# THE PSYCHOLOGY OF DIGITAL ASSETS: EXPLORING BEHAVIORAL BIASES IN CRYPTOCURRENCY INVESTMENT DECISION-MAKING

Ms. Yachna\* Dr. Nidhi Walia\*\*

#### **ABSTRACT**

Cryptocurrencies have gained dominance in the digital currency market as the number of investors is increasing day by day. Cryptocurrencies have emerged as highly sought-after assets among investors worldwide. Forbes reports that in 2024, the entire market capitalization of the cryptocurrency market has surpassed USD 3.64 trillion. The role of behavioral biases in investment decision-making within this area remains unexplored. This paper aims to fulfill this gap by addressing a literature review on the topic of behavioral biases and their impact on cryptocurrencies. It specifically emphasizes how behavioral biases, like herding behavior, overconfidence, loss aversion, fear of missing out, and several other biases affect investing decision-making in cryptocurrencies. This study has been done through an extensive literature review by synthesizing various research articles. To identify the relevant studies. databases such as Google Scholar, Scopus, and Web of Science have been used by employing different keywords like "behavioral finance," "behavioral biases," "cryptocurrency," "investment," etc. These studies have been reviewed and critically analyzed to identify the major biases, obstacles, and future research directions. This paper has shown that behavioral biases significantly influence investment decisions among cryptocurrencies. For instance, cryptocurrency does contribute to the herd mentality of the investors. Likewise, loss aversion bias significantly impacts investment decisions, suggesting that individuals fearful of financial loss tend to favor lower-risk ventures. Despite these insights, limited empirical studies focus specifically on cryptocurrency, highlighting a research gap that needs to be addressed. Future research will include the need for longitudinal studies to examine the importance of behavioral biases in cryptocurrency markets and the identification of regulatory interventions to mitigate irrational behavior. This study contributes to enhancing the understanding of cryptocurrency investment and provides fruitful insights to the researchers, practitioners, and policymakers by shedding light on the interaction of behavioral biases and cryptocurrency investment decision-making.

KEYWORDS: Digital Assets, Cryptocurrency, Decision-Making, Behavioral Biases, Behavioral Finance.

## Introduction

Cryptocurrency refers to a global digital payment system that operates online (Joo et al., 2020). The name "crypto" in cryptocurrency refers to the encryption or cryptography used in the instrument, which is then stored in the blockchain database. On the other hand, "currency" alludes to its recognition

<sup>\*</sup> Research Scholar, University School of Applied Management, Punjabi University, Patiala, Punjab, India. Associate Professor, University School of Applied Management, Punjabi University, Patiala, Punjab, India.

as a medium of exchange among users (Mohd Noh & Abu Bakar, 2020). Cryptocurrency is a decentralized digital currency that is exchanged using cryptographic principles. These principles involve the creation of passwords or codes to generate virtual currency, as well as the use of public and private keys to facilitate transactions between individuals (Nurbarani and Soepriyanto, 2022). The cryptocurrency was formally established in 2009, having first appeared in a white paper under the pseudonym "Satoshi Nakamoto" in 2008 (Ayedh et al., 2020). In Feb 2025, the market capitalization of cryptocurrencies stands at \$3.19 trillion, which shows a significant increase in the awareness of cryptocurrency investments.

This study aims to focus on a thorough assessment of the literature on behavioral biases and cryptocurrencies by outlining the key findings and questions that were investigated, as well as suggesting some directions for further research. By providing a methodical explanation of the impact of behavioral biases on cryptocurrency investment decision-making, our survey article enhances current works in the field (Corbet et al., 2019). Moreover, rather than just indexing the relevant literature, the aim of this study is to highlight and identify several research domains that have evolved in the field of behavioral cryptocurrency research. For all of these reasons, a comprehensive literature study of cryptocurrencies in behavioral finance seems to be both relevant and essential.

Research on the behavioral characteristics of cryptocurrencies encompasses a broad array of subjects, yet a chronological review of the literature can reveal historical progress in the domain. To provide a more complete picture, the research in this study is therefore organized both chronologically and topically. Rather, we concentrate on four distinct facets of behavioral finance: swarming behavior, loss aversion, overconfidence, and FOMO, as well as how these factors affect the choice to invest in cryptocurrencies.

## **Herding Behaviour in Cryptocurrency**

Herding behavior refers to the phenomenon when investors mimic the activities of their peers, resulting in a situation where if one investor selects certain stocks, others will likewise invest in these securities without independently formulating their own plan (Qasim et al. 2019). Herding behavior arises in situations when the market lacks transparency, meaning that investors are confronted with ambiguous public information sources and receive vague signals on the future prospects of a company (Arisanti & Oktavendi, 2020). The phenomenon of herding behavior has been extensively examined; yet, there is a lack of consistent models and findings to definitively establish the existence of herding behavior (Yao &Tangjitprom, 2019).

	Major Finding
Gherghina &	Non-green cryptocurrencies are more susceptible to speculative
Constantinescu, 2024	bubbles and panic-induced trading, as speculators adhere to market movements devoid of rational analysis.
Almansour et al., (2023) Denura and Soekarno	Herding has a significant effect on risk perception and investment decisions.
(2023)	Investment decision-making is highly influenced by herding.
Kaur et al. (2023)	Major influence on Indian bitcoin retail investor choice.
Khare and Kapoor (2023)	For financial experts, herding is really important for making decisions.
Rosmiwilujeng et al. (2023)	The investing choice of Indonesian millennials regarding crypto assets shows a partly favorable effect from herding behavior.
Sood et al., (2023)	According to the analysis, herding ranks highest among the factors influencing bitcoin investors in importance.
Adil et al., (2022)	Herding has a statistically significant detrimental impact on investment decisions.
Ahmad & Wu (2022)	Indicates unfavorable impact on perceived market efficiency along with investment performance yet positive influence on individual investor decisions.
Choi et al. (2022)	Results show anti-herding behavior at shorter intervals of time and herding throughout longer periods; the phenomena is considerably more apparent in the latter during down markets.
Loppies et al. (2022)	Investor decision-making is unaffected by herding.
Gupta & Shrivastava (2021)	For retail investors, herding has a big impact on investment decisions and fear of missing out.

#### **Loss Aversion in Cryptocurrency**

It depicts a scenario where investors take chances when they stand to lose money but take fewer chances when they stand to gain. Loss aversion is based on the finding that an individual's suffering from loss is significantly higher than their pleasure from an equivalent gain (Kahneman & Tversky, 1979). Market bullishness is linked to higher levels of trader loss aversion than market bearishness, according to Kumar et al. (2021), suggesting that investors respond differently to positive and negative changes in market value. Iram et al. (2021) found that self-control, mental accounting, and loss aversion all had a big influence on investing choices. According to Jain et al. (2023), choosing an investment plan and being loss averse are positively correlated.

	Major Finding
Denura and Soekarno (2023) Jain et al. (2023)	This does not have a significant effect on investment decision-making. Investors' willingness to take risks in investment decisions is influenced by their capacity to prevent loss aversion, which prevents individuals from making investments in portfolios that carry a significant degree of risk.
Kaur et al. (2023)	Findings indicate a significant effect of loss aversion on Bitcoin retail investors in India.
Sood et al., (2023)	Loss aversion is considered a less prioritized criterion that impacts cryptocurrency investors.
Gupta & Shrivastava (2021)	Loss aversion significantly influences the fear of missing out and the investment decisions of retail investors.

### **Overconfidence Bias in Cryptocurrency**

Pompain (2006) describes a conceptual heuristic bias as an unjustified faith in one's cognitive talents, judgment, and intuitive reasoning. Exaggerating one's knowledge and skills is a sign of overconfidence (Bondt and Thaler, 1995). Many terms used in the economic literature, such as "illusion of control," "miscalibration," "better-than-average effect," and "unrealistic optimism," are frequently associated with overconfidence (Glaser and Weber 2007). When investing in the financial market, people exhibit an excessive amount of confidence in their expertise, knowledge, and abilities, which is closely related to optimism (Poyser 2018). Investors believe they have superior knowledge and ability to choose which cryptocurrencies to invest in when the price of Bitcoin hits its highest point ever during the frenzy period (Hidaiat 2019).

	Major Finding
	Overconfidence exerts a substantial favorable influence on investing
Almansour et al., (2023)	decision-making.
	Overconfidence has a significant effect on investment decision-
Denura and Soekarno (2023)	making.
Kaur et al. (2023)	Significant effect on bitcoin retail investors' decision in India.
Khare and Kapoor (2023)	Overconfident investors trade without risk assessment. No significant
	association exists between financial professionals' overconfidence
	bias and decision-making.
Laungratanamas, K.,	Overconfidence Bias is the biggest factor in investment decision-
&Nuangjamnong, C. (2023)	making; thus, they should know themselves and investment
Adil et al., (2022)	psychology.
. ,	The influence of overconfidence on investment decisions was positive
Loppies et al. (2022)	and significant.
. ,	Overconfidence plays a significant role in investor decisions.

# **Fear of Missing Out in Cryptocurrency**

The term "Fear of Missing Out" (FOMO) was introduced in the year 2004 to describe a behavior observed on social networking sites (Gupta and Sharma 2021). It refers to the feeling of unease and anxiety that arises from the possibility of not being aware of important information and advancements because of not being constantly engaged with social media (Przybylski et al. 2013). This study will be conducted to highlight the key aspects of this bias with other factors and other biases as well to get the insights of the work that has been done, and it is helpful in highlighting major aspects that need to be addressed in the future. Therefore, the results of this study would be highly advantageous in elucidating

the topic and will facilitate a comprehensive comprehension of this correlation. Several research studies have already been undertaken in this arena, which give a solid foundation for this work and enhance its relevance for further investigation.

	Major Finding
Nizar & Daljono (2024)	This study reveals the significant relationship between fear of missing out (FOMO) and investment decisions, as well as investment performance, and examines the mediating effects of FOMO on other biases.
Anaza et al., (2023)	Fear of missing out is a fundamental emotion that might impact their decision-making.
Kaur et al. (2023)	FOMO bias also partially mediates herding, loss aversion, and crypto investors' decisions.
Laungratanamas, K., & Nuangjamnong, C. (2023)	Fear of missing out (FOMO) plays an important role while taking decisions on investment.
Martin et al., (2022)	The Fear of Missing Out (FOMO) does indeed influence investment decisions, whether intentionally or unintentionally.
Gupta & Shrivastava (2021)	The fear of missing out positively and partially mediates the effects of herding and loss avoidance on the investment decisions of individual investors.

### **Investment Decision Making**

- Regret Aversion: It describes an emotional bias that occurs when there is an overemphasis on regret after realizing that a poor decision was made since the alternative's consequences appeared to be better than the chosen option's results (Jain et al., 2020).
- Disposition Effect: Schatzmann and Haslhofer (2020) empirically examine the occurrence of
  the disposition effect in Bitcoin and build on previous research in their study. The findings
  indicate that investors exhibit the disposition effect, leading them to retain losing positions for
  prolonged durations while prematurely selling winning positions. According to their investigation,
  the majority of the used technical indicators suggest that this influence is very clearly visible
  starting in the boom-and-bust year of 2017.
- Availability Bias: Investors who primarily rely on information that is readily available (based on experience) are susceptible to availability bias, a cognitive heuristic bias that occurs when they make predictions about potential outcomes based solely on their recollections or prior knowledge based on experience (Brahmana et al., 2012; Kahneman & Tversky, 1974). The first is retrievability, followed by categorization, the narrow range of experience, and resonance. These are the four categories of availability bias.
- Representative Bias: When investors employ mental shortcuts and mental stereotypes when making investing decisions, it can lead to representative prejudice, a cognitive heuristic bias (Shefrin, 2005). According to Shefrin (2008), representative bias causes investors to make estimates that are not appropriate for the circumstances at hand and places an excessive amount of reliance in stereotypes. Representative bias can be classified into two categories: sample size neglect and base rate neglect.

	Major Finding
	The findings demonstrate that availability bias has a significant and
Nizar & Daljono (2024)	positive impact on investment performance and decision-making.
	Representational bias exerts a significant positive influence on
	investment performance, whereas its impact on investment decisions
	is minimal and negative.
Almansour et al., (2023)	The blue-chip bias and disposition effect exert an insignificant
	influence on investment decisions while significantly affecting risk
Denura and Soekarno (2023)	perception.
	The gambler's fallacy demonstrates an insignificant influence, while
	anchoring exhibits a significant impact on Indonesian cryptocurrency
Khare and Kapoor (2023)	investors.
	A higher home bias suggests potential underconfidence, lack of

Rosmiwilujeng et al. (2023)	preparedness, or a risk-averse inclination among investors.
	Experienced regret partially positively influences the investment
Sood et al., (2023)	decisions of Indonesian millennials in crypto assets.
	Regret aversion is considered the most influential, whereas
	information availability is considered the least prioritized criteria that
Adil et al., (2022)	impact cryptocurrency investors.
	The influence of risk aversion bias is statistically significant, whereas
Loppies et al. (2022)	the disposition effect was insignificant.
Li et al. (2021)	Regret aversion does not affect investor decisions.
	The results indicate that cryptocurrencies exhibiting greater maximum
	daily returns generally experience higher future returns, a
Lin et al. (2021)	phenomenon referred to as the "MAX momentum" in force.
	The analysis of 64 cryptocurrencies reveals a momentum
	characteristic akin to a lottery, indicating that a greater maximum
Lou et al. (2021)	return correlates with an increased likelihood of future returns.
	The findings indicate that, generally speaking, Bitcoin investors are
0 1 1 (0004)	becoming less tolerant of uncertainty. Additionally, it has been
Ozdamaret al. (2021)	discovered that investors only generate anomalous returns when
	there is little ambiguity.
	The data shows that the projected returns on cryptocurrencies and the
	largest daily return during the preceding month have a positive and
	statistically significant link.

#### Conclusion

Indian crypto investors exhibit reluctance to engage in the crypto market due to the significant likelihood of incurring losses. In conclusion, this study has emphasized that behavioral factors, along with other variables, represent a significant phenomenon warranting periodic examination to understand the decision-making behaviors of crypto investors, as these factors influence investors' portfolios, the market, and the broader economy. However, even though this study adds valuable insights about behavioral biases affecting investment decisions in cryptocurrency, we recognize some limitations. The main constraint lies in the use of secondary data, which might not accurately reflect the real-time sentiment and behavior of the investors. Moreover, the scarcity of empirical studies specifically targeting cryptocurrency markets indicates an area of research that requires additional investigation. Given these different manifestations, as well as the level of complexity and uncertainty surrounding the crypto market, isolating the effects of these biases is not straightforward, as one bias could serve as a precursor to another.

Despite these limitations, the study provides notable implications for investors, policymakers, and financial analysts. Investors can recognize behavioral biases such as herding behaviour, loss aversion, overconfidence bias, and Fear of Missing Out (FOMO) to mitigate their own irrational behavior and make better decisions. These findings are not only statistically significant but also offer insightful implications for policymakers in designing regulations that foster market stability and mitigate investor risks approaching speculative bubbles. In addition, wealth managers can devise strategies to inform investors about cognitive biases and promote logical decision-making.

Future studies should apply longitudinal studies on the development of behavioral biases in the cryptocurrency spheres. Experimental and survey-based studies shed light on investor psychology. The study can provide insight into ways to reorient investment behavior in the future by minimizing the impact of our human biases on investment returns through possible behavioral nudging. Investigating these factors in newer cryptocurrencies and DeFi will provide additional insights into investing behavior in this burgeoning field. Despite these shortcomings, the study has significant implications for financial analysts, investors, and legislators. Behavioral biases impact not only irrational decisions made by individuals but also investors as a whole.

## References

1. Adil, M., Singh, Y., & Ansari, Mohd. S. (2022). How financial literacy moderate the association between behaviour biases and investment decision? *Asian Journal of Accounting Research*, 7(1), 17–30. https://doi.org/10.1108/AJAR-09-2020-0086

- 2. Ahmad, M., & Wu, Q. (2022). Does herding behavior matter in investment management and perceived market efficiency? Evidence from an emerging market. *Management Decision*, 60(8), 2148–2173. https://doi.org/10.1108/MD-07-2020-0867
- 3. Almansour, B. Y., Elkrghli, S., & Almansour, A. Y. (2023). Behavioral finance factors and investment decisions: A mediating role of risk perception. *Cogent Economics & Finance*, 11(2), 2239032. https://doi.org/10.1080/23322039.2023.2239032
- 4. Akinkoye, E. Y., & Bankole, O. E. (2020). Effect of emotional biases on investor's decision making in Nigeria. *International Journal of Business and Management Future*, *4*(1), 33–39. https://doi.org/10.46281/ijbmf.v4i1.548
- Anaza, N. A., Upadhyaya, B., Bennett, D., & Ruvalcaba, C. (2023). Is it FOMO or is it ME? The influence of personality traits on cryptocurrency consumption. *Psychology and Marketing*, 41(1), 184–202. https://doi.org/10.1002/mar.21919
- 6. Arisanti, I., &Oktavendi, T. W. (2020). "Herding behavior in Sharia stock: the moderation effect of good governance business Sharia disclosure." Journal of Accounting and Investment, 21(1), 45 60. https://doi.org/10.18196/jai.2101136
- 7. Ayedh, A. M., Omar, M. M. S., &Echchabi, A. (2020). Factors Influencing Bitcoin Investment Intention: The case of Oman. *International Journal of Internet Technology and Secured Transactions*, 1(1), 1. https://doi.org/10.1504/ijitst.2020.10030071
- 8. Behavioral finance and wealth management. (2012b). In *Wiley eBooks*. https://doi.org/10.1002/9781119202400
- 9. Bihari, A., Dash, M., Muduli, K., Kumar, A., Mulat-Weldemeskel, E., & Luthra, S. (2023). Does cognitive biased knowledge influence investor decisions? An empirical investigation using machine learning and artificial neural network. *VINE Journal of Information and Knowledge Management Systems*. https://doi.org/10.1108/vjikms-08-2022-0253
- Bondt, & Thaler. (1995). Financial decision making in markets and firms: A behavioral perspective. Handbooks in Operations Research and Management Science, 9, 385–410. https://doi.org/10.1016/S0927-0507(05)80057-X
- 11. Choi, K., Kang, S. H., & Yoon, S. (2021). Herding behaviour in Korea's cryptocurrency market. *Applied Economics*, *54*(24), 2795–2809. https://doi.org/10.1080/00036846.2021.1998335
- 12. Corbet, S., Lucey, B.M., Urquhart, A. and Yarovaya, L. (2019), "Cryptocurrencies as a financial asset: a systematic analysis", International Review of Financial Analysis, Vol. 62, pp. 182-199. https://doi.org/10.1016/j.irfa.2018.09.003
- 13. Denura, S. C., & Soekarno, S. (2023). A Study on Behavioral Bias & Investment Decision from Perspective of Indonesia's Cryptocurrency Investors. *International Journal of Current Science Research and Review*, *06*(01). https://doi.org/10.47191/ijcsrr/v6-i1-58
- 14. Gherghina, Ş., & Constantinescu, C. (2024). Examining herding behavior in the cryptocurrency market. Equilibrium. Quarterly Journal of Economics and Economic Policy. https://doi.org/10.24136/eq.3057.
- 15. Glaser, M., Weber, M.: Overconfidence and trading volume. Geneva Risk Insur. Rev. 32(1), 1–36 (2007). https://doi.org/10.1007/s10713-007-0003-3
- Gupta, S., & Shrivastava, M. (2021). Herding and loss aversion in stock markets: mediating role of FOMO (FOMO) in retail investors. International Journal of Emerging Markets, 17(7), 1720 1737. https://doi.org/10.1108/ijoem-08-2020-0933
- 17. Hidajat, T. (2019). BEHAVIORAL BIASES IN BITCOIN TRADING. Fokus Ekonomi JurnallImiah Ekonomi, 14(2), 337–354. https://doi.org/10.34152/fe.14.2.337-354

- 18. Iram, T., Bilal, A. R., & Latif, S. (2021). Is Awareness That Powerful? Women's Financial Literacy Support to Prospects Behaviour in Prudent Decision-making. Global Business Review.https://doi.org/10.1177/0972150921996185
- Jain, J., Walia, N., Singla, H., Singh, S., Sood, K., & Grima, S. (2023). Heuristic Biases as Mental Shortcuts to Investment Decision-Making: A Mediation Analysis of Risk Perception. *Risks*, 11(4), 72. https://doi.org/10.3390/risks11040072
- 20. Joo, M. H., Nishikawa, Y., & Dandapani, K. (2020). Announcement effects in the cryptocurrency market. *Applied Economics*, *52*(44), 4794–4808. https://doi.org/10.1080/00036846.2020.1745747
- 21. Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk Daniel Kahneman; Amos Tversky. Econometrica, 47(2).https://doi.org/10.3985/wmr.19.194
- 22. Kaur, M., Jain, J., & Sood, K. (2023). "All are investing in Crypto; I fear of being missed out": examining the influence of herding, loss aversion, and overconfidence in the cryptocurrency market with the mediating effect of FOMO. Quality and Quantity. https://doi.org/10.1007/s11135-023-01739-z
- 23. Khare, T., & Kapoor, S. (2023). Behavioral biases and the rational decision-making process of financial professionals: significant factors that determine the future of the financial market. Journal of Advances in Management Research, 21(1), 44–65. https://doi.org/10.1108/jamr-03-2023-0086
- Kumar, V., Dudani, R., & K, L. (2021). The big five personality traits and psychological biases: an exploratory study. *Current Psychology*, 42(8), 6587–6597. https://doi.org/10.1007/s12144-021-01999-8
- 25. Laungratanamas, K., &Nuangjamnong, C. (2023). Behavioral Biases and Fear of Missing Out Impact Investment Decisions in Thailand during COVID-19 Pandemic. *Universal Journal of Financial Economics*, 2(2), 1–20. https://doi.org/10.37256/uife.2120231811
- 26. Li, R., Li, S., Yuan, D., & Zhu, H. (2021). Investor attention and cryptocurrency: Evidence from wavelet-based quantile Granger causality analysis. *Research in International Business and Finance*, *56*, 101389. https://doi.org/10.1016/j.ribaf.2021.101389
- 27. Lin, C., Yen, K., & Cheng, H. (2021). Lottery-like momentum in the cryptocurrency market. *The North American Journal of Economics and Finance*, *58*, 101552. https://doi.org/10.1016/j.najef.2021.101552
- 28. Loppies, L. S., Esomar, M. J. M. J., & Janah, I. N. (2022). Herding behavior, overconfidence, regret aversion bias on investment decisions. International Journal of Economics, Social Science, Entrepreneurship and Technology, 1(5), 345–352. https://doi.org/10.55983/ijeset.v1i5.357
- 29. Luo, D., Mishra, T., Yarovaya, L. and Zhang, Z. (2021), "Investing during a Fintech revolution: ambiguity and return risk in cryptocurrencies", Journal of International Financial Markets, Institutions and Money, Vol. 73, 101362.https://doi.org/10.1016/j.intfin.2021.101362
- 30. Martin, B. A., Chrysochou, P., Strong, C., Wang, D., & Yao, J. (2022). Dark personalities and Bitcoin: The influence of the Dark Tetrad on cryptocurrency attitude and buying intention. Personality and Individual Differences, 188, 111453. https://doi.org/10.1016/j.paid.2021.111453
- 31. Mohd Noh, M. S., Abu Bakar, M. S. (2020). Cryptocurrency as A Main Currency: A Maqasidic Approach. Al-Uqud: Journal of Islamic Economics, 4(1), 115-132. doi: http://dx.doi.org/10.26740/al-uqud.v4n1.p115-132

- 32. Nizar, M., &Daljono, D. (2024). THE IMPACT OF AVAILABILITY BIAS AND REPRESENTATIVE BIAS ON INVESTMENT DECISIONS AND PERFORMANCE: THE ROLE OF FOMO AS AN INTERVENING VARIABLE. *JurnalApresiasi Ekonomi*, 12(1), 71–89. https://doi.org/10.31846/jae.v12i1.730
- 33. Nurbarani, B. S., &Soepriyanto, G. (2022). Determinants of Investment Decision in Cryptocurrency: Evidence from Indonesian Investors. *Universal Journal of Accounting and Finance*, 10(1), 254–266. https://doi.org/10.13189/ujaf.2022.100126
- 34. Poyser, O. (2018). Herding behavior in cryptocurrency markets. *arXiv* (Cornell University). https://doi.org/10.48550/arxiv.1806.11348
- 35. Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, *29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014
- 36. Qasim, M., Hussain, R. Y., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. Accounting, 81–90. https://doi.org/10.5267/j.ac.2018.7.001
- 37. Rosmiwilujeng et al. (2023). Perceived Herding Behavior and Experienced Regret on Crypto Asset's Investment Decisions by Millennials. AKRUAL: JurnalAkuntansi, 15(1),53-62. https://doi.org/10.26740/jaj. v.15n1.p53-62
- 38. Sood, K., Pathak, P., Jain, J., & Gupta, S. (2023). Gauging investors' investment decisions in the crypto market through the PRISM of behavioral biases: A fuzzy AHP approach. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-02-2022-0263
- 39. Yao, J., &Tangjitprom, N. (2019). Herding Behaviors in ASEAN Stock Markets. *Journal of Applied Economics and Management Strategy*, *6*(1), 19–34. Retrieved from https://kuojs.lib.ku.ac.th/index.php/jems/article/view/2322.

