect on investment intention.[47], said that investors are advised to pay attention to stocks labeled 'controlled', 'warned' and 'halted trading', because perceived risk can affect investors' interest in investing in very risky instruments or refraining from investing at risk. Therefore, perceived risk has an important role in influencing the investment they want to make. Similar opinions on research[48]who found that perceived product risk has a strong influence on online purchase intentions for both digital and non-digital products.[49]stated in his research that investors form their intention to invest when evaluating financial position in terms of risks and returns. Besides that,[50]also researched the financial industry regarding perceived risk and customer interest in using credit cards. The results of this study reinforce that perceived risk affects customer interest in using credit cards.

Based on previous research, it is suspected that there is a relationship between Perceived Risk Towards Investment and Investment Intention. Here is the hypothesis:

H4: Perceived Risk Towards Investment has a positive influence on Investment Intention

Based on the hypotheses that have been prepared in the previous sub-chapter, this research framework can be designed:

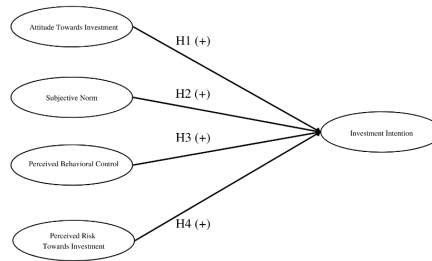


Figure 1. Research Framework

2.11. Research methodology

In this study using a quantitative approach method. According to [51], quantitative research is a research method that requires the use of numbers for the data collection stage, data interpretation, and the appearance of the results. The population in this study are millennial generation cryptocurrency investors (18-35 years) who are domiciled in JABODETABEK. In addition, data collection uses a survey method using Google Forms which is distributed through social media such as Instagram Stories, Twitter and Telegram. In this study using the Variance based Partial Least Squares (PLS-SEM) model. The reason is because the data to be analyzed does not need to be normally distributed so as to create flexible assumptions and be able to find out the relationships between variables and there is no need to use a large sample with a minimum of 100 samples. [52]. In this study, researchers will use SMART PLS 3 software to calculate and analyze the data held in the study.

2.12. Measurements

The questionnaire items used in this study explain the research concept to ensure the validity of each variable. Therefore, the selected questionnaire items for the variable Attitude Towards Investment, Subjective Norm, Perceived Behavioral Control, Perceived Risk Towards Investment, and Investment Intention has been adapted from previous research. There are 20 questionnaire items to measure all research variables, and have been adapted to research adapted from previous studies. 4 questionnaire items on Attitude Towards Investment variables adapted from research [39] and [55]. 3 questionnaire items on the Subjective Norm variable were adapted from research [40] who also adapts the research [38] and [53]. 3 questionnaire items from Perceived Behavioral Control adopted from the study [55] who also adapts the research [54]. 3 questionnaire items on the variable Perceived Risk Towards Investment which refers to research [30]. Furthermore, the Investment Intention variable uses a 4-item questionnaire adapted from research [39] and [55].

3. RESULTS AND DISCUSSION

3.1. Results

Based on the results of data collection through the Google Forms survey method, the authors obtained 163 respondents who participated. However, after conducting data cleaning and filtering, the amount of data used in this study was 150 respondents. The following is the demographic data of the respondents:

Table 1. Characteristics of Respondents

Characteristics	Mark	Frequency	Percent
Gender	Man	105	70
	Woman	45	30
Age	17-23 Years	36	25
	24 - 29 Years	70	51
	30-35 Years	31	23
	>35 Years	1	1
domicile	Jakarta	57	38
	Bogor	30	20
	Depok	28	19
	Tangerang	24	16

	Bekasi	11	7
Work	Employee	59	40
	Businessman	26	17
	Student / Student	28	19
	Freelancers	20	13
	Other	17	11
Education	Bachelor degree	91	66
	Masters/S2	20	14
	Other	28	20
Income	<IDR 5,000,000	35	23
	IDR 5,000,000 – IDR 15,000,000	78	51
	Rp. 15,000,001 – Rp. 25,000,000	26	18
	Rp. 25,000,000	11	8
Investment Spending	<5%	49	33
	6% - 15%	82	55
	16%-25%	14	9
	>25%	5	3

Based on the results of the respondent's demographic data that has been obtained in table 1, it is dominated by male respondents (70%). Age is dominated by the 24-29 year old group (51%). The city of Jakarta is the city that dominates by gaining a percentage (38%). Education and Occupation of respondents were dominated by Bachelors/S1 (66%) and Employees (40%) with the highest income value of IDR 5,000,000 – IDR 15,000,000 (51%). Then, Investment Spending is dominated at 6% - 15% (55%)

In this study, researchers used Varianced based Partial Least Square (PLS-SEM) which is divided into two models, namely, the outer model and the inner model. The outer model serves to explain how each indicator has a relationship with its latent variables[56]. In the outer model, validity and reliability tests are used to determine whether the research model used is valid and reliable. Then for the inner model, it functions to predict the causality relationship between each variable[57].

The results of the analysis are said to be valid and reliable if they have a Factor loading value above 0.5, Cronbach Alpha has a high consistency value above 0.7, an AVE (Average Variance Extracted) value above 0.5 and a CR (Composite Reliability) value above 0.6.

Table 2. Validity and Reliability Test Results

Variables	Items	Cronbach Alpha	Factor Loading	AVE	CR
Attitude Towards Investment	ATI1	0.710	0.768	0.533	0.820
	ATI2		0.759		
	ATI3		0.707		
	ATI4		0.684		
Subjective Norm	SN1	0.715	0.677	0.614	0.825
	SN2		0.777		
	SN3		0.883		
Perceived Behavioral Control	PBC1	0.734	0.788	0.651	0.848
	PBC2		0.795		
	PBC3		0.838		
Perceived Risk Towards Investment	PR1	0.721	0.817	0.642	0.843
	PR2		0.767		
	PR3		0.820		
Investment Intentions	II1	0.829	0.770	0.661	0.886
	II2		0.836		
	II3		0.783		
	II4		0.860		

Based on the results of data processing in table 4.2, it was found that all items were declared valid because they had Factor Loading values above 0.5 and AVE above 0.5. Then, all items were declared reliable because the Cronbach Alpha value was above 0.6 and the Composite Reliability was above 0.7.

After testing the validity and reliability in table 3, it is continued with the next test, namely discriminant validity. The results of this test can be ascertained that all square root values of AVE already have a value that is greater than the other variables.

Table 3. Discriminant Validity

	ATI	II	PBC	homework	SN
ATI	0.730				
II	0.474	0.813			
PBC	0.268	0.397	0.807		
homework	0.438	0.520	0.395	0.801	
SN	0.370	0.406	0.227	0.395	0.784

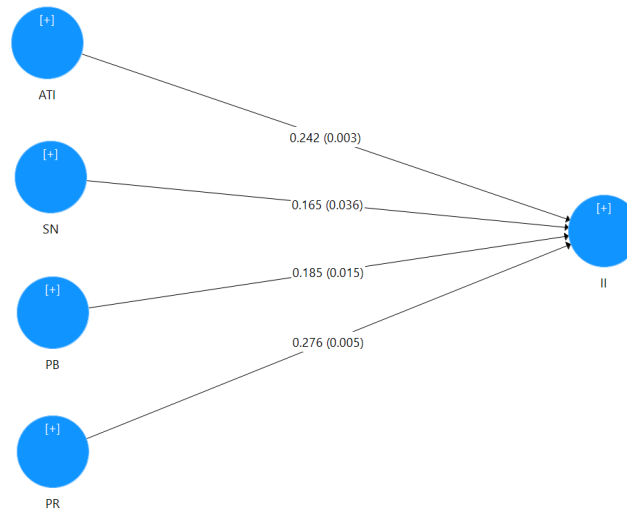


Figure 2. Structural Model Estimation

Then, after the discriminant validity test phase is complete. Data analysis was continued by conducting hypothesis testing. In this study, the authors used an error rate of 5% in testing the hypothesis, so that if the hypothesis being tested has a t-value of more than 1.96 and a p-value of less than 0.05, the hypothesis can be accepted.

Table 4. Hypothesis Test Results

hypothesis	Path	Path Coefficient	T-Statistics	P-Values	Significance	Conclusion
1	ATI-II	0.242	2,982	0.003	Significant	H1 is accepted
2	SN-II	0.165	2,100	0.036	Significant	H2 is accepted
3	PBC-II	0.185	2,429	0.015	Significant	H3 is accepted
4	PR-II	0.276	2,818	0.005	Significant	H4 is accepted

3.2. Discussion

The Effect of Attitude Toward Investment on Investment Intention

Based on the results of hypothesis testing 1 (H1), the Attitude Towards Investment variable has a significant influence on Investment Intention. This is based on the results of table 4, that the p-value (0.003) is less than 0.05 and the t-value (2.982) is greater than 1.96.

The results of this study are in line with research conducted by [55]. In his research, he found that the attitude that investors have in achieving important goals in the financial aspect will positively affect interest they are investing in cryptocurrencies. In addition, investor interest in cryptocurrency investment occurs when they believe in the assets they are investing in, even though cryptocurrency investment is an investment that has a very high risk and has fluctuating prices. So it can be concluded that currently cryptocurrency assets have regained the trust of investors, bearing in mind that in 2022 the cryptocurrency market will collapse due to certain factors.

The Effect of Subjective Norms on Investment Intention

Based on the results of hypothesis testing 2 (H2), the variable subjective norm has a significant influence on Investment Intention. This is based on the calculation results of table 4, that in hypothesis 2 it has a p-value (0.036) less than 0.05 and a t-value (2.100) greater than 1.96.

The results of this hypothesis test show that the influence of friends, family, and those closest to them in believing that investing in cryptocurrency is a wise decision can influence investor interest in investing in cryptocurrency. The test results of this study are in line with research conducted by [58]. In his research it was found that investment intention is influenced by subjective norms that come from the recommendations of the closest relatives. Then, these recommendations are used as a reference source in making investment decisions. So it can be concluded, that suggestions and recommendations from the closest environment are one of the factors that influence investor interest in investing in cryptocurrency.

The Effect of Perceived Behavioral Control on Investment Intention

Based on the results of hypothesis testing 3 (H3), the variable perceived behavioral control has a significant influence on investment intention. This is based on the calculation results of table 4, that in hypothesis 2 it has a p-value (0.015) less than 0.05 and a t-value (2.429) greater than 1.96.

The results of this hypothesis test show that having optimal capabilities both technical and non-technical in investing can affect investor interest in investing in cryptocurrency. This research is in line with research conducted by [59] that perceived behavioral control positively influences investment intention in Sharia products on the Indonesia Stock Exchange. According to [15] perceived behavioral control can be a tool to indicate the ease and difficulty of a person in interest in certain behaviors. Therefore, the better someone's ability to invest in cryptocurrency, the higher their chances of investing in cryptocurrency.

The Effect of Perceived Risk on Investment Intention

Based on the results of hypothesis testing 4 (H4) the perceived risk variable has a significant influence on investment intention. This is based on the calculation results of table 4, that in hypothesis 2 it has a p-value (0.005) less than 0.05 and a t-value (2.818) greater than 1.96.

The results of this hypothesis test explain that investors are willing to face the risk of investing in cryptocurrency. Then, this study confirms that respondents are a group of investors who tend to take risks or are risk seekers, even though cryptocurrency investment has a very high risk compared to other investment instruments. The results of this study are also in line with the research conducted [47]. His research found that if investors have a high risk perception in dealing with investment activities, they will form certain strategies in anticipating losses in their investment portfolios.

4. CONCLUSION

Based on the results of this study, the managerial implications that the authors show to the developers of each cryptocurrency asset. Currently the cryptocurrency market is trending quite well considering the phenomenon that the authors use in this study, namely the cryptocurrency market is experiencing shocks accompanied by cases involving cryptocurrency assets that have large market capitalization. The results of this study show that investor enthusiasm for cryptocurrency investment is starting to increase again. Then, investors also have developments where investors already have good skills and high perceptions of risk to invest their funds in cryptocurrencies. Therefore, developers need to maintain and maintain investor confidence in the cryptocurrency assets they invest in, by providing seminars and workshops online and offline. This is done so that developers often convey openly about projects that will be carried out in the future, in addition to increasing awareness, especially to potential investors about the risks of cryptocurrency investment.

This study has several limitations which hopefully can be complemented by subsequent research. This research requires a larger sample so that the results of the study are more generalized. The research adopts the theory of planned behavior and uses four independent variables and one dependent variable. Therefore, for future research it is expected to adopt a new theory and consider using new variables, so that new factors can be found that can influence investor interest in investing in cryptocurrency.

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