

## Research Article

# Financial Literacy and Risk Perception to Maximize Crypto Asset Investment Decisions

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**Abstract.**

This study aims to improve investment decisions in crypto assets by optimizing the integration of financial literacy and risk perception through behavioral finance, emphasizing an in-depth understanding of the psychological and behavioral factors that influence financial decision-making. This study used a quantitative approach with primary data sourced from online questionnaires distributed via the Google Forms platform. The Slovin technique was used for sampling, resulting in a sample of 300 respondents. The analysis technique used by SEM-PLS is the Structural Equation Model Partial Least Square with the help of the SmartPLS program. The research was conducted at PT Indodax Nasional Indonesia or "INDODAX – Indonesia Bitcoin & Crypto Exchange". The results find that the integration of financial literacy, understanding of risk through behavioral finance, and the use of technology can significantly improve investment decisions in crypto assets. This research provides in-depth insights into the relationship between financial literacy, risk perception, and investment decision-making in crypto assets. The theoretical implications of the study confirm that financial literacy, understanding of risk, and related education contribute to improving optimal investment decisions in crypto assets as well as shaping financial behavior. The practical implication is the need for financial organizations and educational institutions to focus on financial literacy education and risk perception training to support optimal investment decision-making in crypto assets.

**Keywords:** financial literacy-1, risk perception-2, behavioral finance-3

## 1. INTRODUCTION

The application of financial literacy in behavioral finance provides deeper insight into market behavior, helping to optimize crypto asset investment decisions by understanding investor habits (Gerrans et al., 2023; Lestari et al., 2023). Financial literacy integrated with risk perception can identify patterns of behavior that affect the crypto asset market, allowing investors to make more informed decisions (Ardoğan, 2023).

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Understanding behavioral finance makes financial literacy strong for managing the impact of emotions and irrationality of the market, helping to achieve crypto asset investment goals more consistently (Weixiang et al., 2022; Choi et al., 2022). Financial literacy based on behavioral finance strengthens investment decisions with a deep understanding of the psychological factors that affect the asset market (Seraj et al., 2022; Wangzhou et al., 2021). The integration of financial literacy with behavioral finance provides a competitive advantage, investors can optimize crypto asset portfolios by considering behavioral and psychological aspects of the market (Abreu & Mendes, 2010). Understanding risk perception through behavioral finance helps optimize crypto asset investment decisions, enabling more effective risk management by investors (Jain et al., 2023).

The application of behavioral finance in understanding risk perception opens up opportunities to form a solid foundation in identifying and overcoming crypto asset market uncertainty and supporting informed investment decisions (Rahyuda & Candradewi, 2023). Understanding risk through behavioral finance helps investors avoid impulsive decisions, creating a balanced investment strategy (Almansour et al., 2023a). By considering the psychological risk factor, investors can maximize the profit potential of crypto assets while reducing the risk of unexpected losses (Hafishina et al., 2023). The integration of behavioral finance in understanding risk perception provides a competitive advantage, enabling investors to take proactive steps in the face of crypto asset market volatility (Ahmed et al., 2022; Xu, 2023). Strong financial literacy and a deep understanding of risk perception through behavioral finance open up opportunities to improve crypto asset investment decisions.

The linkage of financial literacy with an understanding of behavioral finance allows investors to create strong investment strategies in the dynamic era of crypto assets (Bennett et al., 2023). Through a combination of financial literacy and market behavior analysis, investors can more effectively manage risk perceptions (Song et al., 2023). The application of financial literacy in behavioral finance helps overcome the uncertainty of the crypto asset market, allowing investors to stay focused on long-term investment goals (Vuković & Pivac, 2023; Almansour et al., 2023b). The integration of financial literacy and understanding of market behavior through behavioral finance provides a competitive advantage, enabling investors to make crypto asset investment decisions following risk tolerance and financial goals (Jain et al., 2023).

However, the complexity of crypto assets: Financial literacy integrated with risk perception can identify patterns of behavior that affect the crypto asset market, allowing investors to make more informed decisions (Drozd et al., 2020); Uncertainty occurs

because investor actions can be influenced by unforeseen external factors, such as political events or global changes, which can suddenly change market behavior and hinder portfolio optimization (Asiri et al., 2023); Implementation limitations make investors face insurmountable risks in investing in crypto assets. (Chhatoi & Mohanty, 2023).

This research is important because combining financial literacy and understanding of risk perception in a behavioral finance framework can provide critical insights to optimize crypto asset investment decisions and ensure the sustainability and effectiveness of financial strategies in a dynamic market.

The purpose of this study is how financial literacy and risk perception can be optimally integrated through behavioral finance to improve investment decisions in crypto assets, focusing on a deep understanding of psychological and behavioral factors that influence financial decision-making.

## 2. METHOD

### 1. Financial literacy (X1)

Understand and understand how to manage personal finances well, how to invest, how to borrow money at banks or other institutions, understand the concept of loans or bank credit, understand the benefits of insurance, know the purpose of investing, and understand the benefits of investing.

### 2. Risk perception (X2)

Bad news related to government regulation of crypto assets is a risk warning, security breaches against exchanges are signs of risk to watch out for, clear government regulations related to crypto assets are a sign of risk in the crypto market is more controlled, the use of cutting-edge security technology helps control risk, pressure to make quick profits in the crypto market resulting in high speculative actions, high uncertainty in crypto asset regulatory developments leads to higher risks.

### 3. Behavioral finance (Z)

Record daily receipts and expenses, the results of income are partly separated for investment and the rest for consumption, make a daily spending budget, record monthly expenses in detail, save funds for unexpected expenses in savings, maintain emergency savings funds, save periodically, provide funds for future investments, conduct price surveys to help get cheap prices.

### 4. Investment Decision Crypto asset (Y)

Crypto assets have the potential to provide great investment returns, crypto asset investments have a high level of risk, the chance of loss in crypto assets is proportional to the chance of profit, and the period of investment in crypto assets has a big impact on the potential return on investment, investors must have a clear time frame plan when investing in crypto assets to manage risk.

Research Concept

The relationship between variables consists of financial literacy variables (X1), risk perception variables (X2), variables tied to investment decision crypto assets (Y), and intervening behavioral finance variables (Z). The relationship of each variable can be seen in the following

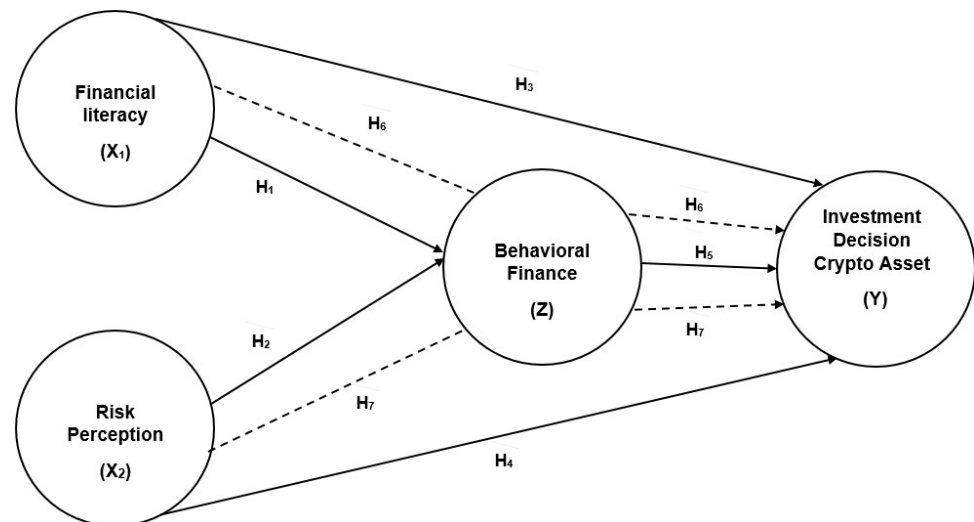


Figure 1: Relationships between variables.

- : No direct effect
- : Directly influential

Hipotesis:

- H1: Financial literacy has a positive effect on behavioral finance.
- H2: Risk perception has a positive effect on behavioral finance
- H3: Financial literacy positively affects crypto asset investment decisions.
- H4: Risk perception positively affects crypto asset investment decisions
- H5: Behavioral finance influential positive towards investment decision crypto asset
- H6: Behavioral finance intervention influences financial literacy toward investment decisions regarding crypto assets.

Data Collection Techniques

Data collection is carried out through the use of online questionnaires managed through the Google Forms platform. Google Form hyperlinks are disseminated using messaging apps like Telegram to crypto community groups. Surveys through Google Forms are filtered to ensure that only respondents living in Indonesia respond.

**Research Instruments**

Research instruments refer to the methods used for data collection. Data collection using Google Forms allows participants to indicate a level of consent or disapproval by selecting “Strongly Agree” or “Strongly Disagree”. The Likert scale is used to measure psychological variables such as perceptions, attitudes, and opinions of respondents. Likert scale standard scores: strongly agree score 4, agree score 3, disagree score 2, strongly disagree score 1.

**3. RESULTS AND DISCUSSIONS**

Coefficient determinants of financial behavior and cryptocurrency asset investment decisions impact financial literacy, which is influenced by the two focal variables. Meanwhile, financial behavior and asset investment choices have an impact on risk perception, another dependent variable. The results of the coefficient of determination (R-square) of the analysis are listed in the table using SmartPLS.:

TABLE 1: R-square value.

Construction	R Square	R Square adjusted
Behavioral finance (Y)	0.723	0.727
Investment decision crypto asset (Z)	0.612	0.611

Source: SmartPLS processed data

In the bootstrap resampling method used in this study, the hypothesis will be accepted if the significance value of t-values is greater than 1.96 and the p-values < 0.05 then Ha is accepted and Ho is rejected and vice versa.

Financial literacy has a positive impact on behavioral finance because it equips individuals with the knowledge and skills necessary to make informed financial decisions [1]. With a good understanding of financial concepts, individuals are more likely to make rational and well-planned financial choices, thereby reducing impulsive spending and increasing savings and investments [2]. It also encourages a disciplined approach to financial planning, enabling individuals to set and achieve monetary goals [3]. Overall, financial literacy plays an important role in influencing positive financial behavior by empowering individuals to make sound financial decisions and achieve long-term

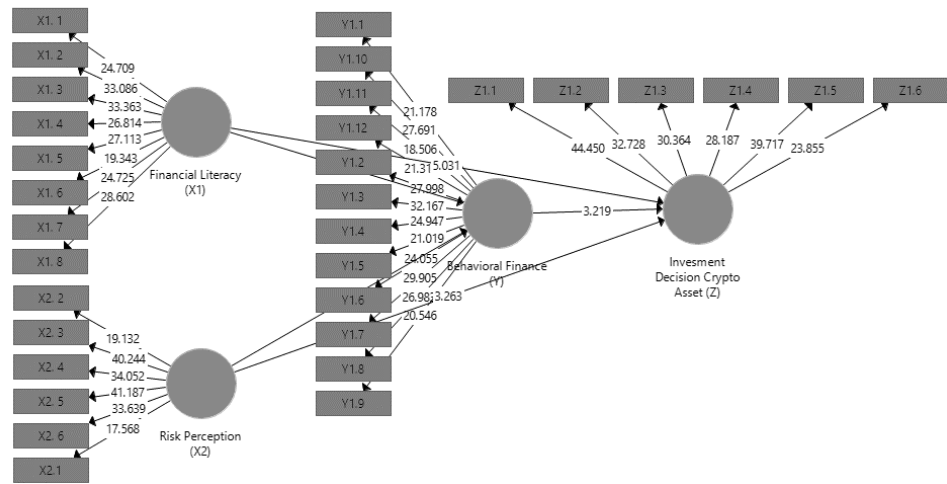


Figure 2:

TABLE 2: Statistical T results.

Item	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (IO/STDEV)	P values
Financial literacy (X1) -> Behavioral finance (Y)	0.513	0.509	0.064	7.979	0.000
Risk perception (X2) -> Behavioral finance (Y)	0.391	0.395	0.064	6.070	0.000
Financial literacy (X1) -> Investment decision crypto asset (Z)	0.375	0.374	0.075	5.031	0.000
Risk perception (X2) -> Investment decision crypto asset (Z)	0.266	0.266	0.082	3.263	0.001
Behavioral finance (Y) -> Investment decision crypto asset (Z)	0.267	0.270	0.083	3.219	0.001
Financial literacy (X1) -> Behavioral finance (Y) -> investment decision crypto asset (Z)	0.137	0.139	0.046	2.957	0.003
Risk perception (X2) -> Behavioral finance (Y) -> investment decision crypto asset (Z)	0.105	0.104	0.036	2.894	0.004

Source: SmartPLS processed data

financial stability [4]. Risk perception contributes to financial behavior by encouraging prudence and deeper consideration in financial decision-making. With a good understanding of financial risk, individuals are more likely to make informed strategic decisions [5]. High-risk awareness discourages impulsive or speculative behavior, encouraging prudent approaches to financial and investment planning [6]. Good risk perception helps individuals navigate the financial markets effectively, make informed decisions, and contribute to overall financial well-being [7].

Financial literacy impacts investment decisions in crypto assets by providing the knowledge necessary to navigate complex markets. Understanding financial concepts such as diversification, risk management, and fundamental analysis also helps reduce impulsive or speculative behavior [8]. Risk perception plays an important role in crypto asset investment decision-making because it provides a foundation for investors to evaluate and manage the risks associated with assets [9]. In the context of crypto currencies, where price volatility can be high, a good knowledge of risk can provide a competitive advantage [7]. The role of good finance has a positive impact on investment decision-making in crypto assets. Good financial education can improve investors' understanding of the factors that influence crypto asset prices, including global market influence, regulation, and blockchain technology innovation [10].

Behavioral finance plays an important role in intervening in the influence of financial literacy on investment decision-making in crypto assets [11]. Investors are more careful in managing risk and making more rational investment decisions [12]. Behavioral finance understands that investment decisions are often not entirely rational, and are sometimes influenced by cognitive biases, overconfidence, or excessive uncertainty. Through behavioral finance interventions, such as overcoming overconfidence tendencies or herd behavior, investors can mitigate the negative effects of irrational behavior and improve the quality of investment decisions in crypto assets [13].

## 4. CONCLUSION

Improving investment decisions in crypto assets through optimal integration of financial literacy and risk perception through behavioral finance involves the development of in-depth specialized educational programs on psychological and behavioral factors, as well as the application of an interactive approach to provide investors with a better understanding. Completion is strengthened through training in reducing cognitive biases, applying technology at an individual level, implementing risk awareness efforts, and empowering investors through collaboration with financial institutions. It aims to create an environment that supports more informed and rational investment decisions on crypto assets.

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