The effect of financial literacy on cryptocurrency investment decision with the mediation of students' risk tolerance and risk taking

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ABSTRACT

The growth of cryptocurrency investment among college students has increased significantly. However, this trend is not always accompanied by sufficient understanding or preparedness to manage investment risks. This study examines the effects of financial literacy on cryptocurrency investment decisions, risk tolerance, and risk-taking behaviour, as well as the effects of risk tolerance and risk-taking behaviour on investment decisions and their mediating roles. A quantitative approach was employed using survey data collected from college students who have experience investing in cryptocurrency. The data were analysed using Structural Equation Modelling (SEM) to examine the direct and mediating effects among the variables. The findings indicate that financial literacy significantly influences cryptocurrency investment decisions, risk tolerance, and risk-taking behaviour. Furthermore, risk tolerance and risk-taking behaviour significantly affect investment decisions and mediate the relationship between financial literacy and cryptocurrency investment decisions. This study contributes to the literature by providing empirical evidence on the role of financial literacy and risk-related factors in shaping cryptocurrency investment decisions among college students, offering insights for improving students' financial decision-making and risk management.

Keywords: *Behavioural Finance Theory; Financial Literacy; Investment Decision; Cryptocurrency; Risk Tolerance; Risk Taking Behaviour*

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INTRODUCTION

Cryptocurrency is increasingly in demand as an investment instrument, including among students in Indonesia. Data from the Indonesian Ministry of Trade (2023) indicate that the number of cryptocurrency asset investors in Indonesia has reached 17.25 million people, surpassing the number of conventional capital market investors, who number around 10.3 million people. Students, as part of the younger generation, show a high interest in this investment, signalling a change in investment behaviour among Generation Z and millennials.

Investing without a solid understanding of risk and financial planning can hinder students' achievement of long-term financial goals, such as establishing education funds, securing business capital, or accumulating future savings. Mahwan and Herawati (2021) found that 62% of students engage in cryptocurrency investment without an adequate understanding of the associated risks, which may encourage impulsive investment decisions and insufficient risk mitigation, thereby increasing the potential for capital losses.

Financial literacy involves an understanding of the legal and security considerations associated with digital assets, which can help students identify fraudulent practices and avoid unlawful investment activities (OECD, 2025). In addition, students are encouraged to conduct fundamental and technical analyses before investing, rather than just following baseless opinions or recommendations. Students will be better able to identify, analyse, and manage investment risks, so that decisions made become more rational and measurable.

Lusardi and Mitchell (2014) describe financial literacy as an individual's knowledge and understanding of fundamental financial concepts, accompanied by the skills required to make effective financial decisions. Similarly, Chen and Volpe (2002) view financial literacy as the ability to apply financial knowledge and skills in managing financial resources effectively to achieve long-term financial well-being. Thus, financial literacy can generally be understood as an individual's capacity to comprehend and apply basic financial knowledge in managing financial resources wisely.

Kananagasabai and Aggarwal (2020) in their study found that financial literacy has a positive and significant effect on investment performance, and this effect is partially mediated by risk tolerance. This study confirms that the higher a person's level of financial literacy, the greater their ability to deal with risk, resulting in more optimal and satisfying investment decisions. Additionally, the literature suggests that financial literacy is closely linked to risk tolerance. Sjöberg and Engelberg (2009) and Gustafsson and Omark (2015) demonstrate that individuals with high financial literacy tend to be more risk-tolerant in their investment decisions, while those with low financial literacy tend to be more risk-averse. Huhmann and McQuitty (2009) note that low financial literacy hinders individuals' ability to comprehend the concept of risk, making them more hesitant to make investment decisions involving uncertainty.

As described in Kanagasabai and Aggarwal (2020), most research examining the relationship between financial literacy and investment performance, as well as mediating variables such as risk tolerance, is conducted in countries with relatively higher levels of financial literacy and mature financial market infrastructure. Studies such as Lusardi and Mitchell (2011) and van Rooij et al. (2011) generally sample the United States, Europe, or countries with good levels of financial inclusion. Meanwhile, in developing countries such as Indonesia, India, and Southeast Asia, research on the effect of financial literacy on direct investment decisions remains scarce. Kanagasabai and Aggarwal (2020) even assert that only a few studies have empirically tested the relationship between financial

literacy and investment decisions, considering the role of other variables, and most of these studies have not been conducted on investor populations in developing countries. This is important because financial literacy levels in developing countries are generally low and investment behaviour is strongly influenced by social, cultural and limited access to information factors. Thus, a literature gap exists that needs to be addressed through new research in developing countries, enabling a more contextual and relevant understanding of the role of financial literacy in investment decisions.

This research uses prospect theory (Kahneman & Tversky, 1979; Thaler, 1985) as a theoretical foundation to analyse cryptocurrency investment decisions. This theory is typically applied to conventional instruments; therefore, this research extends its application to more complex digital assets. Linking the concepts of risk tolerance and risk-taking behaviour as mediating variables, which are rarely integrated in previous studies. In addition, studies by Lusardi & Mitchell (2014) and Akyildirim, Goncu, & Sensoy (2021) focus on the context of developed countries, so they do not represent the conditions of students in Indonesia who have a low financial literacy level of 38.03%. (OJK, 2022).

Prospect theory is particularly suitable for examining the impact of financial literacy on cryptocurrency investment decisions, as it emphasises that financial behaviour is influenced by knowledge, psychology, and the social environment. With good financial literacy, individuals are better able to manage their biases and make rational investment decisions, especially in a highly volatile market like cryptocurrency. In contrast, low financial literacy makes investment decisions more influenced by emotions, trends and psychological biases, as explained in prospect theory.

This study provides new empirical data on the influence of financial literacy on cryptocurrency investment decisions among university students in Surakarta City. Analyse the relationship between financial literacy, risk tolerance, and cryptocurrency investment decisions simultaneously, and see whether students are more influenced by financial education or external factors such as trends and social media.

Based on the background described, the problems in this study can be formulated as research questions as follows. First, does financial literacy affect cryptocurrency investment decisions in college students? Second, does financial literacy also affect risk tolerance and risk-taking in the context of student cryptocurrency investment? Third, does risk tolerance affect student cryptocurrency investment decisions? Fourth, does risk-taking behaviour also influence the process of making cryptocurrency investment decisions by students? Fifth, does risk tolerance mediate the effect of financial literacy on cryptocurrency investment decisions in college students? Sixth, does risk-taking mediate the effect of financial literacy on cryptocurrency investment decisions in college students?

This study aims to analyse the relationships between variables related to students' investment behaviour in cryptocurrency assets. First, it analyses the effect of financial literacy on cryptocurrency investment decisions, assuming that college students' understanding of basic financial concepts can influence the quality of their decisions in choosing digital investment instruments. Furthermore, this study also aims to analyse the effect of financial literacy on risk tolerance and risk-taking behaviour, as adequate financial literacy is believed to shape students' mental attitude towards risk and their tendency to make risky decisions. In addition, this study explicitly examines the effect of risk tolerance on investment decisions, considering that students' ability to accept and manage risk also determines their tendency to invest in volatile assets, such as cryptocurrencies. Finally, this study aims to analyse the influence of risk-taking on

cryptocurrency investment decisions, as students' risk-taking is considered to be one of the key factors in encouraging their participation in high-risk investments.

This research contributes to the theory by expanding the understanding of how financial literacy and financial risk simultaneously affect investment decisions in cryptocurrency assets from the perspective of prospect theory. This research confirms that investment decision-making is not only based on rational knowledge, but also strongly influenced by psychological and behavioural factors, such as risk tolerance and risk-taking tendencies, as described in prospect theory.

Thus, this study enriches the literature by demonstrating that financial literacy alone is insufficient for making optimal investment decisions without the psychological readiness to face the high risks associated with digital assets. Practically, this research provides tangible benefits for various parties, especially educational institutions and students. For universities and study programmes, the results of this study can be used as a basis for designing financial literacy education programmes and risk management training that are more effective and relevant to the needs of students in the digital era. This research can help students better understand the importance of managing risk and making rational investment decisions, rather than simply following trends or succumbing to social pressure.

In addition, the findings of this study can serve as a reference for policymakers in designing strategies to educate and protect young investors in the highly volatile digital asset market. Thus, this research not only strengthens the theoretical basis in the field of behavioural finance but also provides practical solutions and recommendations to improve the quality of investment decisions among the younger generation.

LITERATURE REVIEW, RESEARCH FRAMEWORK, AND HYPOTHESES

Financial Literacy

Financial literacy refers to an individual's ability to understand and manage personal finances, encompassing financial planning, investment, savings, and debt management (Lusardi & Mitchell, 2011). Financial literacy is a crucial factor in making informed and sustainable financial decisions. According to Chen and Volpe (2002), individuals with high levels of financial literacy are more likely to make wise investment decisions compared to those with low financial understanding. In addition, Huston (2010) explains that financial literacy encompasses not only understanding financial concepts but also how individuals apply this understanding in their everyday lives.

In the context of investment, financial literacy plays a crucial role in helping individuals understand the risks and potential returns associated with an investment asset. Individuals with higher financial literacy are better able to avoid investment mistakes and make more informed financial decisions (Lusardi & Tufano, 2015). A study by Yoong (2011) shows that good financial literacy improves individuals' ability to diversify their investment portfolio, thereby reducing the risk of loss.

According to Chen & Volpe (2002), university students and younger age groups generally have lower levels of financial literacy compared to older age groups. Lusardi & Mitchell (2014) identified that women tend to have lower financial literacy than men, which impacts differences in investment behaviour. Meanwhile, Klapper et al. (2013) found that people in developing countries have lower levels of financial literacy compared to those in developed countries, which results in lower levels of financial inclusion.

Risk Tolerance

Risk tolerance is the extent to which an individual is willing to accept uncertainty in investment or financial decisions (Grable & Lytton, 1999). In the context of investment, individuals with high risk tolerance are more likely to invest in assets that have the potential for large profits but also carry high risk. In contrast, individuals with low risk tolerance tend to prefer more stable and secure investments, such as bonds or deposits (Grable & Joo, 2004). The study by Faff et al. (2008) suggests that investors with better access to financial information are more likely to have a higher risk tolerance, as they can make more rational investment decisions based on fundamental and technical analyses.

Barsky et al. (1997) found that age, income, education, and investment experience play a role in shaping a person's risk tolerance. Research by Akyildirim, Goncu, and Sensoy (2021) indicates that although young investors tend to be more risk-tolerant, they often experience panic selling during sharp price declines, suggesting that emotional factors still influence their risk tolerance.

Investment Decision

An investment decision refers to the process through which individuals or institutions determine how to allocate their available funds among different investment instruments by considering their financial objectives, risk preferences, and prevailing market conditions (Sharpe, 1964; Markowitz, 1952). In making such decisions, investors need to consider the relationship between the level of risk and the expected return of an investment, as these factors influence the selection of investment alternatives (Sharpe, 1964).

Markowitz (1952) emphasised the importance of diversification in investment to reduce risk and increase returns. Diversification enables investors to spread their risk by allocating funds to various assets, allowing potential losses on one asset to be offset by gains from other assets. In other words, diversification not only aims to reduce total risk, but also to maximise the risk-adjusted return taken by investors (Sharpe, 1964).

Lusardi & Tufano (2015) demonstrated that individuals with a better understanding of financial concepts, such as compound interest and risk management, are less likely to experience financial distress due to poor investment decisions. On the other hand, research by Lusardi & Mitchell (2014) suggests that a lack of financial literacy among young investors makes them more prone to impulsive investment decisions, especially in digital assets such as cryptocurrencies.

Hypotheses

Financial literacy encompasses fundamental knowledge about money management, budgeting, saving, investing, and understanding the risks and opportunities associated with various financial products and services. The concept underlying the link between financial literacy and investment decisions is financial behaviour theory, which emphasises that financial knowledge and understanding are essential for shaping rational, measured and responsible investment behaviour. Financial literacy empowers individuals to comprehend risks, mitigate psychological biases, and make informed investment decisions, especially in high-risk markets such as cryptocurrencies.

Financial behaviour theory, as explained by Kahneman and Tversky (1979) and Thaler (1985), highlights that financial decisions are not always made rationally, but are often influenced by psychological, social and cognitive factors. In this case, financial literacy acts as the main capital to shape more rational and measured investment behaviour. A study by Mahwan and Herawati (2021) in Indonesia found that 62% of

university students invest in cryptocurrencies without a sufficient understanding of the risks, leading to impulsive and high-risk investment decisions. Meanwhile, OJK (2022) also reported that the low level of financial literacy of Indonesians is inversely proportional to the high interest in investment, especially among the younger generation.

Financial literacy is closely linked to investment decisions, as good financial knowledge and skills enable individuals to understand risks, conduct thorough analyses, and make informed, rational investment decisions. Based on financial behaviour theory, financial literacy plays a crucial role in shaping more informed investment behaviour, mitigating the impact of psychological biases, and enhancing the quality of investment decisions, particularly in high-risk assets such as cryptocurrencies.

H1 : Financial literacy has a positive effect on students' cryptocurrency investment decisions.

H2a: Financial literacy has a positive effect on student risk tolerance in investment decisions.

H2b : Financial literacy has a positive effect on students' risk-taking behaviour in investment decisions.

H3 : Risk tolerance has a positive effect on student cryptocurrency investment decisions.

H4 : Risk-taking behaviour has a positive effect on student cryptocurrency investment decisions.

Financial literacy drives rational and measured investment decisions more effectively when supported by an appropriate level of risk tolerance and risk-taking behaviour. In the context of university students, those who have a good financial understanding, can assess and manage risks, and are brave enough to make decisions, will be better prepared to face the challenges of investing in the highly dynamic and high-risk cryptocurrency market.

Financial literacy, as financial knowledge and skills, plays a role in shaping the ability to analyse investment risks and opportunities. However, according to prospect theory, speculative cryptocurrency investment decisions are often influenced by how individuals perceive risk (e.g. fear of loss or risk-taking). This is where risk tolerance and risk-taking behaviour become critical moderators. Risk tolerance determines the extent to which students are willing to bear the volatility of cryptocurrencies. At the same time, risk-taking behaviour reflects actual actions in allocating funds to high-risk assets.

Several previous studies have demonstrated a significant relationship between risk-taking behaviour and risk tolerance, particularly in high-risk assets such as cryptocurrencies. The study by Johnson (2020) confirms that good risk management, including an understanding of personal risk tolerance limits, can reduce the potential for unexpected losses in cryptocurrency investments. This aligns with the findings of the World Risk Report (2021), which states that institutions or individuals implementing comprehensive risk management tend to have better investment performance stability, especially in volatile markets such as those involving cryptocurrency assets.

Logically, financial literacy is a crucial foundation for investment decision-making, as it provides an understanding of the risks, opportunities, and workings of financial instruments, such as cryptocurrencies. However, in practice, a high level of financial literacy does not always automatically result in rational and optimal investment decisions. This is where the role of risk tolerance and risk-taking behaviour becomes an important determinants that moderate the relationship. Based on financial behaviour theory, individual financial decisions are influenced not only by rational knowledge but

also by psychological factors and individual risk preferences (Kahneman & Tversky, 1979; Thaler, 1985). Students with high financial literacy but low risk tolerance tend to continue avoiding investments in high-risk assets, such as cryptocurrencies, despite understanding the opportunities and market mechanisms that these assets offer.

In contrast, students with high risk tolerance and risk-taking behaviour are more willing to make investment decisions in cryptocurrencies, even if their financial literacy level is moderate or low, due to the psychological drive to seek greater profits or follow trends. Thus, risk tolerance and risk-taking behaviour act as moderators that strengthen or weaken the effect of financial literacy on investment decisions. This means that good financial literacy will be more effective in encouraging rational investment decisions if supported by a level of risk tolerance and risk-taking behaviour that is consistent with the characteristics of cryptocurrency assets.

H5: Risk tolerance mediates the effect of financial literacy on cryptocurrency investment decisions in college students.

H6: Risk-taking behaviour mediates the effect of financial literacy on cryptocurrency investment decisions in college students.

METHOD

The research design in this study is quantitative, employing a survey approach, where data are collected through questionnaires and statistically analysed to test the relationship between variables defined in the research model. The respondents in this study are active students at UNS and several other campuses in Surakarta City who have invested in or are currently investing in cryptocurrency. The main characteristics considered are age, gender, major, investment experience, financial literacy level, and risk tolerance and risk-taking profile.

Data were collected using a questionnaire and subsequently analysed statistically to address the research objectives. The respondents comprised active students from Universitas Sebelas Maret (UNS) and several other universities in Surakarta who had either previously invested in or were currently investing in cryptocurrency. The sample size was approximately 75 to 190 students, following the recommended range proposed by Hair et al. (2019). Purposive sampling was applied to select participants who met specific criteria relevant to the research objectives (Campbell et al., 2016). Accordingly, eligible respondents were active students enrolled at UNS or other universities in Surakarta City, had experience investing in cryptocurrency or were currently doing so, and were willing to participate by completing the research questionnaire.

Investment decisions refer to the actions and consideration processes that students undertake when choosing to invest in cryptocurrency assets, encompassing aspects of rationality, risk understanding, and the influence of psychological and social factors. This decision is measured through a questionnaire that includes indicators such as investment experience, consideration in choosing assets, attitude towards risk, and investment behaviour. This study measures cryptocurrency investment using a 1-7 Likert scale and adapts questions from Faquh (2016), Shim and Lee (2011), and Doblas (2019).

The cryptocurrency investment decision instrument consisted of seven items assessing respondents' perceptions of cryptocurrency investment characteristics and potential uses. The items covered perceptions of the high level of risk and uncertainty associated with cryptocurrency investment, the relative riskiness of cryptocurrencies compared with other investment instruments, their potential function as a store of value, their use for online transactions, their potential impact on business transactions, and their potential to serve as an alternative to fiat currency.

Financial literacy refers to the knowledge, skills, and beliefs that students possess, influencing their attitudes and behaviours in making rational and responsible financial decisions, particularly when it comes to investing in cryptocurrency. Financial literacy is measured by understanding financial concepts, the ability to manage risk, and behaviour in choosing and carrying out investments. This study measures financial literacy using a Guttman scale and adapts questions from Le Fur & Outreville (2022). The questions asked include 1) Suppose you have Rp 100 in a savings account and the interest rate is 2% per year. After 2 years, what is the amount of savings if you have no withdrawals? 2) If the interest rate on your savings is 1% per year and the inflation rate is 2% per year, how many items can be purchased from the money in your account after 1 year? 3) When an investor spreads his money among different assets, what is the risk of losing money? 4) If the price of an item is Rp 20 and it has increased by 10%, what is the price of the item now? 5) Which statement is true about the relationship between risk and potential return on investment?

The data were analysed using a quantitative approach involving a series of statistical procedures, including validity and reliability assessments, multicollinearity and heteroscedasticity tests, multiple regression analysis, F-test, R-squared analysis, and t-test. In addition, Structural Equation Modelling (SEM) using the Partial Least Squares approach (PLS-SEM) was conducted with SmartPLS to evaluate the structural relationships among the variables and test the proposed hypotheses (Hair et al., 2022). These analytical procedures were employed to assess the quality of the measurement instruments and examine the relationships among the variables in accordance with the research objectives and hypotheses.

RESULTS AND DISCUSSION

To examine the proposed hypotheses, the structural model was evaluated using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS. The significance of the hypothesised relationships was assessed using a two-tailed bootstrapping procedure. Bootstrapping repeatedly draws subsamples from the original data with replacement and re-estimates the PLS-SEM model, allowing the standard errors, t-statistics, and p-values of the path coefficients to be estimated without relying on normality assumptions (Hair et al., 2022; Ringle et al., 2024). Table 1 presents the bootstrapping results for the direct and indirect relationships specified in H1–H6, including the original path coefficient, bootstrap sample mean, standard deviation, t-statistic, and p-value.

The values reported in Table 1 are generated from the PLS-SEM bootstrapping procedure. The Original Sample (O) represents the path coefficient estimated from the original dataset, while the Sample Mean (M) represents the average path coefficient across the bootstrap subsamples. The Standard Deviation (STDEV) represents the bootstrap standard error of the estimated coefficient. The T-statistic is obtained by dividing the absolute value of the Original Sample coefficient by its bootstrap standard error ($t = |O/STDEV|$), while the P-value is used to determine the statistical significance of the hypothesised relationship. In this study, a two-tailed test is used to assess whether each hypothesised path differs significantly from zero.

Table 1
Bootstrapping two-tailed

Variabel	Hypothesis	Original Sample	Sample Mean	Standard Deviation	T-statistics	P-values
X → Y	H1	0.491	0.493	0.080	6.165	0.000
X → Z1	H2a	0.404	0.401	0.113	3.587	0.000
X → Z2	H2b	0.485	0.484	0.097	4.989	0.000
Z1 → Y	H3	0.579	0.580	0.075	7.750	0.000
Z2 → Y	H4	0.665	0.669	0.073	9.085	0.000
X → Z1 → Y	H5	0,184	0,184	0,067	2,740	0,006
X → Z2 → Y	H6	0,277	0,281	0,070	3,982	0,000

Source: Data Analyzed, 2025

The test results from this study indicate that financial literacy has a significant effect on students' cryptocurrency investment decisions, both directly and through the mediating roles of risk tolerance and risk-taking behaviour. In Model 2, the coefficient value for the relationship between financial literacy and investment decisions is 0.491, with a t-value of 6.165 and a significance level of $p < 0.01$. This means that the higher a student's understanding of finance, the more likely they are to make rational and measured investment decisions. In testing the effect of financial literacy on risk tolerance (Model 5), the coefficient is 0.404 with $t = 3.587$, and on risk-taking behaviour (Model 6) is 0.485 with $t = 4.989$, both of which are also significant at $p < 0.01$. This indicates that financial literacy not only has an impact on the final investment decision, but also on the formation of students' mental attitude towards risks and their tendency to take risks in investment. In addition, the risk tolerance variable is also shown to have a significant effect on investment decisions in Model 7, with a coefficient of 0.579 and a t-value of 7.750, indicating that the higher a student's tolerance for risk, the more likely they are to invest in volatile assets, such as cryptocurrency.

The effect of risk-taking on investment decisions (Model 8) is even more substantial, with a coefficient of 0.665 and a t-value of 9.085, suggesting that risk-taking behaviour is a dominant predictor of crypto investment decision-making. In mediation testing, Models 9 and 10 show that risk tolerance and risk-taking significantly mediate the effect of financial literacy on investment decisions, with mediation coefficients of 0.579 ($t = 7.742$) and 0.664 ($t = 9.021$), respectively. This means that financial literacy will be more effective in encouraging students to invest if accompanied by mental readiness to face risks and a measurable willingness to make decisions in uncertain conditions. The model with the highest R^2 value of 0.472 (Model 10) indicates that the combination of financial literacy and risk-taking explains 47.2% of the variation in investment decisions. The model also yields SRMR = 0.060 and NFI = 0.834, indicating that it has excellent measurement quality and fit. Thus, the results confirm that financial knowledge alone is insufficient without psychological preparedness for risk, and the combination of the two is a key factor in making wise and rational cryptocurrency investment decisions among university students.

Discussion

Based on the study results analysed using SEM-PLS, financial literacy is proven to significantly drive cryptocurrency investment decisions, both directly and indirectly through increased risk-taking and risk tolerance. High financial literacy enables

individuals to understand better the risks, potential returns, and the volatile nature of the cryptocurrency market. This knowledge equips them with the ability to rationally assess opportunities and threats, making them more confident in making investment decisions. Additionally, financial literacy enhances individuals' risk-taking and increases their risk tolerance, two psychological factors that are crucial in uncertain cryptocurrency investments. Thus, financial literacy not only strengthens the foundation of knowledge but also shapes a risk-adaptive mindset, which ultimately encourages one to make informed investment decisions in digital assets, such as cryptocurrencies.

The findings of this study align with and extend the results of previous research, which confirm the importance of financial literacy and risk preference or tolerance in shaping investment decisions in cryptocurrency assets. Studies by Gustika and Yaspita (2021) and Jonathan and Sumani (2021) demonstrate that financial literacy has a positive and significant impact on investment decisions, particularly in the context of cryptocurrency assets. The research, conducted in Jambi City, found that the financial literacy and risk preferences of millennial investors positively contribute to their cryptocurrency investment decisions, encouraging them to adopt more rational strategies, such as portfolio diversification and selecting assets with lower volatility. In addition, research in South Sulawesi conducted by Khalik et al. (2024) demonstrates that financial literacy, risk tolerance, and risk perception jointly and partially have a positive and significant effect on cryptocurrency investment decisions, with financial literacy being the most dominant variable. Similar findings were also reported by Ningrum et al., (2023) in a study on students at Ganesha University of Education, who found that both financial literacy and risk tolerance have a positive and significant effect on cryptocurrency investment decisions among students.

This study provides valuable insights into the role that improving financial literacy plays in encouraging wiser and more rational investment decisions, particularly among university students who face the challenge of making informed decisions about risky investments, such as cryptocurrencies. This research confirms that financial literacy has a positive and significant influence on the quality of investment decision-making. Individuals who understand financial concepts, risks, and money management strategies are better able to assess opportunities and avoid investments that are detrimental or unsuitable for their risk profile.

To maximise the benefits of financial literacy, several practical steps can be taken to enhance it. Firstly, students can attend financial literacy training or courses, both online and offline, to gain an understanding of the basics of financial management and investment. Second, getting used to budgeting, recording expenses and conducting regular financial evaluations will help build financial discipline. Third, actively seeking information from trusted sources, such as financial books, educational portals, and financial apps, is also highly recommended to keep knowledge up-to-date and relevant to market developments. Additionally, expanding discussions and education within the campus or community through seminars, workshops, and investment forums will enhance collective understanding.

CONCLUSION AND SUGGESTION

The purpose of this study is to analyse the effect of financial literacy on cryptocurrency investment decisions among university students, by considering the mediating role of risk tolerance and risk-taking behaviour. This study aims to determine whether students with higher levels of financial literacy are more likely to make rational and measured investment decisions in highly volatile digital assets, such as cryptocurrencies.

Specifically, this study aims to investigate the extent to which financial literacy influences students' tolerance and willingness to take risks, ultimately affecting the quality of their investment decisions. Using a quantitative approach and financial behaviour theory, this study aims not only to broaden the academic understanding of university students' investment behaviour but also to contribute empirical evidence supporting the importance of financial education as a risk mitigation strategy in the digital era.

This study seeks to fill and address some important gaps in the literature and practice of student investment in Indonesia, particularly regarding the influence of financial literacy on cryptocurrency investment decisions by considering the role of risk tolerance and risk-taking behaviour. Previous studies are generally limited to the context of developed countries or focus on conventional investments, whereas empirical studies in Indonesia, particularly on students as investors, remain scarce. In addition, many studies only examine the direct effect of financial literacy on investment decisions, without considering psychological and behavioural factors such as risk tolerance and risk-taking tendencies, which are highly relevant in volatile digital asset investments.

This study addresses these limitations by simultaneously examining the relationship between financial literacy, risk tolerance, risk-taking behaviour, and cryptocurrency investment decisions among university students in Surakarta City. This study also employs a financial behaviour theory approach to illustrate how financial knowledge, attitudes towards risk, and risk-taking behaviour interact to influence rational and emotional investment decisions. Thus, this study not only broadens academic insights in the field of financial behaviour but also provides new empirical data relevant to the local Indonesian context. In addition, the results of this study are expected to serve as a basis for universities, policy makers, and students themselves to design more effective financial education and risk management strategies, so that the quality of investment decisions among the younger generation can improve and the risk of losses due to speculative behaviour can be minimised.

This study has several limitations that are worth noting. First, this study was conducted only on students at Universitas Sebelas Maret and several universities in Surakarta City, so the results may not necessarily be generalised to all students in Indonesia or other groups of people with different characteristics. Second, the data used in this study were obtained through a self-report questionnaire survey, so there is a possibility of respondent subjectivity bias, such as the tendency to provide answers that are considered socially correct or less honest in revealing their investment behaviour. Third, this study focuses solely on the variables of financial literacy, risk tolerance, and risk-taking behaviour, without examining in depth other external factors, such as family influence, social environment, or macroeconomic conditions, that can also influence student investment decisions.

In addition, the cross-sectional research design only describes the relationship at one specific point in time, so it has not been able to capture the dynamic changes in investment behaviour as the cryptocurrency market develops. These limitations are expected to be taken into consideration in future research to expand sample coverage, employ more diverse data collection methods, and include other relevant variables, thereby making the research results more comprehensive and applicable.

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