

Factors Affecting Investment Decisions by Muslim Investors in the Indonesia Islamic Capital Market: An Application of Theory of Planned Behavior

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Abstract

The Islamic capital market is a capital market whose entire mechanism of activity has been adapted to Sharia principles. Indonesia, as a country with a majority Muslim population, the Islamic capital market should have great potential to develop. However, the number of investors in the Sharia capital market is still low. This study examines the effect of financial literacy, subjective norms and technological advances on investment decisions using the Theory Of Planned Behavior (TPB). The study was conducted on 150 Sharia stock investors who are members of the "Sharia Stock" community. The results of this study indicate that financial literacy has a positive effect on investment interest, subjective norms have a positive effect on investment interest, technological convenience has a positive effect on investment intention, and investment intention has a positive effect on investment decisions. Meanwhile, investment intention can mediate the effect of financial literacy, subjective norms, and technological advances on investment decisions.

Keywords

financial literacy; subjective norms; technological advance; investment intention; investment decisions; theory of planned behavior

INTRODUCTION

Investment is a commitment of funds to one or more assets that would be held over some future time period (Jones, 2014). Investment involves financial management activity carried out by investors to obtain results or returns as desired (Saputro & Lestari 2019). According to Number 8 of 1995, the Islamic capital market is a capital market investment activity based on sharia principles. The sharia principles applied are sourced from the Al-Quran and Hadith, which regulate muamalah activities, namely the relationship between humans and commerce. Therefore, the entire mechanism in the Islamic capital market is protected from uncertainty, the ribawi (interest rate) system, gambling, and injustice (Setiawan, 2017).

Indonesia, as a country with a majority Muslim population, the Islamic capital market should have great potential to develop. However, data from the Indonesian Financial Services Authority (OJK) on December 2021 shows the opposite. Based on Single Investor Identification (SID), the number of investors

who are members of the Islamic capital market is only 98,870 (1,32%). In contrast, the total number of investors, both sharia and conventional, is 7,49 million (98.68%). This phenomenon is interesting to study in order to find out the factors that can influence the investment decisions of Muslim investors in Islamic capital market.

Several previous studies have identified that individual intentions and behavior in investment decisions are based on several variables as explained and predicted by the Theory of Planned Behavior (Phan & Zhou, 2014; Aren & Zengin, 2016; Putri & Rahyuda, 2017; Raut & Kumar, 2018; Aprayuda & Misra, 2020). However, researches that predict the intention followed by the behavior of Muslim investor in the Indonesia Islamic Capital Market are limited (Irton, Khairawati & Murtadlo, 2021). Therefore, it is essential to examine this issue to fill the gap. Specifically, the purpose of this study is to explore the factors that influence individual investment decisions in the Islamic capital market by

examining the role of financial literacy, subjective norm, and technological advance.

The biggest obstacle to the Islamic capital market's growth rate in Indonesia is the community's low financial literacy (Kemu, 2016). Financial literacy is the knowledge of a person who can influence his behavior in maximizing the quality of financial decisions taken to gain welfare. Financial literacy is critical because a high level of financial knowledge will affect a person's expertise in optimizing the time value of money (Rahman & Arsyanti, 2021).

Several previous studies showed that financial literacy positively affects investment intention (Darmawan, 2019; Puspitasari, Yetty, Nugraheni, 2021; Harahap et al., 2021) and investment decisions in the capital market (Sabri, 2016; Mishra, 2018; Pranyoto et al., 2018; Darmawan et al., 2019; Fitria, 2019; Wibowo, 2020; Gumilar et al., 2020).

Yusuf (2019) argues that the low level of financial literacy has caused many people to have a short-term financial mindset (saving society) compared to a long-term financial mindset (investing society). The argument is in line with the results of the financial literacy index (Figure 1) issued by the Financial Services Authority (OJK) in 2020. Literacy concerning investment in the capital market is in the lowest position compared to other sectors.

Figure 1. Financial Literacy Data Based on Sectors

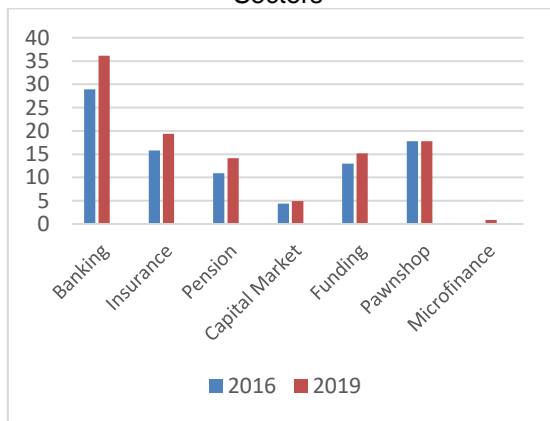


Figure 1. Financial Literacy Data Based on Sectors

Source: OJK, 2020

The next factor that is considered to be able to affect the Islamic capital market's growth rate is the influence of subjective norms arising from the Muslim community in

Indonesia. Subjective norms are a person's perception of social pressure that can influence a person's intention to perform a behavior (Ajzen, 1991). Most Muslim communities in Indonesia still consider investments in the capital market unlawful, just like gambling. Meanwhile, investments made by Muslim communities in Indonesia must follow sharia principles. Therefore, the Islamic capital market was developed to facilitate the needs of the Muslim population in Indonesia in order to be able to invest under established sharia principles. Previous research showed that subjective norms positively affecting investment decision in capital market (Listyarti, 2018; Prasetyo & Manongga, 2019; Rahadjeng & Fiandari, 2020).

Even though it has a low growth rate, the Islamic capital market continues to strive to increase investors' interest through the technological conveniences provided by its innovation, namely the Sharia Online Trading System (SOTS) – an online-based trading facility developed under sharia principles to make it easier for investors to transact on the sharia capital market. This technological advance is expected to boost the intention and investment behavior of Muslim investors in Indonesia. Previous research shown that technological advances affect investment intention (Cahaya, 2019; Wibowo, 2020; Aisa, 2021) and also affect investment decisions ((Flor & Hansen, 2013)Solanki et al., 2019; Amalia et al., 2020).

Based on the results of a survey of 150 individual investors who are members of the "Syariah Saham" community, this study provides evidence that financial literacy, subjective norms, and technological advance positively affect investment intentions. The investment intention directly influences the investment decision. In addition, the result prove that investment intention fully mediated the effect of financial literacy on investment decisions. Meanwhile, investment intention partially mediated the effect of subjective norms and technological advance on investment decisions.

This study makes several contributions. First, this study adds to the existing literature related to investment decision by Muslim investor in Indonesia Islamic Capital Market. This result also supports the rationale theory of planned behavior. For practical standpoint, this imply that there is a big challenge for the government and the Islamic capital market industry to formulate a socialization and education strategy that will be applied to

increase literacy in the Islamic capital market sector so that not only the number of investors increases, but also investor understanding regarding Islamic capital market products

LITERATURE REVIEW AND HYPOTHESES

Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) was developed from the Theory of Reasoned Action (TRA) in 1988 by Fishbein and Ajzen. TPB is widely used to understand a variety of behaviors a person possesses. The theory assumes that intention is the main reason that influences a person's behavior. The stronger the intention, the greater the chance for the behavior to occur (Ajzen, 1991). A person's intention to perform a behavior is a combination of the attitude towards the behavior and the subjective norms surrounding it. However, in 1988, behavioral control was added as a factor influencing a person's intention to perform a behavior. With the addition of these factors, TRA has difference from TPB in understanding a person's behavior.

The Theory of Planned Behavior states that three factors, namely influence a person's intention: (a) Attitude Toward Behavioral, is a belief that someone owns towards a behavior. According to TPB, the attitude shown by a person is determined based on his belief in the consequences of carrying out a behavior, whether it will have a positive or negative impact (behavioral beliefs), (b) Subjective Norms, a person's perception of social pressure that can influence a person's intention to perform a behavior. These perceptions or beliefs are also known as normative beliefs. A person will tend to do a behavior if he feels social pressure around him to do that behavior, and (c) Behavioral Control (Perceived Behavioral Control), a person's perception or belief that it will be easy or not to carry out a behavior through support from available opportunities or resources. A person will tend to have a solid intention to carry out a behavior if he is sure of the support of the available opportunities or resources.

Investment Decision

Making a decision investment is an important thing to consider when investing. Investment decisions are defined by Budiarto (2017) as an action chosen over several investment alternatives to obtain future profits. Likewise, Pradikasari & Isbanah (2018) define investment decisions as concluding a problem by deciding on several investment alternatives. However, Pradhana (2018)

defines an investment decision as buying, selling, or maintaining ownership of a stock instrument. Based on this definition, an investment decision is a person's action to choose an available investment option from several alternative options to obtain profits in the future.

Investment Intention

Ajzen (1991), in the Theory of Planned Behavior (TPB), states that interest is a person's tendency to perform a behavior influenced by several factors, including attitudes toward behavior, subjective norms, and behavioral control. Hurlock (1999) also stated that the interest possessed by a person could be increased through the opportunities available to learn the things he wants. In addition, Wardani (2017) states that this feeling of interest arises not because of coercion but because of great interest. As Ajzen (1991) stated, intention, or what is commonly known as interest, is a combination that arises from the influence of attitudes toward behavior, subjective norms, and behavioral control. TPB assumes that interest is the main reason that influences a person's behavior. Therefore, the stronger the interest someone has to invest, the more excellent the opportunity for investment to occur.

Financial Literacy and Investment Intention

Financial literacy is the knowledge of a person who can influence his behavior in maximizing the quality of financial decisions taken to gain welfare. Financial literacy is critical because a high level of financial knowledge will affect a person's expertise in optimizing the time value of money (Rahman & Arsyianti, 2021). Faidah (2019) and Harahap et al., (2021) reveals that students with good financial literacy tend to have a higher interest in investing than those with poor financial literacy. Research to non-student respondents also reveals that financial literacy has a positive effect on people's investment intention in the Islamic capital market (Malik, 2017; Darmawan et al. 2019). Meanwhile, research by Gusni et al. (2020) and Puspitasari, Yetty, and Nugraheni (2021) state otherwise that financial literacy does not affect investment intention.

Based on previous research's inconsistent results, re-examining the relationship between the two variables is necessary. Thus, the hypothesis proposed in this study is:

H₁: Financial literacy has a positive effect on investment intention

Subjective Norms and Investment Intention

According to the Financial Services Authority (OJK), another factor that is considered capable of influencing the growth rate of the Islamic capital market is due to the influence of subjective norms arising from the Muslim community in Indonesia. Subjective norms are a person's perception of social pressure that can influence a person's intention to perform a behavior (Ajzen, 1991).

According to TPB, a person will motivate to perform a behavior if he gets a referral or approval from his social environment (including religion). Referrals or approval from their social environment will influence a person's understanding and intention before deciding. The more a person perceives that his social environment encourages investing in the Islamic capital market, the higher the intention a person has in the Islamic capital market.

Deviyanti et al. (2018) stated that subjective norms positively affect student investment interest in the capital market. The greater the influence of the social environment felt by a person, the greater the influence on one's interest in investing. This statement is also in line with the results of Listryarti (2018), Indrawan and Raymonf (2020), and Rahadjeng and Fiandari (2020). which states a strong relationship exists between subjective norms and the public's investment interest. Therefore, based on this argument, the hypothesis in this study is:

H₂: Subjective norms has positive significantly effect on investment intentions

Technological Advance and Investment Intention

Ease of technology is a person's perception of ease of access from available facilities to facilitate an activity (Yusuf, 2019). The facility referred to SOTS (Sharia Online Trading System) developed to make easier for investor to transact in the sharia capital market. Various facilities provided by SOTS technology should be one of the driving factors in increasing interest and participation in investment activity because this is under the concept of perceived behavioral control proposed by Ajzen (1991) in TPB. He also argues that a person will tend to have a solid intention to perform a behavior if he believes in supporting the available opportunities or resources. This perception can come from

experience in the past, calculations for future situations, and attitudes towards the norms that surround an individual. Therefore, the higher a person's perception of the facilities available in the Islamic capital market, the more it will increase their interest in investing, and vice versa.

Cahya & Kusuma (2019) state that technological advancements influence to investment intention of Y-Generation. Specifically, Wibowo (2020) reveals that technological advances have a positive effect on people's investment intention in the Islamic capital market. While research by Aisa (2021) shows that automatic investment technology affected students' intention to invest in the capital market. Thus, the third hypothesis proposed in this research is:

H₃: Technological advance has a positive effect on investment intention.

Investment Intention and Investment Decision

Investment intention is a person's encouragement or intention to take the time to find out and learn more about investing. This intention arises not because of coercion but because there is a great interest in investment that grows through the knowledge possessed by an individual. As Ajzen (1991) stated, intention is a combination of attitude toward behavior, subjective norms and behavioral control.

The Theory of Planned Behavior assumes that intention is the main reason that influences a person's behavior. The stronger the intention, the greater the chance for the behavior to occur. In this study, intention is described through one's investment interest in the Islamic capital market. The stronger the interest in investing in the Islamic capital market, the greater the opportunity for investment in that capital market. Therefore, the fourth hypothesis proposed in this study is:

H₄: Investment intention has a positive effect on investment decision.

Investment Intention Mediate the relation between Financial Literacy, Subjective Norms, and Technological Advance and Investment Decisions

In this study, attitudes towards behavior are described through financial literacy owned by a person; subjective norms are described through subjective norms that arise due to the influence of other people and the surrounding

environment, and behavior control is explained through the convenience of the Sharia Online Trading System (SOTS) technology contained in Islamic capital market.

The Theory of Planned Behaviors (TPB) assumes that intention is the main factor influencing a person's behavior and is influenced by several factors, such as attitudes toward behavior, subjective norms, and behavioral control. The stronger an individual has an intention towards behavior influenced by financial literacy, subjective norms, and technological advance, the stronger the decision to invest will be. Thus, intentions can be the leading intermediary for a person to perform a behavior. Therefore, hypothesis proposed in this study are:

- H5a: Investment intention mediates the effect of financial literacy on investment decisions.**
- H5b: Investment intention mediates the effect of subjective norms on investment decisions.**
- H5c: Investment intention mediates the effect of technological advance on investment decisions.**

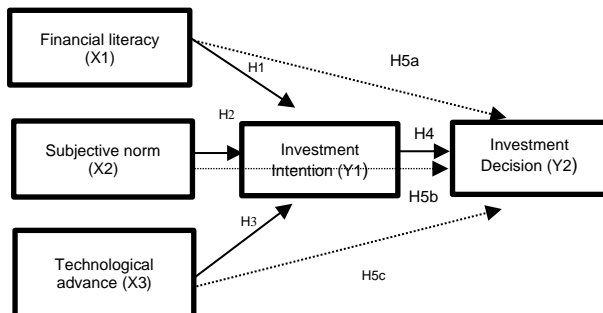


Figure 2. Research Model

METHODS

This study uses a quantitative approach with a survey method. The research population is investors who invest in Sharia stock instruments in the Islamic capital market and join the "Syariah Saham" community on the Telegram platform. The sampling method uses purposive sampling with the criteria are investors who have experience as investors for at least one year and are Muslim.

A total of 150 questionnaires were successfully collected and processed. Even though the response rate is low (1.09%), referring to the Slovin calculation, the minimal sample that can be used is 100

questionnaires. It means that the collected questionnaires are sufficient to be a research sample. *Partial Least Square* (PLS) is chosen as a data analysis technique used with the help of *SmartPLS 3.0* software. The PLS analysis technique can be carried out through the following stages: outer model analysis, analysis of the inner model, and hypothesis testing.

RESULTS AND DISCUSSION

Outer Model Analysis

The model used in this study consists of 5 variables with 32 question indicators. The model will be evaluated using the validity and reliability tests in the PLS outer model (measurement model). Outer model analysis was carried out to confirm that the measurements used are appropriate as a measuring tool (valid and reliable). The result of the outer model test can be seen on figure 2 (out model analysis).

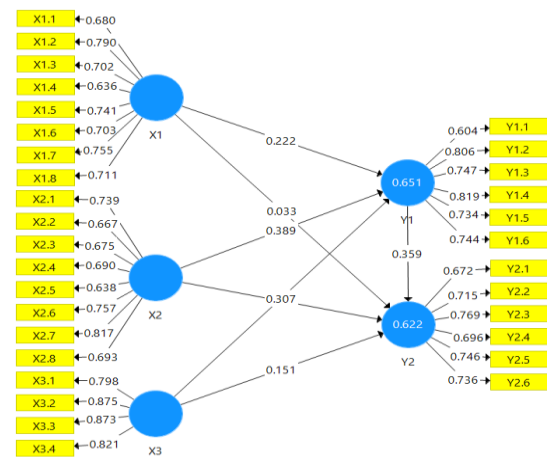


Figure 3. Outer Model Analysis

Convergent Validity

Ghozali and Latan (2015) argue that an indicator with a value of *loading factor* above 0.60 is still considered to be valid indicators. The result of convergent validity test (Table 1) shows that all indicators are valid. The remaining check for convergent validity is analyzing the AVE (*Average Variance Extracted*) value. An indicator is considered to have good convergent validity if it has an AVE value of more than 0.5. The result of AVE test shown at table 2.

Table 1. Convergent Validity

	X1	X2	X3	Y1	Y2
X1.1	0,680				
X1.2	0,790				
X1.3	0,702				
X1.4	0,636				
X1.5	0,741				
X1.6	0,703				
X1.7	0,755				
X1.8	0,711				
X2.1		0,739			
X2.2		0,667			
X2.3		0,675			
X2.4		0,690			
X2.5		0,638			
X2.6		0,757			
X2.7		0,817			
X2.8		0,693			
X3.1			0,798		
X3.2			0,875		
X3.3			0,873		
X4.4			0,821		
Y1.1				0,604	
Y1.2				0,806	
Y1.3				0,747	
Y1.4				0,819	
Y1.5				0,734	
Y1.6				0,744	
Y2.1					0,672
Y2.2					0,715
Y2.3					0,769
Y2.4					0,696
Y2.5					0,746
Y2.6					0,736

Source: data processed, 2022

Table 2. AVE Value

Variabel	Average Variance Extracted (AVE)
X1	0,898
X2	0,847
X3	0,892
Y1	0,836
Y2	0,778

Source: data processed, 2022

Discriminant Validity

Discriminant validity is evaluated using two assessment criteria; by comparing the *AVE root* with the correlation between the variables and the *cross-loading value* of each indicator on a variable. The first assessment criterion can be accepted if the ratio of the AVE roots owned by a variable is greater when compared to the correlation value between the variables. A comparison of AVE roots with correlations between variables in this study is shown in

Table 3. AVE Root and Correlated Variables

Variabel	X1	X2	X3	X4	Y1
X1	0,948				
X2	0,920	0,967			
X3	0,853	0,921	0,945		
Y1	0,785	0,779	0,751	0,914	
Y2	0,847	0,882	0,874	0,778	0,898

Source: data processed, 2022

Composite Reliability

The research instrument can be said to have good reliability if *Cronbach's Alpha* and *Composite Reliability* scores are above 0.70. The value of *Cronbach's Alpha* and Composite Reliability in this study is shown at Table 4.

Table 4. Composite and Construct Reliability

Variabel	Cronbach's Alpha	Composite Reliability
X1	0,865	0,894
X2	0,860	0,891
X3	0,863	0,907
Y1	0,838	0,882
Y2	0,818	0,868

Source: data processed, 2022

Inner Model (Structural Test)

Testing the inner model (structural model) is carried out after the model contained in the study is declared to have met all the assessment criteria for testing the outer model (measurement model). The inner model test was conducted to determine the relationship between research variables through their *R-Square*, *f-Square*, and *Q-Square values*.

Table 5. Inner Model (R-Square Test)

Variable	R ²
Investment Intention (Y1)	0,651
Investment Decision (Y2)	0,622

Source: data processed, 2022

Table 6. f-Square Test

Variables	Y1	Y2
Financial Literacy (X1)	0,073	0,001
Subjective Norms (X2)	0,186	0,111
Technological Advance (X3)	0,136	0,026
Investment Intention (Y1)		0,119
Investment Decision (Y2)		

Source: data processed, 2022

The *f-Square* value of the investment decision variable is 0.119, which indicates that the magnitude of the effect of the influence exerted by the independent variable on the dependent variable is moderate.

Table 7. Q-Square Test

Variables	Q ²
Investment Intention (Y1)	0,346
Investment Decision (Y2)	0,305

Source: data processed, 2022

The Q-Square value of the investment interest variable is 0.346. Meanwhile, the Q-Square value of the investment decision variable is 0.305. The test result shows that the investment intention variable has strong predictive relevance compared to the combined decision variables with moderate predictive relevance.

Hypothesis Testing

After testing the inner and outer models, the next step is testing the hypothesis. The output of the path coefficient (Table 8) shows that the p-value of the relation between X1→Y1; X2→Y1; and X3→Y1 is all of 0,000 or less than 0,05. It can be concluded that financial literacy, subjective norms, and technological advance positively affect investment intention. Thus, the proposed **H₁, H₂, and H₃ are accepted**. The direct test of Y1→Y2 (the effect of investment intention on investment decisions), also shown in Table 8, reveals that the p-value is 0,001 or less than 0,05, which means that **H₄ is accepted**.

Table 8. Path Coefficient (Direct Effect)

Hypothesis	Original Sample	t-Statistics (O/STDEV)	p-Values
X1 → Y1	0,222	3,786	0,000**
X2 → Y1	0,389	5,373	0,000**
X3 → Y1	0,307	4,411	0,000**
Y1 → Y2	0,359	3,410	0,001**
X1 → Y2	0,033	0,521	0,603
X2 → Y2	0,335	3,664	0,000**
X3 → Y2	0,151	2,539	0,011*

*Significant at 5%; **significant at 1%
Source: data processed, 2022

In order to prove the existence of the mediating effect, the first step is to test the direct influence of the independent variable (X1, X2, X3) on the dependent variable (Y2). The result presented in Table 8 shows that X1 has a p-value of 0,603 or greater than 0,05. It means that financial literacy does not affect the investment decision. Meanwhile, the direct effect of subjective norms (X2) and technological advances (X3) show the p-value are less than 0,05, means that subjective norms, technological advance positively affects investment decisions.

The third step to finding out whether there is a mediating effect in this study is executed by knowing the test results of the influence of

the independent variable (X) and the effect of the mediating variable (Y1) on the dependent variable (Y2) simultaneously. Following are the results of testing the model presented in Table 9.

Table 9. Indirect Effect (Mediation)

Hypothesis	Original Sample	T Statistics (O/STDEV)	P Values
X1 → Y1 → Y2	0,079	2,575	0,010**
X2 → Y1 → Y2	0,139	3,058	0,002*
X3 → Y1 → Y2	0,110	2,493	0,013*

*Significant at 5%; **significant at 1%
Source: data processed, 2022

Indirect test is executed to analyses the effect of investment decision through investment intention as a mediation variable. The result of the study shows the p-value of X1→Y1→Y2 (H5a) is 0,010 or less than 0,05, which means that investment intention mediates the effect of financial literacy on investment decisions (**H5a is accepted**).

The indirect effect of the relation model of X2→Y1→Y2 (H5b) also has a p-value 0,002 and or less than 0,05 which means investment intention mediates the effect of subjective norms on investment decisions (**H5b is accepted**). The remaining model X2→Y1→Y2 (H5b) has a p-value 0,013 or less than 0,05 which means that investment intention mediates the effect of technological advance investment decisions (**H5b is accepted**).

Testing the mediation effect is called fully mediated if the effect of X→Y2 is insignificant on t-Statistics < 1.96 and the effect of X→Y1→Y2 shows significant results on t-Statistics >1,96. However, if the test on the X→Y2 model shows significant results and the effect of X→Y1→Y2 is also significant, this condition is called a partial mediation effect.

CONCLUSION

This study examines the effect of financial literacy, subjective norms and technological advances on investment decisions using the Theory Of Planned Behavior (TPB). The results of this study indicate that financial literacy has a positive effect on investment interest, subjective norms have a positive effect on investment interest, technological convenience has a positive effect on investment intention, and investment intention has a positive effect on investment decisions. Meanwhile, investment intention can mediate the effect of financial literacy, subjective norms, and technological advances on

