Determination of Financial Technology Proficiency, Risk Perception and Behavioral Finance: Investment Decisions

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Abstract. An investment decision is a policy taken to allocate funds with the aim of gaining profits in the future. However, among young people who already have high incomes, investing is something they sometimes cannot afford to do. This quantitative study aims to determine the influence of financial technology proficiency, risk perception, and behavioral finance on investment decisions. This research involved 67 entrepreneurs who are members of the Indonesian Young Entrepreneurs Association (HIPMI), who were positioned as research subjects. Research data was collected by distributing questionnaires to respondents and analyzed using descriptive statistics with the help of IBM SPSS version 25. The findings of this research are that financial technology proficiency and behavioral finance have a positive effect on investment decisions. Furthermore, risk perception has a negative effect on investment decisions. Following up on the findings of this research, young entrepreneurs are expected to have a better of risk perception regarding investment. Apart from that, the use of technology and financial behavior must be maintained so that we are able to make the right decisions about investing. Adding behavioral finance variables and making members of the Indonesian Young Entrepreneurs Association (HIPMI) as a population is different from previous research.

Keywords: Financial technology proficiency, Risk perception, Behavioral finance, Investment decisions

1 Introduction

Indonesia is currently entering the era of digitalization. Information technology dominates and plays an important role in various fields, one of which is the economic field. The existence of technological developments can help business people access information and make investment decisions [1]. Making an investment decision is not easy because you have to consider or do investment planning first so that there are no losses when starting to invest.

Investment is an investment made at this time with the aim of getting a profit in the future. Investment activities aim to obtain profits within a certain period of time through certain companies or business entities [2]. Every individual needs investment, because by deciding to invest individuals can maintain and expand the wealth base that can be used as social security in the future [3]. There are several factors that influence investment decision making to match investor goals.

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Financial technology expertise is the primary determinant of investment decisions. When financial services and technology are combined, financial technology competency can transform the traditional business model into a moderate one that essentially pays cash in person [4]. Advances in financial technology allow for faster service in transactions, making it easier for investors to transact.

Perception of risk is considered to be the second factor that influences investing decisions. An individual's evaluation of issues that negatively affect them and raise questions about the dangers they will accept is known as risk perception [1]. Emotions and mentality are internal elements that impact investors' perceptions of investing risk. These characteristics can also impact how investors manage risk when making investment decisions.

Behavioral finance is the third element that is believed to have the power to affect investing choices. Despite the fact that it might result in irrational conclusions, investor psychology is a significant factor in deciding investment decisions. Behavioral finance describes an understanding of the discipline of financial science through the incorporation of psychological concepts (cognitive and emotional) with the aim of knowing investor responses and the impact of making investment decisions for investors [5].

Changes and developments in the times have led to investment trends that are characterized by the increasing growth in the number of young investors in the capital market. The emergence of young millennial entrepreneurs who often tend to use terms or words such as FoMO (Fear of Missing Out) which means a psychological behavior where someone does not know what they want so they switch to following or imitating what others are doing. So it is necessary to take actions that can reduce the impact of changes and developments in the times for the younger generation who respond to the FoMO trend in investment decisions.

The purpose of this study is to demonstrate the variables that affect young entrepreneurs' investment choices. This study differs from other studies in that it includes behavioral finance as an independent variable. The author makes members of the Indonesian Young Entrepreneurs Association (HIPMI) as the object of research because HIPMI is an organization of young entrepreneurs that aims to foster, advance and develop the younger generation of entrepreneurs to become professional, strong and resilient entrepreneurs in the business sector they are engaged in, implement government programs and contribute to the success of the national and regional development process towards the creation of a just and prosperous society, and form national entrepreneurs with national insight, who have morals, ethics and business and are able to compete in the international market.

2 Literature Review

2.1 Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) is a development of the previous theory, namely Theory of Reasoned Action (TRA). Theory of Planned Behavior (TPB) argues that individuals perform actions referring to conscious intentions based on rational calculations regarding promising things related to the actions they take, and also how people assess the behavior they perform. This theory can be used to predict individual financial behavior, for example related to investment decisions [6]. Basically, this theory explains that humans are rational beings. Humans behave according to common sense considerations by considering the impact of this behavior.

2.2 Technology Acceptance Model (TAM)

Fred David first presented the technological Acceptance Model (TAM) in 1986 with the intention of forecasting user acceptance or technological utilization. This model is a development of previously built theories, namely Theory of Reasoned Action (TRA) and Theory Planned Behavior (TPB) [7]. One kind of behavioral information system model that seeks to explain why people are interested in adopting and utilizing technology is the Technology Acceptance Model (TAM) theory [8]. The Technology Acceptance Model (TAM) theory measures perceived ease and usefulness as individual beliefs about using new technology or systems [7].

2.3 Financial Technology Proficiency

One definition of financial technology is the application of information technology advancements to enhance financial industry services. Financial technology's ease and speed in all financial transaction activities, including loans, payments, and other transactions, can save money, time, and effort [9]. Young entrepreneurs who use fintech can rely on information from fintech platforms as a reference point in making investment decisions. The indicators used in financial technology proficiency are convenience, use and benefits [9].

2.4 Risk Perception

A person's perspective or evaluation of a risk situation that is impacted by psychology and decision-making circumstances is known as risk perception. Such judgment depends on one's psychology and circumstances [10]. Every individual who makes an investment must be ready to accept the risk or failure in the investment. Wherever investors invest, there are potential risks that can occur at any time, short or long term, large or small, and investors can accept risk at any time. As a result, investors must pay attention to the perception of future risk. The indicators of risk perception used in this study are product quality, price and personal information [11].

2.5 Behavioral Finance

According to the theory of behavioral finance, investors' psychological influences on financial decision-making and market conditions might occasionally lead them to make a choice in uncertain times. Every investor who engages in stock investment activities has a viewpoint, cognition, and emotional state, particularly while making judgments that manifest as innate investor behavior. So that behavioral finance shows a quality of behavioral actions in the daily investment decision making of an investor and to eliminate it completely is impossible [5]. The behavioral finance indicators used by this study are paying bills on time, recording expenses and spending (daily, monthly and others) and providing funds for unexpected expenses [12].

3 Hypothesis Development

3.1 The Effect of Financial Technology Proficiency on Investment Decisions

Technology in finance One way to think of proficiency is as a way to use advancements in information technology to enhance financial industry services. Similar studies on how financial technology influences investing choices were carried out by [4]. According to this study, financial technology has a favorable impact on investing choices. The study's findings support the Technology Acceptance Model (TAM) theory, which holds that the more effectively an individual utilizes the financial information technology at their disposal, the better their investment choices will be since they have taken the potential outcomes of their choice into account before making a decision. Research by [13] and [14], which indicates that financial technology influences investing choices, further supports this.
H1 : Financial Technology Proficiency has a positive effect on investment decisions

3.2 The Effect of Risk Perception on Investment Decisions

A person's perspective or evaluation of a risk situation that is impacted by psychology and the circumstances around the decision-making process is known as risk perception [10]. Research conducted by [10] on the effect of risk perception on investment decisions. This study found that risk perception has a significant positive effect on investment decisions. This is also supported by research conducted by [15]which states that investment decisions are positively and significantly influenced by risk perception. In accordance with the theory of planned behavior that by understanding the level of risk, predicting what will happen in the future for the actions taken, and knowing the perception or perspective of all the possibilities that will occur and be accepted later, will affect the actions or decisions that will be taken at this time. The better the understanding of risk owned, the better the investment decisions will be made so as to minimize the risks received.
H2 : Risk Perception has a positive effect on investment decisions

3.3 The Effect of Behavioral Finance on Investment Decisions

A form of investor thinking that incorporates emotional processes into decision-making is known as behavioral finance [16]. Given the risks involved in investment decisions, the behavioral finance approach considers different investor types [17]. According to the findings of a study by [18] investing decisions are significantly impacted by financial behavior. Research by [17] that shows financial behavior has a big impact on investing choices also supports this. The better a person's psychology or mindset is at managing their finances, the better investment choices they make, according to the Theory of Planned Behavior.
H3 : Behavioral Finance has a significant effect on investment decisions

4 Method

This research is a quantitative study. This quantitative research uses three independent variables, namely financial technology proficiency (X1), risk perception (X2) and behavioral finance (X3), and one dependent variable, namely investment decisions (Y). The purpose of this study was to examine the effect of financial technology proficiency, risk perception and behavioral finance on investment decisions.

Members of the Indonesian Young Entrepreneurs Association (HIPMI) in the Special Region of Yogyakarta became the population in this study. Sampling using simple random sampling, namely taking sample members and populations that are carried out randomly without regard to the strata in the population. The number of samples was 67 samples which were determined using the Slovin Formula. The Sovlin formula is used to determine the sample size of a known population. The data source used is primary data obtained through distributing questionnaires online via Whatsapp media in the form of google forms to respondents. This data is in the form of numbers on a questionnaire scale which is processed using IBM SPSS version 25.

In this study, questionnaires and surveys were employed as data gathering methods. For research objectives, the survey approach involves gathering primary data through questionnaires that are mostly based on individual or group experiences with particular phenomena. In the meantime, primary data on risk perception, behavioral finance, investment choices, and financial technology proficiency characteristics were gathered by questionnaires.

Before conducting the actual research, the researcher conducted a pilot test first. The number of respondents taken in this pilot test was 30 respondents. The results of the pilot test were that all questionnaire statements were valid and reliable, so that the questionnaire statements could be used in actual research.

The data analysis technique used is multiple linear regression analysis.

The equation is:

$$\mathrm{KI} = \alpha + \beta_1 \mathrm{FT} + \beta_2 \mathrm{PR} + \beta_3 \mathrm{BF} + \epsilon$$

Description:
KI : Investment Decision Variable
α : Constant
β1-β3 : Multiple regression coefficient
ϵ : Error term
X1 : Financial Technology proficiency variable
X2 : Risk perception variable
X3 : Behavioral Finance Variable

5 Results and Discussion

5.1 Data Quality Test

The validity test is used to see whether the questions in the questionnaire are valid or invalid. Based on the results of the validity test of this study, there are 29 statement items and all of them are declared valid because the r_{count}> r_{table} value is 0.236 with a significant level <0.05, which means that all statement items in this study are said to be valid for measuring the variables studied. The Cronbach's Alpha statistical test was used to conduct the reliability test in this study. it was concluded from the test results of IBM SPSS version 25 that the research questionnaire was considered reliable. A Cronbach's Alpha value higher than 0.60 indicates this.

5.2 Hypothesis Test Result

The data supporting this discussion is summarized in the Table 1.

Table 1. Hypotesis Test Results

	Model	Standardized Coefficients		
		Beta	t	Sig.
1	(Constant)		2,256	,000
	FT	,313	2,915	,005
	PR	-,293	-3,083	,003
	BF	,642	6,351	,000
	F	29,786		
	Sig. Uji F	0,000[b]		
	R.Square	0,586		

a. Dependen Variabel: Investment Decisions

Source: Primary Data Processed, 2024

Based on the results of hypothesis testing in table 1, it can be concluded that Financial Technology Proficiency (FT) obtained t_{count} 2.915> t_{table} 1.996, standardized coefficients beta 0.313 is positive with a significant level of 0.005 <0.05. Thus, it can be said that investment decisions are positively and significantly impacted by financial technology proficiency. At a significant level of 0.003 <0.05, the standardized coefficients beta -0.293 are negative, and the Risk Perception variable (PR) has a tcount of -3.083> ttable 1.996. Therefore, it's possible that investment decisions are negatively impacted by risk perception. The behavioral finance variable's standardized coefficients, beta 0.642, are positive at a significant level of 0.000 <0.05, and its tcount is 6.351> ttable 1.996. Thus, it may be said that behavioral finance significantly and favorably influences investment decisions. With a significant value of 0.000 <0.05, the F test results indicate that the independent variables (financial technology proficiency, risk perception, and behavioral finance) can explain the investment decision variable. Therefore, it can be said that behavioral finance, risk perception, and financial technology proficiency all have the ability to affect investment decisions at the same time. 0.586 is the R square value. These findings indicate that the investment choice variable may be explained by the independent variables (financial technology proficiency, risk perception, and behavioral finance) by 0.586, or 58.6%, with other variables not included in this study accounting for the remaining 41.4%.

5.3 Financial Technology Proficiency Towards Investment Decisions

The test results show that financial technology proficiency has a positive and significant effect on investment decisions as evidenced by the results of the Financial Technology Proficiency (FT) t test, so hypothesis 1 (H1) in this study is supported. The higher or better one's understanding of the use of financial technology, the higher the level of one's investment decision. The collaboration of financial management using technology systems has become a new concern and habit for young entrepreneurs in conducting financial transactions such as payments, loans and other transactions. Financial technology can make it easier for young entrepreneurs to invest. Fintech platforms often present investment information in a way that is more interactive, visual and easy to understand. Young entrepreneurs who use fintech can rely on such information as a reference point in making investment decisions. The results of this study are in line with the Technology Acceptance Model (TAM) theory, namely the concept of perceived uselfulness. According to TAM, perceived usefulness is the degree to which people think that using a specific system will enhance their ability to perform at work. This implies that the advantages of utilizing information technology can enhance the productivity of those who utilize it.

5.4 Risk Perception of Investment Decisions

The results of hypothesis 2 testing show that risk perception has a negative effect on investment decisions as evidenced by the results of the Risk Perception (PR) t test, so hypothesis 2 (H2) in this study is not supported. The higher one's risk perception, the lower the investment decision. High risk perception is often associated with potential losses, causing investors to be more cautious and even avoid investments that are considered high risk. Evidently, before making decisions related to buying, selling and maintaining share ownership, these investors first analyze internal and external factors such as investment returns, regulations in investing, asset values and other risks that might endanger their investment in the future [19]. One component of the Theory of Planned Behavior perceived behavioral control supports the findings of this investigation. The decision to invest will be influenced by perceived behavioral control, which is the ability to comprehend the degree of risk, forecast future events based on actions, and understand how all potential outcomes will be perceived and accepted in the future [20].

5.5 Behavioral Finance on Investment Decisions

The study's findings support hypothesis 3 (H3), which states that behavioral finance (BF) significantly and favorably influences investment decisions. A person will make better investment choices if they behave better financially. The psychological aspects of investors' decision-making, such as fear and anxiety, are related to behavioral finance since the decision must be made fast and precisely because if it is made incorrectly, the chance to make the anticipated profit would be lost [16]. Setting financial goals and managing money are undoubtedly made easier for someone who practices sound financial conduct. The study's findings are consistent with the Theory of Planned Behavior (TPB). According to the Theory of Planned Behavior (TPB), when making investments, a person essentially acts intentionally and takes into account all available information, both overtly and implicitly [21].

6 Conclusion

This study aims to determine the effect of Financial Technology Proficiency, Risk Perception and Behavioral Finance on Investment Decisions by making the Indonesian Young Entrepreneurs Association (HIPMI) in the Special Region of Yogyakarta as a population. The Sovlin Formula was used to determine the total number of responders, which came out to be 67. The characteristics of respondents in this study are seen based on gender, age, monthly income and HIPMI origin.

The results of the research tested with IBM SPSS version 25 show that Financial Technology Proficiency and Behavioral Finance have a positive and significant effect on Investment Decisions. In the meanwhile, investment decisions are negatively impacted by risk perception. Investment decisions are influenced by Financial Technology Proficiency, Risk Perception, and Behavioral Finance in tandem by 58.6%, with other factors not included in this study accounting for the remaining 41.4%.

7 Recommendations

It is anticipated that future studies will increase study objects, multiply research samples, and include variables like sociodemographics. The findings of this study can serve as a guide for conversations about subjects covered in lectures. Direct interviews with respondents are anticipated to be a method of data gathering in the next study. Furthermore, it is intended that this research will serve as a comparison and reference for future studies of a similar nature. It is anticipated that the population will be replaced, the questionnaire will be distributed more widely, and the researcher will use more samples than in this study.

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