

## ***The Influence of Heuristics on Investment Decision Making in Cryptocurrency Assets (A Study of Retail Investors in the Bandung Raya Area)***

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**Abstract:** In recent years, the cryptocurrency market in Indonesia has grown rapidly. Along with this trend, investor behavior is frequently influenced by cognitive shortcuts known as heuristics. The purpose of this study is to look at how heuristic biases such as representativeness, overconfidence, anchoring, availability bias, and the gambler's fallacy affect retail investment decisions in the Bandung Raya area. A quantitative approach with a survey method was used to collect data from 139 respondents, which were then analyzed using statistical techniques such as correlation tests and simple linear regression. The findings show that heuristic biases have a significant impact on investment decisions, emphasizing the significance of raising investor awareness of psychological factors that may interfere with rational judgment when making cryptocurrency investments.

**Keywords:** cryptocurrency, heuristics, investment decisions

### **INTRODUCTION**

Investment is the act of allocating capital in the present with the expectation of generating future returns (Rozak & Amalia, 2023). Amid economic uncertainty and high inflation, investment serves as a crucial strategy for maintaining financial stability and preserving asset value. Moreover, investing plays a vital role in preparing for future needs such as education, retirement, or emergency funds. Forms of investment are diverse, including tangible and financial instruments such as assets, stocks, gold, and the increasingly popular cryptocurrency. Cryptocurrency is a type of digital currency based on encryption technology that enables decentralized transaction verification, with Bitcoin being the primary innovation (Al-Mansour, 2020).

**Table 1. Ranking of Countries With the Best Crypto Adoption**

Country	Overall Index Ranking
India	1
Nigeria	2
Indonesia	3
USA	4
Vietnam	5

Source: Chainalysis, 2024

The adoption of cryptocurrency in Indonesia has grown rapidly, as evidenced by the country's position as the third-highest in global crypto adoption, after India and Nigeria, according to Chainalysis: 2024 Geography of Cryptocurrency Report. Along with this trend, the volume of crypto asset transactions has also surged significantly. The Financial Services Authority (Otoritas Jasa Keuangan/OJK) reported that the total value of cryptocurrency transactions reached IDR 556.53 trillion in November 2024, a 376% increase over the same period the previous year (Ervana, 2025). Despite not being recognized as a legal form of payment, cryptocurrency is classified as a tradable commodity under Law No. 10 of 2011 and Bappebti Regulation No. 5 of 2019. Furthermore, Bank Indonesia prohibits its use in payment transactions under BI Regulation No. 19/12/PBI/2017.

As transaction volumes and market complexity continue to increase, investors frequently encounter challenges in making rational decisions. One significant factor contributing to this issue is heuristic bias, which emerges when investors are confronted with excessive information and insufficient time to process it comprehensively (Juwita et al., 2022). Heuristics are efficient cognitive mechanisms that simplify decision-making by selectively disregarding certain information, thereby enabling individuals to manage uncertainty more effectively (Gigerenzer & Brighton, 2009). However, in the context of investment, reliance on heuristics can result in suboptimal outcomes, as decisions are frequently based on intuition or prior experience rather than thorough data analysis. Consequently, such decisions may not accurately capture actual market dynamics or associated risks.

Access to information about cryptocurrency is now highly accessible through various mobile applications that provide real time price data, as well as news from the internet. While this convenience is beneficial, it also carries the potential to introduce bias in the information received by investors (Handoko et al., 2024). Moreover, the significantly higher price volatility of

cryptocurrency compared to stocks further increases the likelihood of heuristic bias. According to Benartzi and Thaler (2007), heuristic bias can take many forms, including representativeness, overconfidence, availability, anchoring, and gambler's fallacy. These biases can cause investors to make poor decisions because they rely on perception and emotion rather than objective and rational analysis.

Several previous studies have looked into the role of heuristics in investment decision making; however, the majority of this research has focused on the stock market. For example, Cao et al. (2020) found that heuristic behavior influences investment decisions in the Vietnamese stock market. Similarly, Souza et al. (2020) discovered that heuristics significantly influence investment decisions in the Brazilian stock market. Furthermore, Xia and Madni's (2024) research on the Chinese stock market found that heuristics can be a vulnerability factor influencing investment decisions. In contrast, research into the role of heuristics in cryptocurrency investment remains limited. Al-Mansour (2020) conducted a relevant study and discovered that heuristics have a significant impact on investors' investment decisions in the Saudi cryptocurrency market.

This study fills a gap by focusing on the impact of heuristics on cryptocurrency investment decision-making, recognizing that research linking these two factors is limited, particularly in the Indonesian context. This study also incorporates five types of heuristics, including representativeness, overconfidence, availability, anchoring, and the gambler's fallacy, which were synthesized from previous studies. This comprehensive approach makes a novel contribution, as previous research has only looked at a subset of these heuristics in isolation.

The novelty of this research lies in its focus on cryptocurrency investors, who exhibit distinct characteristics and market dynamics compared to the stock market. While numerous studies have looked into heuristics in the stock market, this study makes a unique contribution by examining the impact of heuristics on investment decisions in the Indonesian cryptocurrency market. This research is significant given the high adoption of cryptocurrency as an investment instrument in Indonesia, but there is still a lack of research into the relationship between heuristic biases and decision-making in this sector. The findings are expected to provide deeper psychological insights for investors navigating the complex and volatile crypto market, as well as serve as a reference for understanding the risks arising from biases in decision-making. Furthermore, the majority of cryptocurrency enthusiasts come from the millennial and Generation Z cohorts, who are known to adopt new technologies and digital investment instruments more rapidly. This makes the Bandung Raya area an ideal location for this study, considering it has the highest population of Generation Z in Indonesia.

## **LITERATURE REVIEW**

### **Heuristics**

Heuristics represent a practical approach to decision-making that employs simple rules to solve problems efficiently, although they do not always yield perfect solutions. This strategy assists individuals in simplifying complex issues, reducing cognitive load, and focusing attention on relevant information to expedite the decision-making process (Cascão et al., 2022; Ratnadi et al., 2020). This approach is consistent with cognitive theory, which emphasizes the role of mental processes such as perception, reasoning, and interpretation in shaping human behavior. Factors such as beliefs, motivation, and individual goals significantly influence how a person processes information and makes decisions (Nurain et al., 2024). However, in complex situations, heuristics often give rise to biases because decisions are made based on simple rules without in-depth analysis.

In the context of investment, prudent investors should consider both technical and fundamental analysis before allocating capital to a particular asset (Munggaran et al., 2018). This approach aims to avoid decisions based solely on intuition or limited information, which can increase the risk of losses. Otherwise, the reliance on heuristics in dynamic and complex market conditions may lead to biases that have the potential to be detrimental.

This study uses five types of heuristic biases as main indicators: representativeness, overconfidence, availability, anchoring, and the gambler's fallacy. These indicators were chosen based on empirical evidence demonstrating the significant impact of these biases on investment decisions, emphasizing the importance of understanding heuristics in order to analyze investor behavior more thoroughly.

### **Representativeness**

The representativeness heuristic is the tendency to estimate the likelihood of an event based on its similarity to previous experiences or stereotypes. This often leads to prediction errors by assuming that random patterns follow a limited sequence of events, while disregarding other relevant information (Souza et al., 2024; Khan et al., 2021; Willows and Richards, 2022).

### **Overconfidence**

Overconfidence is the tendency for people to overestimate their abilities, knowledge, and judgment in decision-making, leading them to believe that their decisions are more accurate than others'. This is frequently accompanied by an illusion of certainty caused by a lack of experience and errors in interpreting information (Quaicoe and Eleke-Aboagye, 2021; Cao et al., 2021;

Vukovic and Pivac, 2023; Souza et al., 2024).

### **Anchoring**

Anchoring is the tendency for people to rely too heavily on initial information when making decisions, even if it is irrelevant. As a result, investors risk making poor decisions by basing buy or sell prices on historical data (Marjerison et al., 2023; Kartini and Nahda, 2021; Jain et al., 2020).

### **Gambler's Fallacy**

The gambler's fallacy is a cognitive bias in which investors mistakenly believe that random events will self-correct with time. As a result, they tend to make irrational decisions, such as increasing their investment based on the belief that a trend will reverse, even in the absence of clear evidence (Quaicoe and Eleke-Aboagye, 2021; Kong et al., 2020; Gemayel and Preda, 2021).

### **Availability**

This bias refers to the tendency of individuals to perceive information that is easily recalled or frequently comes to mind as representative, even when it is unsupported by objective facts (Kamran et al., 2020). Such a tendency can encourage irrational investor behavior and influence investment performance. Easy access to irrelevant information further contributes to shifts in risk perception, which ultimately has a negative impact on investment decision-making (Khan et al., 2021).

### **Investment Decision Making**

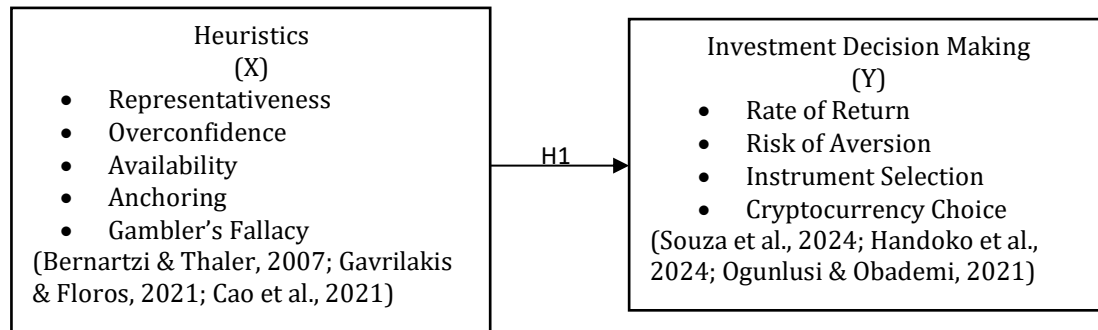
Investors' investment decisions reflect their desire to choose options with higher returns. This intention is shaped by anticipated gains, which are influenced by financial literacy and the presence of biases in the investment process. Behavioral finance helps investors make more informed decisions and reduces the likelihood of investment errors (Suresh, 2021). Several indicators influence investors' decisions to invest in cryptocurrency, including expected return rates, risk aversion tendencies, choice of investment instruments, and the specific type of cryptocurrency selected (Handoko et al., 2024; Ogunlusi and Obademi, 2021; Souza et al., 2024).

### **Research Model**

To measure the influence of heuristics (variable X) on investment decision-making (variable Y), this study employs five indicators for heuristics: representativeness, overconfidence, availability, anchoring, and the gambler's fallacy (Benartzi and Thaler, 2007; Gavrilakis and Floros, 2021; Cao et al., 2021). Meanwhile, investment decision-making is assessed using four

indicators: rate of return, risk aversion, instrument selection, and the type of cryptocurrency chosen (Souza et al., 2024; Handoko et al., 2024; Ogunlusi and Obademi, 2021).

According to the literature review and findings from previous studies, heuristics influence investment decision-making. The following is the conceptual framework that outlines the variables to be analysed.



**Figure 1. Research Model**

## METHOD

### Population and Sampling Design

This study's population consists of retail investors in the Bandung Raya area who have invested in at least one type of cryptocurrency, without any specific time constraints. In other words, respondents are considered part of the research population as long as they have made any cryptocurrency investment, regardless of the duration or timing of that investment. The sample was chosen using a non-probability selection method with a purposive sampling strategy, which entails selecting participants based on particular criteria related to the objectives of the study (Chaniago et al., 2023). The sample criteria include retail investors who are currently or have previously invested in cryptocurrency in Indonesia. Because the total population is not precisely known, the sample size was computed using Hair's formula, which suggests a ratio of 5 to 10 times the number of indicators. Given the relatively small number of indicators used, Chaniago et al. (2023) recommend applying a multiplier of 10, 15, 20, or 25. This study applies a multiplier of 15, resulting in a sample size of  $9 \times 15 = 135$  respondents.

### Research Instrument

Data collection was carried out using primary data obtained directly from respondents through an online questionnaire distributed via Google Form. Data were obtained using a standardized questionnaire comprising of closed-ended items measured on a Likert scale. The questionnaire was developed based on items that have been validated in various previous

studies.

### Analysis Method

This study takes a quantitative approach to analyzing the relationship between heuristic biases and investment decision-making, using IBM SPSS Statistics 27. The data analysis process is divided into several stages, including validity and reliability testing to ensure the research instrument's quality, descriptive analysis to describe the data's characteristics, classical assumption testing to meet the requirements for regression analysis, and correlation and simple regression testing to identify and measure the strength of the relationships between the variables studied.

## RESULT

### Respondent demographics

Out of 139 respondents, as presented in Table 2, 79 individuals (56.8%) were male and 60 individuals (43.2%) were female. A total of 50 respondents (42.45%) were aged between 19 and 25 years, while 89 respondents (57.55%) were between 26 and 39 years old. The majority of respondents were private-sector employees (33.8%), followed by students (23%), entrepreneurs (15.8%), civil servants (15.1%), freelancers (7.2%), and teachers or lecturers (5%). These data indicate that cryptocurrency investment attracts a diverse range of age groups and professional backgrounds.

**Table 2. Respondent demographics**

Characteristics	Category	Frequency	Percentage
Gender	Men	79	56,8%
	Women	60	43,2%
Age	19-25	59	42,45%
	26-39	80	57,55%
Profession	Private employees	47	33.8%
	Students	32	23%
	Entrepreneur	22	15,8%
	Civil Servants/State	21	15,1%
	Civil Apparatus		
	Freelancer	10	7,2%

Source: Data is processed, 2025

### Validity Test Results

Based on the validity test results, all items of variable X (heuristics) in the study instrument indicated good validity. This is evidenced by significant Pearson correlation values between each item (X\_REP1 to X\_AB2) and the total score (XTOTAL). Most items showed

significant correlations at the 0.01 level, while some others were significant at the 0.05 level. These findings indicate that each item consistently and appropriately measures the heuristics construct as intended.

Similarly, the validity test results for the items on variable Y (investment decision-making) showed that the majority of items possess good validity. Validity was assessed through the Pearson correlation between each item (Y\_RO1 to Y\_CC3) and the total score (YTOTAL). The analysis revealed that most items had significant correlation values at either the 0.05 or 0.01 level, indicating that these items validly and consistently measure the construct of variable Y.

### Reliability Test Results

Based on the reliability test results for variable X (heuristics), a Cronbach's Alpha value of 0.720 indicates that the research instrument consisting of 10 items has good reliability and can be used consistently to measure the construct. Meanwhile, the reliability test results for variable Y (investment decision-making) showed a Cronbach's Alpha value of 0.774. This value signifies that the instrument comprising 9 items possesses good internal consistency and is suitable for use in the study.

### Descriptive Analysis Results

Table 3 presents the descriptive analysis results for the heuristics variable, measured through 10 questionnaire items, with mean values ranging from 3.4317 to 4.2590. The indicators X\_OV2 (overconfidence) and X\_AB2 (availability) recorded the highest averages at 4.2590. This indicates that overconfidence and the tendency rely on easily recalled facts are dominant behavioral patterns among cryptocurrency investors in the Bandung Raya area. Overconfidence may drive decisions without objective risk consideration, while availability causes investors to focus on salient information without comprehensive analysis.

Conversely, the indicator X\_GA1 (gambler's fallacy) recorded the lowest mean value at 3.4317, suggesting that belief in the correction of random events is less prevalent compared to other forms of bias. This implies that not all heuristics dominate investor behavior equally.

Standard deviation values range from 0.77402 to 0.96211, indicating a reasonable variation in responses. The highest standard deviation was observed in X\_AN1 (0.96211), reflecting more diverse perceptions regarding anchoring bias, possibly influenced by individual experience or knowledge. Overall, heuristics play a significant role in cryptocurrency investment decisions, although the degree of influence varies depending on the type of bias.

**Table 3. Descriptive Analysis of Variables X**



<b>Variable</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
X_REP1	139	1.00	5.00	4.2158	.89897
X_REP2	139	1.00	5.00	4.0504	.86245
X_OV1	139	1.00	5.00	4.1367	.79127
X_OV2	139	2.00	5.00	4.2590	.77402
X_AN1	139	1.00	5.00	3.9568	.96211
X_AN2	139	1.00	5.00	4.2086	.76589
X_GA1	139	1.00	5.00	3.4317	.90129
X_GA2	139	1.00	5.00	4.0432	.93150
X_AB1	139	1.00	5.00	4.1223	.83805
X_AB2	139	1.00	5.00	4.2590	.80161

Source: Data was processed with SPSS 27, 2025

According to the descriptive analysis results in Table 4 for variable Y, the mean values of each indicator vary from 3.6259 to 4.3669. The indicator Y\_CC3 had the highest mean of 4.3669 with a standard deviation of 0.75319, indicating that the majority of respondents are very confident in the prospective success of cryptocurrency investments. This finding reflects investor optimism regarding the future growth of cryptocurrency asset values, despite the known volatility of this instrument. Such confidence is likely to drive investment decisions, with expectations of high returns outweighing risk considerations.

Conversely, the indicator Y\_RA1 shows the lowest mean value of 3.6259 with a standard deviation of 1.19948, reflecting greater variability in responses. This suggests some inconsistency in the rational evaluation of risk, with some investors exhibiting lower levels of caution. Overall, mean values approaching 4 indicate that respondents generally hold positive perceptions toward investment decision-making. The relatively small standard deviations for most indicators suggest a fairly homogeneous perception among the respondents.

**Tabel 4. Results of Descriptive Analysis of Variables Y**

<b>Variable</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Y_R01	139	1.00	5.00	4.2950	.81163
Y_R02	139	1.00	5.00	4.1439	.80363
Y_RA1	139	1.00	5.00	3.6259	1.19948
Y_RA2	139	1.00	5.00	4.2662	.74771
Y_IS1	139	1.00	5.00	4.1439	.79456
Y_IS2	139	1.00	5.00	4.2302	.72548
Y_CC1	139	1.00	5.00	4.1727	.85064
Y_CC2	139	2.00	5.00	4.2306	.64862
Y_CC3	139	1.00	5.00	4.3669	.75319

Source: Data was processed with SPSS 27, 2025

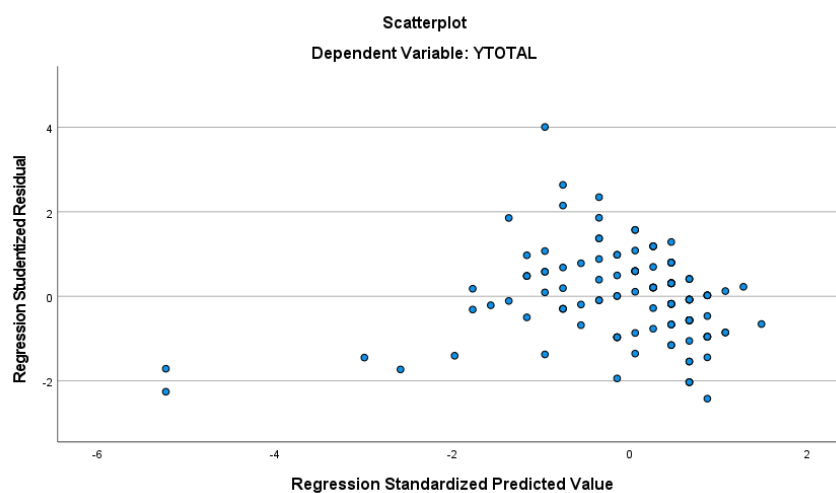
## Classical Assumption Test Results

**Table 5. Classical Assumption Test Results**

		Unstandardized Residual
N		139
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	2.05108859
Most Extreme Differences	Absolute	.061
	Positive	.061
	Negative	-.058
Test Statistic		.061
Asymp. Sig. (2-tailed)		.200 <sup>d</sup>
Monte Carlo Sig. (2-tailed)	Sig.	.230
	99% Confidence Interval	Lower Bound
		Upper Bound
		.241

Source: Data was processed with SPSS 27, 2025

Table 5 shows the normality test findings using the One-Sample Kolmogorov-Smirnov method, and the Asymp. Sig. (2-tailed) value is 0.200. This number surpasses the predefined significance level ( $\alpha = 0.05$ ), indicating the residual data is regularly distributed. Given this normality assumption, the regression model used in this study can be regarded valid and reliable for further analysis.



**Figure 1. Heteroscedasticity Test Results**

Source: Data was processed with SPSS 27, 2025

According to the findings of the heteroscedasticity test performed using Scatterplot analysis, the distribution of residual points does not follow any particular pattern such as

funneling, spreading, or curving. The residual points are randomly scattered around the horizontal axis (Regression Standardized Predicted Value). This random distribution pattern suggests that the regression model utilized in this investigation does not exhibit heteroscedasticity. Therefore, the regression model satisfies the homoscedasticity assumption, ensuring that the estimation results are valid and can be used to draw more accurate conclusions.

### Correlation Test Results

Based on the results of the Pearson correlation test presented in Table 6, a coefficient of 0.885 is observed between variables XTOTAL and YTOTAL, indicating a very strong and positive relationship. This means that an increase in XTOTAL is followed by an increase in YTOTAL. The significance value is less than 0.001, which is below the 0.01 threshold, indicating that the relationship is statistically significant. As a result, there is a very strong and substantial relationship between variable X (heuristics) and variable Y (investment decision-making) among bitcoin investors in the Bandung Raya region.

**Table 6. Correlation Test Results**

		XTOTAL	YTOTAL
XTOTAL	Pearson Correlation	1	.885**
	Sig. (2-tailed)		<.001
	N	139	139
YTOTAL	Pearson Correlation	.885**	
	Sig. (2-tailed)	<.001	
	N	139	139

Source: Data was processed with SPSS 27, 2025

### Simple Regression Analysis Results

**Table 7. Simple Regression Analysis Results**

Model		Unstandardized B	Coefficients Std. Error	Unstandardized Coefficients Beta	t	Sig
1	(Constant)	5.236	1.461		3.584	<.001
	XTOTAL	.794	.036	.885	22.262	<.001

Source: Data was processed with SPSS 27, 2025

Based on the results of the simple regression analysis, the regression equation is obtained as follows:

$$Y = a + bX$$

$$Y = 5,236 + 0,794X$$

Description:

Y = Dependent variable (YTOTAL)

a = Constant

b = Regression coefficient X

X = Independent variable (XTOTAL)

This equation shows that the constant of 5.236 implies that if XTOTAL equals zero, then theoretically YTOTAL is 5.236. The regression coefficient of 0.794 indicates that each one-unit increase in XTOTAL results in a 0.794-unit increase in YTOTAL. The t-value of 22.262, with a significance level of less than 0.001 (below 0.05), indicates that XTOTAL has a significant effect on YTOTAL. The Beta coefficient of 0.885 indicates a very strong and favorable association. As a result, XTOTAL has a favorable and significant impact on YTOTAL in this study.

## **DISCUSSION**

Heuristics constitute a crucial aspect to investigate in cryptocurrency investments because investor decisions are often influenced by psychological factors, particularly in markets characterized by high uncertainty and limited fundamental benchmarks. The highly dynamic nature of the crypto market compels investors to rely on rapid judgments that are not always rational, making them vulnerable to various biases such as representativeness, overconfidence, anchoring, gambler's fallacy, and availability. These biases can trigger speculative behavior, reinforce unhealthy trends, and lead to miscalculations of opportunities and risks. As a result, the purpose of this research is to identify the most common types of bias and investigate their impact on crypto market participants' behavior and investment decisions.

The study's findings reveal that representativeness bias has a major impact on investing decisions. This confirms Khan et al., (2021), who discovered that investors invest in assets based on perceived similarities in qualities such as prior price increases, management style, and corporate reputation, which can lead to poor investment selections. Among cryptocurrency investors in Bandung Raya, who are mostly millennials and Gen Z, this bias may be stronger because they are frequently exposed to information through social media and online communities. Such exposure can reinforce the assumption that assets with good reputations or current popularity are profitable investment choices, even though this does not necessarily reflect the asset's true value.

According to the data collected, overconfidence bias has the greatest influence on investing decisions. This study contradicts Cao et al.'s (2021) conclusion that overconfidence bias

has no substantial effect on investment decisions. This bias causes investors to overestimate their abilities, knowledge, skills, and judgment, believing that their decisions are more correct than others' (Vukovic & Pivac, 2023). This result offers new insights that Bandung Raya investors, who are largely millennials and Gen Z, have an overly high level of confidence in judging their investment decisions.

The statistics also demonstrate that anchoring influences investing decisions. This finding is consistent with Kartini and Nahda's (2021) research, which found that investors typically sell equities using the purchase price as a reference or anchor. When the selling price surpasses the buying price, investors usually act quickly to sell assets. Aside from the purchase price, the maximum price obtained over a specific period is frequently used as a benchmark. This shows that, while the types of assets vary, the impact of heuristics on investment decisions remains significant.

Another bias, gambler's fallacy, was discovered to influence investing decisions, albeit with a less effect than other heuristic biases. This finding varies from that of Quaicoe and Eleke-Aboagye (2021), who discovered that this bias had a considerable impact on capital market participants. This difference may be due to the unique characteristics of the cryptocurrency market, which is more volatile and difficult to predict, causing investors to be more cautious when making decisions based on historical patterns. The gambler's fallacy is the incorrect idea that in a sequence of random events, an outcome that has not occurred in a long time is more likely to happen. For example, someone may believe that if several coin tosses yield heads, the next toss will be more likely to yield tails, despite the fact that each toss is independent and has the same probability. This suggests that Bandung Raya investors are more reasonable in evaluating investment opportunities and are less susceptible to logical fallacies such as the gambler's fallacy.

The final heuristic bias, availability, was discovered to have the largest influence, along with overconfidence, on investment decision-making. This study complements Kamran et al.'s (2020) research, which found that people pay greater attention to information that comes to mind quickly, even if it is not necessarily more accurate or indicative of the actual facts. This indicates that investors in Bandung Raya tend to be less active or even reluctant in seeking complete and in-depth information. They more often rely on information or news that is easy to remember and frequently appears, thus potentially overlooking important data that could objectively affect the quality of investment decision-making.

The data collected in this study support the theory proposed by Benartzi and Thaler (2007), Gavrilakis and Floros (2021), and Cao et al. (2021), which argues that heuristics are made

up of five major indicators: representativeness, overconfidence, availability, anchoring, and gambler's fallacy. The data demonstrate that all five variables have a considerable impact on investment decision-making, albeit to varying degrees.

The increasing number of cryptocurrency investors in Indonesia reflects a positive development, indicating that the public is becoming more open to digital financial innovations. However, research conducted in the Bandung Raya area reveals that cryptocurrency investors are still heavily influenced by heuristics in their investment decision-making. This is important to recognize because a strong influence of heuristics can lead to less rational and high-risk decisions, especially in highly volatile markets like cryptocurrency. Understanding this serves as a crucial foundation for developing more effective financial education and risk management strategies to help Indonesian investors make wiser decisions and reduce potential losses.

### **CONCLUSION**

Investors in the Bandung Raya area often make investment decisions in cryptocurrency without in-depth analysis and tend to act irrationally. This study found a substantial association (0.885) between the usage of heuristics and investing decisions. Heuristics, which include indicators such as representativeness, overconfidence, anchoring, gambler's fallacy, and availability, have been proven to significantly influence how investors make decisions related to cryptocurrency assets. However, this research uncovers a new finding that overconfidence and availability are the most dominant biases among cryptocurrency investors in Bandung Raya. This indicates that investors in this region tend to overestimate their own abilities and rely more on easily recalled information, even though it is not always accurate, when assessing investment opportunities.

Meanwhile, the gambler's fallacy has the least influence, indicating that investors are more reasonable in assessing investment opportunities in the extremely volatile cryptocurrency market. Understanding the influence of these heuristics is critical for establishing more effective financial education and risk management measures, which can assist investors in making better informed decisions and reducing possible losses in the cryptocurrency market.

Based on the study's limitations, numerous recommendations for future research include including additional investment bias characteristics such as herding, loss aversion, or mental accounting to acquire a more comprehensive knowledge of the psychological processes impacting investment decisions. Furthermore, increasing the number of respondents can improve the external validity and generalizability of the findings.

### **BIBLIOGRAPHY**

- Al-Mansour, B. Y. (2020). Cryptocurrency Market: Behavioral Finance Perspective. *Journal of Asian Finance, Economics and Business*, 7 (12), 159-168. <https://doi.org/10.13106/jafeb.2020.vol7.no12.159>
- Benartzi, S., & Thaler, R. H. (2007). Heuristics and Biases in Retirement Savings Behavior. *Journal of Economic Perspectives*, 21(3), 81–104. doi:10.1257/jep.21.3.81
- Cao, M. M., Nguyen, N.-T., & Tran, T.-T. (2021). Behavioral Factors on Individual Investors' Decision Making and. *Journal of Asian Finance, Economics and Business*, 8(3), 845-853. <https://doi.org/10.13106/jafeb.2021.vol8.no3.0845>
- Cascão, A., Quelhas, A. P., & Cunha, A. M. (2022). Heuristics and Cognitive Biases in the Housing Investment Market. *International Journal of Housing Markets and Analysis*, 16(5), 991-1006. <https://doi.org/10.1108/IJHMA-05-2022-0073>
- Chaniago, H., Muharam, H., & Efawati, Y. (2023). *Metode Riset Bisnis dan Permodelan*. Bandung: Edukasi Riset Digital PT.
- Ervana, T. (2025, Januari 8). *Melesat 376 Persen, Nilai Transaksi Aset Kripto Tembus Rp 556,53 Triliun Sepanjang 2024*. Retrieved from tempo.co: <https://www.tempo.co/ekonomi/melesat-376-persen-nilai-transaksi-aset-kripto-tembus-rp-556-53-triliun-sepanjang-2024-1191416>
- Gavrilakis, N., & Floros, C. F. (2021). The Impact of Heuristic and Herding Biases on Portfolio Construction and Performance: The Case of Greece. *Review of Behavioral Finance*, 14(3), 436-462. doi:10.1108/RBF-11-2020-0295
- Gemayel, R., & Preda, A. (2021). Performance and learning in an ambiguous environment: A study of cryptocurrency traders. *International Review of Financial Analysis*, 77. <https://doi.org/10.1016/j.irfa.2021.101847>
- Gigerenzer, G., & Brighton, H. (2009). Homo Heuristicus: Why Biased Minds Make Better Inferences. *Topics in cognitive science*, 1(1), 107-143. <https://doi.org/10.1111/j.1756-8765.2008.01006.x>
- Handoko, B. L., Hamsal, M., Sundjajav, A. M., & Gunadi, W. (2024). Heuristic Bias and Herding Behavior for Predicting Investor Decision in Cryptocurrency Trading. *International Journal of Safety and Security Engineering*, 14(4), 1269-1277. <https://doi.org/10.18280/ijssse.140424>
- Jain, J., Walia, N., & Gupta, S. (2020). Evaluation of behavioral biases affecting investment decision making of individual equity investors by fuzzy analytic hierarchy process. *Review of Behavioral Finance*, 12(3), 297-314. <https://doi.org/10.1108/RBF-03-2019-0044>
- Juwita, R., Dwianti, L., Mandang, J. Z., Yahya, M. S., & Triadi, M. R. (2022). Investment Decision of Cryptocurrency in Millennials and Gen Z. *iCAST-SS 2022*, 725–731. [https://doi.org/10.2991/978-2-494069-83-1\\_126](https://doi.org/10.2991/978-2-494069-83-1_126)
- Kamran, H. W., QAISAR, A., Sultana, N., Nawaz, M. A., & Ahmad, H. T. (2020). Factors Influencing the Investor's Decision Making: The Moderating Role of Locus of Control. *Journal of Asian Finance, Economics and Business*, 7(12), 535-543.

doi:10.13106/jafeb.2020.vol7.no12.535

- Kartini, K., & Nahda, K. (2021). Behavioral Biases on Investment Decision: A Case Study in Indonesia. *Journal of Asian Finance, Economics and Business*, 8(3), 1231-1240. <https://doi.org/10.13106/jafeb.2021.vol8.no3.1231>
- Khan, I., Afeef, M., Jan, S., & Ihsan, A. (2021). The impact of heuristic biases on investors' investment decision in Pakistan stock market: moderating role of long term orientation. *Qualitative Research in Financial Markets*, 13(2), 252-274. <https://doi.org/10.1108/QRFM-03-2020-0028>
- Kong, Q., Granic, G. D., Lambert, L. N., & Teo, C. P. (2020). Judgment Error in Lottery Play: When the Hot Hand Meets the Gambler's Fallacy. *MANAGEMENT SCIENCE*, 66(2), 844 - 862. <https://doi.org/10.1287/mnsc.2018.3233>
- Marjerison, R. K., Han, L., & Chen, J. (2023). Investor Behavior During Periods of Crises: The Chinese Funds Market During the 2020 Pandemic. *Review of Integrative Business and Economics Research*, 71-91. <https://digitalcommons.kean.edu/keanpublications/436>
- Munggaran, A., Mukaram, & Sarah, I. S. (2018). Pengaruh Earning Per Share (EPS) Terhadap Harga Saham (Kasus Pada Perusahaan Sektor Property, Real Estate, and Building Construction yang Terdaftar di Bursa Efek Indonesia Periode 2011-2015). *Jurnal Riset Bisnis Dan Investasi*, 3(2), 1-12. <https://doi.org/10.35313/jrbi.v3i2.929>
- Nurain, A., Chaniago, H., & Efawati, Y. (2024). Digital Behavior and Impact on Employee Performance: Evidence from Indonesia. *Journal of Technology Management & Innovation*, 19(3), 15-27. <http://dx.doi.org/10.4067/S0718-27242024000300015>
- Ogunlusi, O. E., & Obademi, O. (2021). The Impact of Behavioural Finance on Investment Decision-making: A Study of Selected Investment Banks in Nigeria. *Global Business Review*, 22(6), 1345-1361. <https://doi.org/10.1177/0972150919851388>
- Quaicoe, A., & Eleke-Aboagye, P. Q. (2021). Behavioral factors affecting investment decision-making in bank stocks on the Ghana stock exchange. *Qualitative Research in Financial Markets*, 13(4), 425-439. doi:10.1108/QRFM-05-2020-0084
- Ratnadi, N. M., Widanaputra, A., & Putra, I. (2020). Behavioral factors influencing investment decision-making by college student: An empirical study in Bali Province, Indonesia. *International Journal of Scientific and Technology Research*, 9(2), 1358-1368.
- Rozak, A., & Amalia, T. F. (2023). Study of Heuristic Bias and Herding Financial Behavior Model On sharia-based Investment Decisions For Millennial Generation. *Enrichment: Journal of Management*, 13(1), 504-513. <https://doi.org/10.35335/enrichment.v13i1.1257>
- Souza, V. V., Souza, L. L., Oliveira, O., Souza, E. M., & Costa, J. S. (2024). Do heuristics affect Brazilian investors' decisionmaking process? *Review of Behavioral Finance*, 16(2), 282-299. doi:10.1108/RBF-09-2022-0210
- Suresh, G. (2021). Impact of Financial Literacy and Behavioural Biases on Investment Decision-making. *FIIB Business Review*, 13(1), 72-86. <https://doi.org/10.1177/23197145211035481>



Team, C. (2024, September 11). *The 2024 Global Adoption Index: Central & Southern Asia and Oceania (CSAO) Region Leads the World in Terms of Global Cryptocurrency Adoption*. Retrieved from Chainalysis: <https://www.chainalysis.com/blog/2024-global-crypto-adoption-index/>

Vukovic, M., & Pivac, S. (2023). The impact of behavioral factors on investment decisions and investment performance in Croatian stock market. *Managerial Finance*, 50(2), 349-366. <https://doi.org/10.1108/MF-01-2023-0068>

Willows, G. D., & Richards, D. W. (2022). Buy and buy again: The impact of unique reference points on (re)purchase decisions. *International Review of Finance*, 23(2), 301-316. <https://doi.org/10.1111/irfi.12399>

Xia, Y., & MadniI, G. R. (2024). Unleashing the behavioral factors affecting the decision making of Chinese investors in stock markets. *PLOS One*, 19(2). <https://doi.org/10.1371/journal.pone.0298797>