



UNDERSTANDING THE IMPACT OF AI-BASED DECISION SUPPORT (CHATGPT) ON INVESTMENT DECISIONS: A MODERATED MODERATION ANALYSIS OF FINANCIAL LITERACY AND ETHNIC IDENTITY IN BANDUNG

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Abstract

This study examines the influence of Artificial Intelligence (ChatGPT) usage on investment decision-making by considering the moderating roles of financial literacy and ethnic identity among investors in Bandung, Indonesia. Employing a quantitative approach through Structural Equation Modeling–Partial Least Squares (SEM-PLS) using SmartPLS 4.0, the study involved 119 respondents who have utilized ChatGPT in their investment processes. The results indicate that ChatGPT usage has a positive and significant effect on investment decisions. However, financial literacy does not significantly moderate this relationship. Conversely, ethnic identity demonstrates a second-order moderating effect, wherein Sundanese investors consistently experience a significant influence of ChatGPT on investment decisions regardless of their financial literacy level. These findings highlight the importance of cultural values in the adoption of AI technologies. The study's limitations include a narrow geographical scope, suggesting that future research should expand to diverse ethnic contexts and incorporate additional behavioral variables. The results offer insights for technology developers, financial educators, and regulators in designing culturally sensitive financial and technological education initiatives.

Keywords: chatgpt, investment decision-making, financial literacy, ethnic identity, artificial intelligence, behavioral finance, indonesia

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INTRODUCTION

The capital market in a country has an important role in developing the economy and improving people's welfare. The capital market is a forum for companies to raise funds and provide opportunities for companies to expand their business and increase production capacity (Sommer, 2024). Investors obtain various attractive investment opportunities through the existence of the capital market (Sari et al., 2022). The capital market in Indonesia has shown remarkable progress in recent years, becoming one of the important aspects of the national

economy (Gasmara et al., 2023). The growth in the number of investors in the Indonesian capital market is not only seen in the overall increase, but also reflects changes in investment behavior in various regions, one of which is the city of Bandung. This phenomenon shows that the people of Bandung City are increasingly aware of the importance of investment as part of long-term financial planning. However, success in investment decision-making depends not only on external factors of the market, but also on the ability of individuals to understand and manage financial information (Lusardi & Mitchell, 2017).

Investment decision-making is an important process that is influenced by a number of individual-specific aspects, including the type of investment you want to make, the location, time, and the amount of money you are willing to invest (Farooq et al., 2022). An investment decision is a policy taken on two or more investment options in the hope of earning future income (Z. Li, 2023). Investment decisions are personal and entirely dependent on individual autonomy (Luong & Ha, 2024), which means that each investor has a different approach and criteria in having an investment that suits their goals.

Making careful investment decisions allows investors to minimize risk, experience financial growth, use resources efficiently, and continue to learn and improve their financial situation (Sabri & Aw, 2020). Mekimah et al., (2024) stated that making investment decisions with adequate knowledge and making careful judgments, can have a significant impact on long-term financial performance. Investment decisions are greatly influenced by the knowledge and information obtained by investors, so in the process investors are often faced with uncertainty. The uncertainty of financial analysis in the investment decision-making process can pose significant challenges for investors (Olayinka, 2022).

The rapid development of technology in this modern era, including in Indonesia, has brought about a change in the way investors overcome this uncertainty. This increasingly rapid technological development is supported by the existence of Artificial Intelligence (AI) technology. AI technology has made many changes in aspects of human life, and one of them is the financial aspect. Coşkun, (2022) stated that AI techniques, such as Natural Language Processing (NLP) and Machine Learning (ML) serve to assist in analyzing data related to decisions in the financial field. One such model that has attracted a lot of attention lately is ChatGPT, an AI capable of generating human-quality text (Alberts et al., 2023).

ChatGPT has the potential to be used in a variety of applications, including financial aspects, including analyzing data, managing risk, optimizing portfolios, forecasting market trends, and conducting sentiment analysis (Osterrieder & GPT, 2023; Ullah et al., 2024; Yue et al., 2023). This ability is especially important in the context of financial markets, where the speed and accuracy of information can influence investment decisions (Kim et al., 2023). The advent of ChatGPT, in the financial sector, can now be used in the financial decision-making process in an innovative way thanks to its ability to understand context, provide logical answers, and hold meaningful discussions (Lo & Singh, 2023).

The application of Artificial Intelligence (AI) technology to investment decisions shows that the use of AI techniques can improve accuracy and efficiency in data analysis, allowing investors to make more informative and timely decisions. Coşkun, (2022) found that the application of AI in investment decision-making showed significant positive results. Other research conducted by Arifian et al., (2024), Onyenahazi & Antwi, (2024), Sanchez, (2020), Ullah et al., (2024), Wilenius, (2024), shows that Artificial Intelligence (AI) has a significant positive effect on investment decision-making.

The effective use of Artificial Intelligence (AI) technology is greatly influenced by the level of financial literacy of individuals (Çera et al., 2021). Financial literacy is the ability of an individual or an investor to understand and use information to make smart decisions. Financial literacy is the ability to make smart choices about how to manage and utilize financial resources (Anshika et al., 2021). Financial literacy plays an important role in influencing ChatGPT in the financial aspect, as it provides investors with the necessary knowledge to understand the data, algorithms, outcomes, and risks and consequences of using ChatGPT.

Financially literate investors can leverage these technological tools to analyze market trends, predict investment movements, and manage their portfolios more efficiently. The relationship between financial literacy and ChatGPT as an AI, not only improves decision-making effectiveness, but also helps investors to be more confident in achieving their financial goals.

In addition, socio-cultural aspects such as ethnic identity also affect investment behavior patterns. The Sundanese ethnic group is the dominant ethnic group in the cities of Bandung and West Java, known for having cultural characteristics that uphold prudence, simplicity, and harmonious social values (Hamid & Istanti, 2022). In contrast, non-Sundanese ethnic groups may have different approaches based on their cultural values, such as being more open to innovation or having a more speculative mindset in investing (Abadi & Hamdan, 2023). These differences in cultural values can be a factor in assessing how each ethnic group uses ChatGPT as an aid in investment decision-making.

This study aims to find out and analyze the role of AI technology (ChatGPT) in investment decisions in the city of Bandung with financial literacy and ethnic identity (Sundanese and non-Sundanese tribes) as moderation variables. The results of this study are expected to make a theoretical contribution to the development of literature related to technology-based investment behavior as well as practical implications for investors, companies, regulators, and educational institutions in encouraging more effective and inclusive use of AI. Investment decisions are the process of strategic decision-making by individuals and institutions in allocating funds to certain instruments to obtain future profits. This decision is influenced by various considerations such as potential returns, risk levels, and investment tenure (Almansour et al., 2023; Tandelilin, 2017). In the digital era, investment decisions no longer only depend on intuition or experience, but also on access to technology and data-based information.

The technology that currently plays a role in supporting the investment decision-making process is artificial intelligence (AI), including ChatGPT. ChatGPT is an AI-based generative language model that can be used to analyze market data, predict investment trends, manage portfolio risk, and present information in the form of interactive dialogues (Lo & Singh, 2023; Osterrieder & GPT, 2023). In the context of the capital market, AI such as ChatGPT is believed to be able to improve the quality of investment decisions through fast and responsive information processing.

However, the use of this technology cannot be separated from the level of individual financial literacy. Financial literacy plays an important role in interpreting the information provided by AI-based systems. Highly literate individuals tend to be able to discern relevant information and use it strategically in investment decisions (Çera et al., 2021; Lusardi & Mitchell, 2017). Conversely, low financial literacy can lead to over-reliance on AI systems without adequate understanding, which can actually increase the risk of errors in decision-making.

In addition, socio-cultural factors such as ethnic identity can also influence the way individuals process information and make financial decisions. Studies show that cultural values, risk preferences, and propensity for technology differ between ethnic groups (Phinney, 1992; Koentjaraningrat, 2009). In the context of the city of Bandung, Sundanese ethnic identities that are known to be conservative and cautious can play a role in weakening or strengthening the relationship between financial literacy and the use of technology such as ChatGPT in investment decisions (Hamid & Istanti, 2022).

The use of ChatGPT provides several strategic benefits for investors, including faster and more efficient access to information, the ability to manage risk through comprehensive data processing, and the ability to build a more balanced investment portfolio in accordance with individual financial goals. The use of ChatGPT can improve the quality of investment decision-making through faster and more accurate access to information (Gupta et al., 2023; Lo & Singh, 2023).

Previous studies conducted by Ullah et al. (2024) revealed that the use of ChatGPT significantly affects investment decision-making, both in the context of risk analysis, portfolio strategy development, and investment timing. Similar results are also shown by Coşkun (2022), Arifian et al. (2024), and Onyenahazi & Antwi (2024), who affirm that artificial intelligence plays a positive role in improving the quality of financial decisions. In addition, Sanchez (2020) and Wilenius (2024) also strengthen the evidence that the integration of AI in the financial world contributes to faster and more accurate decision-making.

Financial literacy has become a major focus in financial decision-making, both by individuals and public policy. Policymakers and academics view financial literacy as a strategic solution to improve the quality of people's financial decisions, especially in the complex digital information era (Lusardi & Mitchell, 2017; Coşkuner, 2016). Along with the development of artificial intelligence, especially the use of ChatGPT in the world of investment, there is a need to assess the effectiveness of its use based on users' financial literacy skills.

Although ChatGPT offers a wide range of conveniences, Individuals with high financial literacy are better able to assess the accuracy and relevance of the recommendations provided by ChatGPT. In contrast, individuals with low financial literacy are at risk of misinterpreting information or even relying too heavily on AI recommendations without adequate contextual understanding.

Individuals with high financial literacy tend to be able to utilize information from ChatGPT more effectively (Çera et al., 2021; Yue et al., 2023b). Çera et al. (2021) and Yue et al. (2023b) show that financial literacy encourages more rational decision-making, even when information is provided through AI-based technologies. Research by Ullah et al. (2024) confirms that financial literacy plays a significant role as a moderation variable in the relationship between ChatGPT use and investment decisions. The effectiveness of ChatGPT as an investment tool depends largely on the user's level of understanding of basic financial concepts, market structures, and available investment instruments. Financially capable investors tend to get the most out of ChatGPT, while those who don't have adequate financial understanding face the risk of misuse of information.

Ethnic identity reflects the social and cultural constructs that shape one's outlook on risk, technology, and financial strategy (Phinney, 2003; Tajfel, 1978). The Sundanese ethnic group is known to uphold the principles of prudence and conservatism in daily life, including in financial aspects (Hamid & Istianti, 2022). In contrast, individuals of non-Sundanese ethnicities who come from different cultural backgrounds tend to be more open and adaptive to new technologies, including in relying on AI-based analysis and recommendations (Pahl & Way, 2006; Abadi & Hamdan, 2023).

This phenomenon suggests that the effectiveness of financial literacy in bridging the relationship between ChatGPT use and investment decisions can be influenced by ethnic background. This study presents a new contribution by making ethnic identity (Sundanese vs Non-Sundanese) as a second-level moderation variable in the relationship between ChatGPT use and investment decisions, through financial literacy.

METHOD

The population in this study is all active retail investors domiciled in the city of Bandung and recorded in the data of the Financial Services Authority (www.ojk.go.id, 2025). Based on data from KSEI, the number of individual investors in the city of Bandung reached 1,081,443 people. The sampling technique uses purposive sampling, with the following criteria: Invest in the capital market for at least 1 year Domiciled in the city of Bandung At least 18 years old Use or know AI technology (especially ChatGPT) Included in the category of Sundanese or Non-Sundanese ethnicity The number of samples is determined as many as 100 respondents, using the Slovin approach with an error rate of 10%. This study uses the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach with the help of SmartPLS software version 4.0. This method was chosen because it is able to test direct and indirect relationships simultaneously, including the effect of moderation and moderated moderation, and is suitable for relatively small sample sizes and data that are not normally distributed.

The analysis stage begins with testing the measurement model (outer model) to assess the validity and reliability of the construct. The convergent validity is stated to be fulfilled if the loading factor of each indicator is more than 0.70 and the Average Variance Extracted (AVE) value is more than 0.50. The validity of the discriminant is analyzed through cross-loading to ensure that each indicator is higher on its own construct than the other construct. Construct is said to be reliable if Cronbach's Alpha and Composite Reliability values exceed 0.70 each.

Furthermore, structural model testing (inner model) was carried out to see the strength of the relationship between latent variables. The path coefficient is used to determine the direction and magnitude of the influence, while the R-Square value indicates how much the independent variable explains the dependent variable. The effect of each variable is evaluated via F-Square. The significance test was carried out by bootstrapping method 5,000 times at a significance level of 5%. The hypothesis is stated to be significant if the t-statistical value is more than 1.96 and the p-value is less than 0.05.

RESULTS

External testing of the model showed that all indicators on the variables of ChatGPT use, financial literacy, ethnic identity, and investment decisions had a loading factor value above 0.70, and AVE above 0.50. The convergent validity test showed that the results of processing using SmartPLS as a whole, each latent variable was able to explain the variant of each indicator with a value of more than 0.70 or more than 70% and was declared valid. Table 2 is the cross loading value used to estimate the discriminant validity, which indicates no problem because all values are above 0.70. This proves that each indicator in the model has the ability to distinguish well between different constructs, so it can be concluded that the measurement model has met the criteria for discriminant validity.

Table 1. Validity Test

Indicator	Technology AI (ChatGPT)	Investment Decision	Financial Literacy	Ethnic Identity (Sundanese vs Non-Sundanese)
AD1	0,826	0,540	0,522	-0,017
AD2	0,856	0,620	0,626	-0,016
MR1	0,864	0,602	0,586	-0,047
MR2	0,871	0,600	0,555	0,018
OP1	0,851	0,569	0,550	-0,018
OP2	0,851	0,656	0,532	0,022
FMT1	0,836	0,713	0,726	-0,074
FMT2	0,847	0,647	0,457	-0,007
CSA1	0,609	0,629	0,889	-0,046
CSA2	0,854	0,639	0,593	0,062
RT1	0,694	0,861	0,612	0,047
RT2	0,682	0,878	0,620	0,019
RS1	0,608	0,751	0,522	0,151
RS2	0,557	0,837	0,639	0,154
WT1	0,590	0,881	0,657	0,092
WT2	0,620	0,850	0,671	-0,020
KL1	0,559	0,538	0,721	0,000
KL2	0,655	0,625	0,829	-0,019
AT1	0,486	0,685	0,850	-0,056
AT2	0,550	0,739	0,899	-0,026
SL1	0,644	0,604	0,915	-0,117
SL2	0,586	0,563	0,846	-0,049
BH1	0,579	0,629	0,899	-0,019
BH2	0,609	0,629	0,889	-0,046
CS	-0,010	0,085	-0,048	1,000

The reliability test was performed to assess the internal consistency of each construct used in the study, with reference to two main measures, namely Cronbach's Alpha and Composite Reliability. Cronbach's Alpha value is used to assess the extent to which indicators in a single construct have a strong internal correlation, while Composite Reliability provides a more accurate measure of reliability on variant-based models such as SEM-PLS. The test results showed that all constructs in this study, namely the use of ChatGPT, financial literacy, ethnic identity, and investment decisions, had Cronbach's Alpha and Composite Reliability values above 0.70. This shows that all question items in each variable have high internal consistency and are reliable in measuring the concept in question.

The test results showed that the R-Square value (R^2) for the investment decision variable was 0.587. This means that 58.7% of the variance in investment decisions can be explained by variables of ChatGPT use, financial literacy, and interaction with ethnic identity, while the remaining 41.3% are influenced by other factors not included in the model. The use of ChatGPT in investment decisions gives an F-Square (F^2) value that is in the medium effect category, indicating that the AI technology makes a significant contribution to decision-making. Meanwhile, the interaction between ChatGPT and financial literacy showed a significant F-Square (F^2) value, confirming that the existence of financial literacy strengthens the influence of ChatGPT use.

Interestingly, the F-Square (F^2) value of the interaction of advanced moderation by ethnic identity (moderated moderation) is relatively small to moderate, which suggests that cultural factors still play a role even though they are not dominant.

This study used 5,000 bootstrapping samples and 119 respondents to test the significance of path coefficients. The results showed that the use of AI Technology (ChatGPT) had a positive and significant effect on investment decisions ($t = 3.460$; $p = 0.001$), so H1 was accepted. In contrast, financial literacy was not shown to moderate the relationship ($t = 0.713$; $p = 0.476$), so H2 was rejected. The moderated moderation test based on ethnic identity showed that in non-Sundanese groups, both with high and low literacy, the influence of ChatGPT on investment decisions was not significant. However, in the Sundanese ethnic group, the influence of ChatGPT remained significant on high literacy ($t = 2.222$; $p = 0.027$) and low literacy ($t = 2.197$; $p = 0.020$). Thus, H3 is supported in part, emphasizing that cultural contexts—especially ethnic Sundanese—play a role in strengthening the relationship between the use of AI and investment decisions.

Table 2. Structural Model

Information	Original Sample	Simple Mean	Standard Deviation	T-statistic	P-values
AI Technology → Investment Decisions	0,396	0,377	0,114	3,460	0,001
Financial Literacy x AI Technology → Investment Decisions	-0,038	-0,025	0,054	0,713	0,476

Table 3. Structural Model

Information	Original Sample	Simple Mean	Standard Deviation	T-statistic	P-values
AI Technology → Ethnic Identity Investment Decisions at one and Financial Literacy at +1 Elementary School	0,034	0,013	0,317	0,108	0,914
AI Technology → Ethnic Identity Investment Decisions at one and Financial Literacy at -1 SD	0,719	0,770	0,616	1,167	0,243
AI Technology → Ethnic Identity Investment Decisions at zero and Financial Literacy at +1 Elementary School	0,358	0,352	0,103	3,474	0,001
AI Technology → Ethnic Identity Investment Decisions at zero and Financial Literacy at -1 SD	0,435	0,402	0,146	2,970	0,003

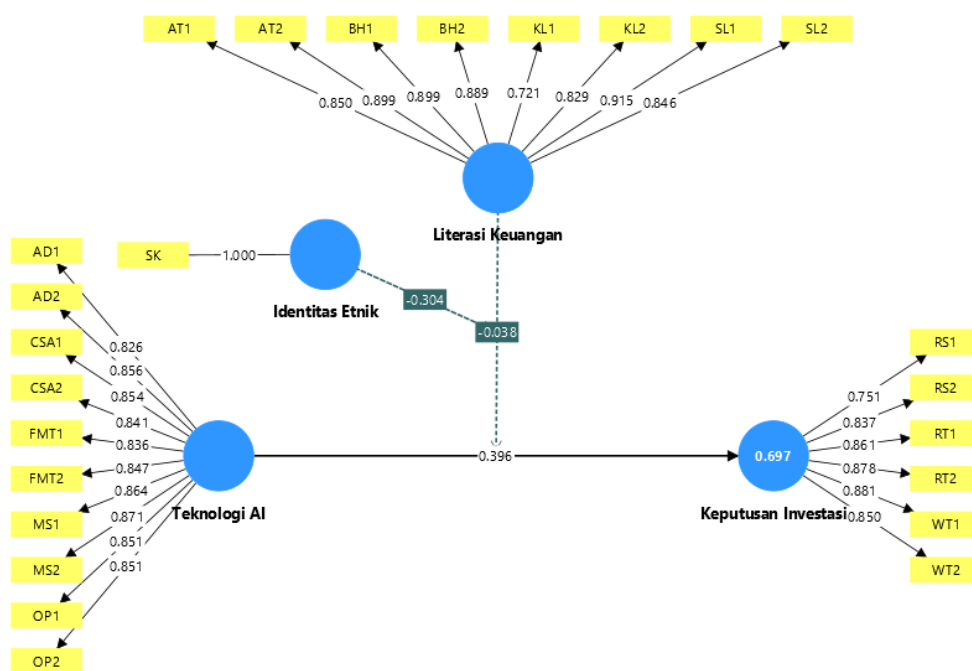


Figure 1. Path Analysis

DISCUSSION

The discussion of empirical results in this study represents a study on the influence of the use of ChatGPT, an AI-based language model from OpenAI, on investment decision-making by individual investors in the city of Bandung, Indonesia, as well as how the relationship is moderated by financial literacy, and re-moderated by ethnic identity (Sundanese and Non-Sundanese) as the second-level moderator. The results of the study show that the use of ChatGPT significantly influences investment decisions, in line with the findings of Ullah et al. (2024), Coşkun (2022), and Sanchez (2020) who stated that AI-based technology can help investors make more informed and timely decisions. Among the dimensions of usage, the ability to analyze data, forecast market trends, and conduct sentiment analysis is proven to have a significant impact. Nevertheless, the results also show that financial literacy does not significantly moderate the relationship between ChatGPT use and investment decisions. These findings contradict some previous studies such as Çera et al. (2021) and Yue et al. (2023), which found that financial literacy strengthens the effectiveness of technology in financial contexts. One possible reason is that many investors tend to rely on ChatGPT's output without fully understanding or re-evaluating the information provided, particularly in users of the free version which is generally limited in features and personalization.

This study introduces ethnic identity as a second-level moderator, an approach that is still rarely studied in research related to AI and finance. The results show that ethnic Sundanese investors, both those with high and low financial literacy, show a significant influence between ChatGPT use and investment decisions. In contrast, investors from the Non-Sundanese group did not show a significant relationship. This shows that cultural values, such as the cautious attitude (prudence) that is commonly held by the Sundanese people, encourage them to be more careful in using technology, so that the results are more optimal. These findings make an important contribution that the effectiveness of AI in the investment process is contextual, influenced by both cognitive characteristics (such as financial literacy) and socio-cultural (such as ethnic identity). Therefore, the approach to financial and technology literacy education needs to be adapted to the local context, including cultural values and community behavior patterns. The development of literacy programs that take into account local culture can increase the acceptance and effectiveness of technology in the retail finance sector. It can be concluded that ChatGPT provides great potential in supporting investment decision-making by individual investors, especially through its analytical and predictive features. However, optimal utilization depends on the characteristics of the user—not only in terms of financial literacy, but also in terms of their cultural background and cognitive style. These results demonstrate the importance of interdisciplinary and contextual approaches in the application of modern financial technology.

CONCLUSION

The findings of this study show that the use of AI technology (ChatGPT) has a positive and significant influence on retail investor investment decisions in the city of Bandung. AI technology that is able to present information in real-time, analyze data, and predict trends has been proven to strengthen the quality of financial decisions. However, financial literacy does not moderate these relationships, while ethnic identity—particularly the Sundanese group—acts as a second-level moderator that influences how individuals respond and utilize technology in decision-making. Theoretically, these results enrich the literature on behavioral finance, Technology Acceptance Model (TAM), and social identity theory by integrating psychological, cognitive, and cultural factors in the use of financial technology. This research has several limitations that need to be considered. The scope of research limited to investors in the city of Bandung limits the generalization of findings due to the presence of distinctive local socio-cultural characteristics. The design of cross-sectional research and the use of self-report questionnaires also have the potential to cause perception bias and have not been able to capture the dynamics of investor behavior as technology or market conditions change. In addition, psychological variables such as the level of trust in AI, risk preferences, and previous investment experience have not been included in the model, so the potential influence of these factors has not been fully explored. Given these limitations, further research will need to expand geographic coverage, test across ethnicities, or use longitudinal design to understand changes in investor behavior toward AI over time. A mixed methods

approach is also recommended so that the dimensions of experience and critical assessment of AI can be explored more comprehensively. Additionally, it's important to consider the differences in the versions of ChatGPT used (free or paid) as well as the potential for AI "hallucinations" that could affect the accuracy of the information. With this deepening, future research is expected to be able to strengthen technology-based investment practices that are more inclusive, ethical, and culturally appropriate.

REFERENCES

- Abadi, M. K. R., & Hamdan, H. Bin. (2023). Individual Cultural Values and Profit Expectations on Investment Intentions in Crypto Currency: Religiosity as a Moderating Variable. *BASKARA : Journal of Business and Entrepreneurship*, 6(1), 62–84. <https://doi.org/10.54268/baskara.v6i1.18657>
- Alberts, I. L., Mercolli, L., Pyka, T., Prenosil, G., Shi, K., Rominger, A., & Oromieh, A. A. (2023). Large Language Models (LLM) and ChatGPT : What Will the Impact on Nuclear Medicine Be ? *European Journal of Nuclear Medicine and Molecular Imaging*, 50(6), 1549–1552.
- Almansour, B. Y., Elkrgfli, S., & Almansour, A. Y. (2023). Behavioral Finance Factors and Investment Decisions: A Mediating Role of Risk Perception. *Cogent Economics and Finance*, 11(2), 2239032.
- Anshika, Singla, A., & Mallik, G. (2021). Determinants of Financial Literacy: Empirical Evidence from Micro and Small Enterprises in India. *Asia Pacific Management Review*, 26(4), 248–255.
- Arifian, D., Mudawanah, S., Herlina, & Sofana, A. I. (2024). The Impact of Artificial Intelligence on Investment Decision-Making. *Islamic Studies in the World*, 1(2), 93–102.
- Atkinson, A., & Messy, F. (2017). Measuring Financial Literacy: Results of the OECD/International Network on Financial Education (INFE) Pilot Study. *OECD Publishing*.
- Çera, G., Khan, K. A., Mlouk, A., & Brabenec, T. (2021). Improving Financial Capability: The Mediating Role of Financial Behaviour. *Economic Research-Ekonomska Istrazivanja*, 34(1), 1265–1282.
- Coşkun, E. A. (2022). The Role of Artificial Intelligence in Investment Decisions and Applications in The Turkish Finance Industry. *Gaziantep University Journal of Social Sciences*, 21(4), 2208–2222. <https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=160150821&site=ehost-live>
- Coşkuner, S. (2016). Understanding Factors Affecting Financial Satisfaction. The Influence of Financial Behavior, Financial Knowledge and Demographics. *Imperial Journal of Interdisciplinary Research (IJIR)*, 2, 377–385.
- Farooq, U., Tabash, M. I., Al-Naimi, A. A., & Drachal, K. (2022). Corporate Investment Decision: A Review of Literature. *Journal of Risk and Financial Management*, 15(12), 1–17.
- Gasmara, D. D., Achsani, N. A., & Bando, B. (2023). Optimization Investment Portfolio of ESG Capital Market in Indonesia: An Investigation of Polynomial Goal Programming Based on Higher Moments. *Jurnal Ekonomi Dan Bisnis*, 26(2), 477–492.
- Gitman, L. J., & Zutter, C. J. (2020). Principles of Managerial Finance (16th Edition) (16th Editi). *Pearson Education*.
- Hamid, S. I., & Istianti, T. (2022). Rekonstruksi Nilai Moral Kewarganegaraan Berdasar Analisis Semantik Terhadap Ungkapan Kultural Masyarakat Sunda. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, 3(2), 0–21. <https://doi.org/10.17509/cd.v3i2.10340>
- Kim, A. G., Muhn, M., & Nikolaev, V. V. (2023). Bloated Disclosures: Can ChatGPT Help Investors Process Information? *Chicago Booth Research Paper 23-07 (2024): 2023-59*, 23(7), 68.
- Lo, A. W., & Singh, M. (2023). From ELIZA to ChatGPT: The Evolution of NLP and Financial Applications. *Journal of Portfolio Management*, 49(7), 1–41.
- Luong, L. P., & Ha, D. T. T. (2024). Behavioral Factors Influencing Individual Investors' Decision Making and Performance. *SJCC Management Research Review*, 14(1), 75–89.
- Lusardi, A., & Mitchell, O. S. (2017). Financial Literacy and Financial Capability among Older Adults. *Journal of Consumer Affairs*, 51(2), 1–22. *Journal of Consumer Affairs*, 51(2), 1–22.

- McCarthy, J. (2007). What Is Artificial Intelligence? Computer Science Department, 12(11), 1–12. <https://doi.org/10.1016/B978-0-323-95068-8.00001-7>
- Mekimah, S., Zighed, R., Mili, K., & Bengana, I. (2024). Business Intelligence in Organizational Decision-Making: A Bibliometric Analysis of Research Trends and Gaps (2014–2024). *Discover Sustainability*, 5(1).
- Olayinka, A. A. (2022). Financial Statement Analysis as a Tool for Investment Decisions and Assessment of Companies' Performance. *International Journal of Financial, Accounting, and Management*, 4(1), 49–66.
- Onyenahazi, O. B., & Antwi, B. O. (2024). The Role of Artificial Intelligence in Investment Decision-Making : Opportunities and Risks for Financial Institutions. *International Journal Of Research Publication and Reviews*, 5(10), 70–85.
- Osterrieder, J., & GPT, C. (2023). A Primer on Deep Reinforcement Learning for Finance. *SSRN Electronic Journal*, 4(2), 4316650.
- Pahl, K., & Way, N. (2006). Ethnic Identity and Decision-Making Patterns. *Journal of Adolescent Research*, 21(2), 145–171.
- Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: A New Scale for Use with Diverse Groups. *Journal of Adolescent Research*, 7(2), 156–176.
- Rachbini, W., Evi, T., & Suyanto. (2023). Pengenalan Chat GPT Tips dan Trik Bagi Pemula (Cerakan Pe). CV. AA. RIZKY.
- Reilly, F. K., Brown, K. C., & Leeds, S. J. (2019). Investment Analysis and Portfolio Management (11th Editi). *Cengage Learning*.
- Ross, S., Westerfield, R., Jaffe, J., & Jordan, B. (2019). *Corporate Finance (13th Editi)*. McGraw Hill.
- Russell, S. J., & Norvig, P. (2022). Artificial Intelligence A Modern Approach Fourth Edition (Fourth Edi). *Pearson Education Limited*.
- Sabri, M. F., & Aw, E. C. X. (2020). Untangling financial stress and workplace productivity: A serial mediation model. *Journal of Workplace Behavioral Health*, 35(4), 211–231. <https://doi.org/10.1080/15555240.2020.1833737>
- Sanchez, O. (2020). The Role of Artificial Intelligence in Investment Decision Making: A Study of Senior Management Perceptions within Private Equity and Venture Capital Firms. Diss. Dublin, National College of Ireland, 1(8), 1–4.
- Sari, R., Kusnanto, K., & Aswindo, M. (2022). Determinants of Stock Investment Decision Making: A Study on Investors in Indonesia. *Golden Ratio of Finance Management*, 2(2), 120–131.
- Sommer, C. (2024). The Role of Capital Markets for Small and Medium-Sized Enterprise (SME) Finance. *Journal of Development Studies*, 60(11), 1812–1831.
- Tandelilin, E. (2017). *Pasar Modal: Manajemen Portofolio dan Investasi*. Kanisius.
- Ullah, R., Ismail, H. Bin, Khan, M. T. I., & Zeb, A. (2024). Nexus Between Chat GPT Usage Dimensions and Investment Decisions Making in Pakistan: Moderating Role of Financial Literacy. *Technology in Society*, 76(1), 102454.
- Wilenius, I. (2024). Utilization of Artificial Intelligence in Investment Decisions Under Market Volatility: Manager vs. Machine. *School of Accounting and Finance*, 1(2), 1–87. <https://osuva.uwasa.fi/handle/10024/16990>
- www.ojk.go.id. (2025). *Statistik Pasar Modal Indonesia*. Otoritas Jasa Keuangan. <https://www.ojk.go.id/id/kanal/pasar-modal/data-dan-statistik/statistik-pasar-modal/default.aspx>
- Yue, T., Au, D., Au, C. C., & Iu, K. Y. (2023). Democratizing Financial Knowledge with ChatGPT by OpenAI: Unleashing the Power of Technology. *SSRN Electronic Journal*, 1–26. <https://doi.org/10.2139/ssrn.4346152>