NEURO-BEHAVIORAL RESPONSES TO FINANCIAL RESTATEMENT DISCLOSURES: AN FNIRS EXPERIMENTAL STUDY

Yuyun Yuniarti Layn*[1]
Universitas Hasanuddin, Indonesia
Email: yuniarti112@gmail.com

Arifuddin
Universitas Hasanuddin, Indonesia

Mediaty
Universitas Hasanuddin, Indonesia

Abstract

This study aims to comprehensively examine individuals' neurobehavioral responses to financial restatement disclosures through a literature review approach, focusing on the use of functional Near-Infrared Spectroscopy (fNIRS) technology in accounting and behavioral finance research. Financial restatements are often perceived as negative signals that can influence investors' risk assessments, trust, and economic decisions. Through a search and analysis of relevant international academic literature, this study synthesizes empirical findings linking cognitive and emotional processes with brain activity, particularly in the prefrontal cortex, which plays a role in decision-making and financial information processing. This study also examines how an fNIRS-based experimental design is used to capture the dynamics of neurophysiological responses when individuals are exposed to financial restatement information. The results of the literature review indicate that financial restatement disclosures trigger complex neurobehavioral responses, reflecting increased cognitive load, sensitivity to risk, and changes in attitudes and decision-making behavior. Furthermore, the existing literature indicates that non-invasive neuroimaging approaches such as fNIRS have great potential to enrich our understanding of the internal mechanisms underlying market reactions to accounting information. This research provides theoretical contributions by formulating an integrative conceptual framework between accounting, behavioral finance, and neuroscience, and methodological contributions by highlighting the opportunities and challenges of using fNIRS in experimental studies in financial reporting.

Keywords: financial restatement, neuro-behavioral responses, fNIRS, behavioral finance

---

[1] Correspondence author

INTRODUCTION

Financial reports are the primary source of information used by investors, analysts, and other stakeholders to assess a company's performance and prospects. The quality and credibility of accounting information are essential foundations for capital market efficiency, as economic decisions depend heavily on the reliability of published information. However, in practice, companies often need to conduct financial restatements, which involve restating financial statements due to recording errors, changes in accounting policies, or significant audit findings. Disclosure of financial restatements is often perceived as a negative signal that can undermine market confidence, increase uncertainty, and trigger specific emotional and behavioral reactions from investors. This phenomenon demonstrates that responses to accounting information are not merely rational but also involve complex psychological and cognitive processes (Khaneja & Arora, 2024).

Traditional accounting and finance research generally examines the impact of financial restatements through market-based approaches, such as stock price reactions, volatility, or changes in trading volume. While these approaches are important, they tend to focus on the end result of the decision-making process and under-explore the internal mechanisms underlying these reactions. In recent decades, the development of behavioral finance perspectives has deepened our understanding that investors do not always act entirely rationally but are instead influenced by cognitive biases, emotions, and subjective risk perceptions. However, most behavioral finance studies still rely on survey data or behavioral-based experiments that capture only observable responses, not the cognitive processes occurring at the biological level.

Developments in neuroscience have opened up new opportunities to bridge this gap through neuro-accounting and neuro-finance approaches. These approaches seek to understand how the brain processes financial information and how neural activity relates to economic decision-making. One technology increasingly used in this context is functional Near-Infrared Spectroscopy (fNIRS), a non-invasive neuroimaging method that measures brain activity, particularly in the prefrontal cortex, through changes in blood oxygenation. The advantage of fNIRS lies in its ability to be used in a relatively natural, flexible, and more comfortable experimental setting for participants than other, more complex neuroimaging techniques. This makes fNIRS highly relevant for examining cognitive and emotional responses to accounting information such as financial restatements (Siddiqi, 2024).

In the context of financial restatement disclosures, neurobehavioral responses become a crucial issue because such information often carries uncertainty, risk, and potential losses. When investors are faced with restatement announcements, they not only process accounting figures but also interpret the meaning behind the information, including its implications for management integrity and the company's sustainable performance. This process involves evaluating risks, controlling negative emotions such as distrust or anxiety, and adjusting decision preferences (Wang et al., 2025). Therefore, understanding how the brain responds to restatement disclosures is key to explaining why investor reactions to the same information can vary, both in terms of intensity and decision direction.

Although neurofinancial research has flourished, studies specifically linking financial restatement disclosures to neurobehavioral responses remain relatively limited. Most of the literature focuses on general investment decision-making, risk management, or reactions to positive and negative financial information, with no specific focus on restatements. However, financial restatements have the unique characteristic of being a form of correction to information previously considered reliable, potentially leading to stronger cognitive conflict and dissonance. This makes restatements a highly relevant context for neuroscience research to uncover cognitive dynamics that cannot be fully explained by behavioral or market data (Dodel et al., 2020).

Based on this background, this study aims to examine neurobehavioral responses to financial restatement disclosures in depth using a literature review approach as a conceptual and methodological foundation. By synthesizing findings from accounting, behavioral finance, and neuroscience, this study seeks to build a more holistic understanding of how restatement information is processed at the cognitive and emotional levels. This background emphasizes the importance of cross-disciplinary integration in modern accounting research, while also demonstrating the potential use of fNIRS technology as an analytical tool capable of enriching perspectives on investor reactions to the quality and credibility of financial reporting.

RESEARCH METHOD

The research method in this study uses a systematic literature review approach to analyze and synthesize scientific findings related to neurobehavioral responses to financial restatement disclosures, particularly those measured using functional near-infrared spectroscopy (fNIRS) technology. The literature collection process was conducted by searching

reputable academic articles indexed in international databases, such as journals on finance, behavioral accounting, neuroeconomics, and applied neuroscience. The literature reviewed includes experimental studies examining investor decision-making, cognitive and emotional reactions to negative financial information, as well as methodological research describing the use of fNIRS to observe prefrontal cortex activity during financial information processing. Literature selection focused on conceptually and methodologically relevant publications, taking into account contextual appropriateness, clarity of research design, and their contribution to understanding the relationship between restatement information and brain responses.

The analysis stage was conducted using a narrative synthesis approach, comparing and integrating previous research results to develop a comprehensive conceptual framework. This analysis emphasizes the general patterns of neurobehavioral findings, such as changes in cognitive activity, risk processing, and behavioral tendencies that emerge when individuals are faced with financial statement restatement disclosures. Furthermore, this study also evaluates methodological limitations in previous research, including challenges in interpreting neurophysiological signals and generalizing experimental results. With this literature review approach, this study aims to provide a strong theoretical and methodological foundation for the development of experimental fNIRS studies in accounting and behavioral finance, while also opening up opportunities for further research that is more integrated between finance and neuroscience.

RESULT AND DISCUSSION
Neuro-Behavioral Approaches in Accounting and Finance Research

The neuro-behavioral approach in accounting and finance research is a methodological development born of dissatisfaction with the assumption of complete rationality that has dominated classical finance theory and accounting practice for decades. Within the traditional framework, decision-makers, whether managers, auditors, investors, or regulators, are viewed as individuals capable of objectively and consistently processing all information to maximize utility. However, various financial crises, financial reporting scandals, and recurring empirical findings demonstrate that financial decisions are often influenced by psychological factors, emotions, and cognitive limitations. The neuro-behavioral approach aims to bridge this gap by integrating insights from behavioral finance, cognitive psychology, and cognitive neuroscience, enabling

researchers to understand not only what individuals decide, but also how and why those decisions are made at the mental and biological levels (Foxall, 2023).

In the context of accounting and finance, the neuro-behavioral approach emphasizes that accounting information is not simply numbers to be mechanically processed, but rather cognitive stimuli that trigger specific responses in the human brain. Financial reports, risk disclosures, report restatements, and sustainability information can elicit emotional reactions such as uncertainty, anxiety, or trust, which ultimately influence economic judgment and behavior. Through integration with neuroeconomics, research is beginning to examine how brain areas associated with decision-making, emotional control, and risk processing play a role when individuals evaluate financial information. This approach broadens the understanding that behavioral biases, such as overconfidence, loss aversion, and the framing effect, have a neurobiological basis that can be observed and empirically measured.

Developments in neuroimaging technology are a crucial pillar in the application of neurobehavioral approaches in this field. Methods such as fMRI, EEG, and fNIRS allow researchers to record brain activity in real time when participants are faced with specific accounting and financial scenarios. For example, when investors read loss disclosures or auditors evaluate indications of material misstatement, activity in the prefrontal cortex and limbic system can reflect the conflict between rational judgment and emotional responses. The use of these techniques provides objective evidence that complements traditional behavioral data such as reaction times, decision choices, and accuracy rates. Thus, neurobehavioral approaches enrich accounting and finance research methodology with previously unavailable biological dimensions.

In accounting research, the neurobehavioral approach has made significant contributions to understanding professional judgment and decision-making processes. Auditors, for example, often face time pressure, complex standards, and conflicts of interest, all of which can impact the quality of their professional judgment. Neurobehavioral studies show that stressful conditions and high cognitive load can reduce information processing capacity and increase reliance on simple heuristics. These findings are relevant for explaining why audit errors or failure to detect fraud persist despite the development of comprehensive standards and procedures. By understanding the neurocognitive mechanisms underlying auditor judgment, accounting research can provide more realistic recommendations regarding training design, decision support systems, and conducive work environments.

In finance, the neurobehavioral approach also enriches the analysis of investor behavior and market dynamics. Investor reactions to market volatility, earnings announcements, or negative news are often disproportionate to the fundamental value of the information. From a neurobehavioral perspective, this phenomenon can be explained as the result of the interaction between the rational cognitive system and the emotional system, which reacts quickly to threats or opportunities. Activation of brain areas related to fear and reward, for example, can explain herd behavior and speculative bubbles that are difficult to explain using efficient market theory. Thus, this approach helps build financial models that better reflect real human behavior, rather than idealized, fully rational individuals (Kovacs, 2021).

Beyond its theoretical contributions, the neurobehavioral approach also has broad practical implications. For regulators and standard-setters, understanding how information is perceived and processed by financial statement users can provide the basis for designing more effective and understandable disclosure formats. If research shows that excessive complexity actually triggers cognitive fatigue and misinterpretation, then simplifying information presentation becomes a strategic necessity. For accounting and finance education, neurobehavioral findings can be used to develop learning methods that emphasize not only technical aspects but also awareness of cognitive biases and emotional control in professional decision-making (Yi et al., 2023).

However, the application of neurobehavioral approaches in accounting and finance research also faces methodological and ethical challenges. The use of neuroimaging technology requires high costs, multidisciplinary expertise, and rigorous experimental design to ensure valid and accurately interpretable results. Furthermore, there is a risk of overinterpretation, the tendency to draw overly broad causal conclusions from complex brain activity patterns. Ethical aspects also require attention, particularly regarding the privacy of biological data and the use of neurobehavioral findings in potentially manipulative business practices. Therefore, this approach demands caution, transparency, and interdisciplinary collaboration to maximize its scientific benefits without compromising ethical research principles.

Overall, neurobehavioral approaches represent a promising new direction in accounting and finance research. By combining analyses of behavior, cognition, and neural mechanisms, this approach enables a more holistic understanding of economic decision-making. Its contributions not only enrich theory and methodology but also provide a strong empirical basis for improving

professional practice, regulation, and education. In the face of an increasingly complex and uncertain business environment, the neuro-behavioral approach offers a more humane and realistic analytical framework, while opening up opportunities for interdisciplinary research that is relevant to the future development of accounting and finance.

An fNIRS Experimental Design to Test Responses to Financial Restatement Disclosures

Financial restatement disclosures are often perceived as negative signals that can influence investor confidence, risk assessment, and economic decision-making. Therefore, the use of non-invasive neuroimaging approaches such as functional near-infrared spectroscopy (FNIR) is relevant because it allows researchers to directly observe the dynamics of brain activity when subjects are exposed to such information, without disrupting their natural behavior in decision-making situations (Rotaru et al., 2025).

An fNIRS experimental design in this context generally begins with the formulation of a stimulus framework that realistically represents financial restatement disclosures. The stimulus can be an excerpt from a financial report, an official company announcement, or a summary of stock market news containing information about corrections to previous financial reports. Stimulus validity is crucial, as the material used must be able to trigger cognitive and emotional responses that mimic real-world conditions. In good experimental designs, financial restatement stimuli are often compared with a control condition, such as the disclosure of normal financial statements without corrections, so that differences in brain activity can be more confidently attributed to the presence of the restatement information itself (HassabElnaby et al., 2025).

Research subjects are typically recruited from groups relevant to the research context, such as retail investors, accounting and finance students, or financial professionals, depending on the generalizability of the research results. Before the experiment begins, a pre-experimental briefing is conducted to explain the procedure, obtain ethical approval, and ensure that the subjects are in adequate physical and mental condition. Calibration of the fNIRS device is also performed at this stage, including placement of the optodes over areas of the prefrontal cortex often associated with risk assessment, decision-making, and emotion regulation. Consistent and precise sensor placement is crucial for maintaining the reliability of the resulting hemodynamic data.

During the experimental session, subjects are typically asked to read or observe the financial restatement stimuli on a computer screen while wearing the fNIRS device. Task designs can be passive, where subjects are simply asked to comprehend the information, or active, where subjects are asked to make specific decisions such as assessing risk levels, determining investment intentions, or rating trustworthiness in a company. These variations in task design allow researchers to explore not only basic cognitive responses to restatement information but also their implications for decision-making behavior. fNIRS records changes in hemoglobin oxygenation concentration during the task, which are then interpreted as indicators of neural activity in specific brain areas.

The temporal structure of fNIRS experimental designs also plays a crucial role. Block-based or event-related designs are commonly used (Slapničar et al., 2021). In block-based designs, financial restatement stimuli and control conditions are presented at alternating time intervals, allowing differences in brain activation patterns to be analyzed in aggregate. Meanwhile, event-related designs allow for analysis of brain responses to each stimulus individually, providing more detailed temporal resolution to capture cognitive dynamics when subjects are first exposed to corrective information. The choice of design depends on the focus of the research, whether emphasizing general response patterns or specific reactions to specific events.

fNIRS data processing and analysis is an integral part of the experimental design. The raw data collected undergoes a cleaning process to reduce noise caused by head movement, non-neural physiological changes, or environmental disturbances. The data is then processed to extract relevant hemoglobin oxygenation signals and then statistically analyzed to compare the financial restatement condition with the control condition (Tank & Farrell, 2022). In the context of accounting and finance research, the results of this analysis are often linked to theories of investor behavior, such as signaling theory and prospect theory, to provide a conceptual interpretation of the neurophysiological findings.

The integration of neural and behavioral data is a key strength of the fNIRS experimental design in examining responses to financial restatement disclosures. In addition to recording brain activity, researchers typically collect additional data such as reaction times, decision choices, and subjective assessments of subjects. This multimodal approach allows for a more comprehensive understanding of how restatement information is processed, from the initial neural response to its manifestation in real-world economic

decisions. Thus, the fNIRS experimental design not only contributes to the development of neuro-behavioral-based accounting research methodology, but also opens new insights into the cognitive mechanisms underlying market reactions to corrective financial information.

The Relationship between Neural Activity and Behavioral Responses, Such as Changes in Risk Assessment and Investment Decisions

The discussion of the relationship between neural activity and behavioral responses in the context of changes in risk assessment and investment decisions is based on the assumption that the financial decision-making process is not solely rational but is heavily influenced by biological mechanisms in the brain. In recent decades, neurobehavioral approaches have shown that risk evaluation, uncertainty perception, and investment choices are the result of complex interactions between cognitive and affective systems. Certain neural activities play a key role in processing financial information, predicting future consequences, and shaping emotional responses that are then reflected in investor behavior ("Influence of Basic Human Behaviors (Influenced by Brain Architecture and Function), and Past Traumatic Events on Investor Behavior and Financial Bias," 2022). Thus, changes in risk assessment can often be traced to changes in brain activation patterns that occur when individuals are exposed to economic information that is ambiguous, surprising, or contradicts prior expectations.

Neurobiologically, risk assessment involves the involvement of brain regions involved in cognitive control and emotional regulation. Areas such as the prefrontal cortex function in reasoning, planning, and evaluating the long-term consequences of an investment decision. When individuals assess potential gains and losses, activity in this region reflects a cognitive effort to balance objective information with prior experience and knowledge. However, this process is not isolated. The limbic system, particularly regions associated with emotions such as the amygdala, plays a role in detecting threats and triggering emotional responses to risk. High activation in this area is often associated with increased risk perception and a tendency to avoid decisions perceived as risky, even when the potential for profit is still rationally significant (Jain et al., 2019).

The relationship between neural activity and behavioral responses becomes even clearer when individuals are faced with volatile market conditions. Negative information, such as declining company performance or macroeconomic uncertainty, can trigger increased neural activity associated

with stress and vigilance. This then influences how investors assess risk, often leading to overestimation of potential losses. Consequently, investment decisions tend to be more conservative, for example, by reducing exposure to risky assets or hastily selling. Conversely, in optimistic market conditions, neural activity related to the reward system can increase, encouraging investors to take greater risks and pursue potential short-term gains (Oyewale Oyedokun et al., 2024).

The behavioral responses that emerge from this neural activity are not always conscious. Many investment decisions are made through automatic processes influenced by intuition and emotion. Certain neural activity serves as internal signals that guide individuals in making choices without in-depth rational analysis (Aziz & Andriansyah, n.d.). In this context, changes in risk assessment can occur rapidly in response to specific stimuli, such as market news or drastic changes in stock prices. These rapid neural responses are then translated into behavioral actions, such as buying or selling assets, before individuals have time to comprehensively evaluate the available information.

Furthermore, the relationship between neural activity and investment decisions is also influenced by individual differences. Factors such as investment experience, risk tolerance, and psychological state can modulate how the brain responds to financial information. Experienced investors tend to exhibit more stable neural activity patterns when faced with risk, as they have a more mature cognitive framework for interpreting uncertainty. Conversely, novice investors often exhibit higher emotional reactivity, reflected in increased neural activity in regions associated with anxiety and fear. This difference explains why individuals with access to the same information can make very different investment decisions.

Over the long term, repeated interactions between neural activity and behavioral responses can shape relatively consistent decision-making patterns. Experiences of investment success or failure strengthen certain neural pathways, thus influencing future risk assessments. This learning process explains why behavioral biases, such as overconfidence or loss aversion, can persist despite individuals' awareness of their existence. The neural activity underlying these biases continues to influence emotional and cognitive responses, thus forming habits in investment decision-making.

Thus, the relationship between neural activity and behavioral responses suggests that changes in risk assessment and investment decisions are the result of interconnected biological and psychological dynamics. A neurobehavioral approach provides a deeper understanding of how the brain

processes risk and uncertainty, and how these processes influence real-world economic activity. This understanding not only enriches behavioral finance theory but also opens up opportunities for developing more effective educational and policy strategies to help investors make more rational and adaptive decisions in the face of the complexities of financial markets.

Interpreting Neuro-Behavioral Responses to the Severity and Type of Financial Restatements

In the context of financial restatements, corrective financial statement information serves as a negative signal that can disrupt investor expectations, trigger uncertainty, and elicit emotional responses such as anxiety, distrust, or hypervigilance. The severity of the restatement, whether material or immaterial, and its type, whether caused by an unintentional accounting error or an indication of manipulation, play a crucial role in shaping the intensity and direction of these neuro-behavioral responses (Chen et al., 2022). Therefore, interpreting these responses requires an approach capable of linking neural activity to actual behavioral changes in investment decision-making.

From a neurocognitive perspective, the severity of a financial restatement correlates with an increase in the cognitive load an individual must process. Restatements with significant material impact tend to trigger heightened activity in brain areas associated with risk evaluation, emotional control, and decision-making, particularly in the prefrontal cortex. This activation reflects the brain's attempt to reassess information previously considered valid and adjust decision strategies under conditions of increased uncertainty. Behaviorally, this condition often translates into increased risk perception, decreased trust in management, and a tendency to make more conservative decisions, such as delaying investments or divestments. Conversely, low-severity restatements, while still eliciting neural responses, generally produce more moderate activation intensity and have a more limited impact on behavioral change, particularly if investors perceive the correction as a technical issue that does not threaten the company's long-term prospects (Working Memory Training, Session Duration, and Reading Ability, n.d.).

The type of financial restatement also presents nuanced interpretations of neurobehavioral responses. Restatements classified as unintentional errors are often perceived as competence or reporting system issues, so while they trigger re-evaluation, the resulting emotional response is relatively more restrained. Neural activity in these cases tends to be dominated by analytical cognitive processes focused on adjusting expectations and recalculating the

company's value. Conversely, restatements associated with potential fraud or accounting manipulation trigger a stronger affective response, including activation of brain areas associated with negative emotions and threat detection. This condition reflects a fundamental loss of trust, with investors reassessing not only financial figures but also management integrity. Behaviorally, this response often manifests in more extreme market reactions, such as sharp stock price declines and increased trading volatility.

The interpretation of neurobehavioral responses also cannot be separated from the interaction between the cognitive and affective systems. In severe restatement situations that indicate fraud, the affective system can dominate the decision-making process, causing investors to react quickly and emotionally, sometimes without thorough analysis of fundamental information. This is reflected in neural activity patterns that indicate an increased emotional response over cognitive control. Conversely, in technical and less material restatements, the cognitive system tends to be more dominant, allowing investors to maintain an analytical and rational approach. This difference in system dominance is key to understanding why investor behavioral responses to financial restatements often vary, despite structural similarities in the information conveyed.

Within a neurobehavioral methodological framework, the use of techniques such as functional near-infrared spectroscopy makes a significant contribution to uncovering these dynamics. By measuring changes in blood oxygenation in the cerebral cortex, researchers can directly observe how the severity and type of restatement influence neural activity during the evaluation of financial information. Interpretation of this data allows for a more accurate mapping between neural responses and behavior, such as changes in risk assessment or investment preferences. Thus, this approach not only enriches theoretical understanding of investor behavior but also provides a strong empirical basis for explaining market phenomena that are often difficult to understand through purely rational approaches.

Overall, the interpretation of neurobehavioral responses to the severity and type of financial restatement confirms that investor reactions are the result of a multidimensional process involving cognitive evaluation, emotional responses, and the context of the information received. The severity of the restatement determines the intensity of cognitive and emotional load, while the type of restatement shapes the psychological meaning attached to the information. The combination of the two produces distinct patterns of neural activity and is reflected in variations in investment behavior in the capital

market. A deeper understanding of these mechanisms is not only relevant for the development of neuro-behavioral accounting and finance literature, but also has practical implications for regulators, auditors, and companies in designing more effective and responsible disclosure strategies.

CONCLUSION

This study concludes that financial restatement disclosures act as accounting information stimuli that not only influence decision-making behavior but also trigger cognitive and emotional responses observable at the neural level. Based on a synthesis of the literature, neurobehavioral responses to restatements reflect increased cognitive load, more intense risk evaluation, and changes in perceptions of company credibility. Previous findings indicate that activity in brain areas related to decision-making and emotional control plays a key role in explaining the heterogeneity of individual reactions to restatement information. This confirms that investor reactions to financial statement corrections are not solely rational but rather result from a complex interaction between accounting information processing and internal psychological mechanisms.

Furthermore, this study highlights the potential of neuroscience approaches, particularly through the use of functional near-infrared spectroscopy (fNIRS), as a significant methodological contribution to accounting and behavioral finance research. This approach allows for a deeper understanding of the internal processes underlying reactions to financial restatement disclosures, which have previously been difficult to uncover through market data or behavioral observations alone. Thus, this study provides a conceptual basis for the development of further, more integrated experimental studies, as well as encouraging the enrichment of perspectives in assessing the quality of financial reporting and its implications for capital market behavior.

REFERENCES

Aziz, L. A.-R., & Andriansyah, Y. (n.d.). The Role Artificial Intelligence in Modern Banking: An Exploration of AI-Driven Approaches for Enhanced Fraud Prevention, Risk Management, and Regulatory Compliance. 6(1).

Chen, F., Chen, J., & Luo, X. (2022). New Discoveries in the Benefits and Outcomes of Cochlear Implantation. Frontiers Media SA.

Dodel, S., Tognoli, E., & Kelso, J. A. S. (2020). Degeneracy and Complexity in Neuro-Behavioral Correlates of Team Coordination. Frontiers in Human Neuroscience, 14. https://doi.org/10.3389/fnhum.2020.00328

Foxall, G. R. (2023). The neurophysiological Behavioral Perspective Model of consumer choice and its contribution to the intentional behaviorist research programme. Frontiers in Human Neuroscience, 17. https://doi.org/10.3389/fnhum.2023.1190108

HassabElnaby, H. R., Abdel-Maksoud, A., Said, A., Cotton, A. S., Wang, A. Y., & Elsamaloty, H. (2025). fMRI study of brain activation associated with earnings management techniques in proximity to debt covenant violations. Future Business Journal, 11(1), 101. https://doi.org/10.1186/s43093-025-00520-y

Influence of Basic Human Behaviors (Influenced by Brain Architecture and Function), and Past Traumatic Events on Investor Behavior and Financial Bias. (2022). Journal of Accounting and Finance, 22(2). https://doi.org/10.33423/jaf.v22i2.5137

Jain, J., Walia, N., & Gupta, S. (2019). 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

Khaneja, S., & Arora, T. (2024). The potential of neuroscience in transforming business: A meta-analysis. Future Business Journal, 10(1), 77. https://doi.org/10.1186/s43093-024-00369-7

Kovacs, L. (2021). THE COVID-19 PANDEMIC. A NEUROECONOMIC APPROACH - LITERATURE REVIEW. Revista Tinerilor Economişti, 37, 30–38.

Oyewale Oyedokun, Somto Emmanuel Ewim, & Oluwaseun Peter Oyeyemi. (2024). Leveraging advanced financial analytics for predictive risk management and strategic decision-making in global markets. Global Journal of Research in Multidisciplinary Studies, 2(2), 016–026. https://doi.org/10.58175/gjrms.2024.2.2.0051

Rotaru, K., Rose, J. M., Ganbold, O., Rose, A. M., Loveridge, J., & Stamatelatos, A. (2025). Neuroaccounting: Integrating Neurophysiological Techniques into Accounting and Accounting Information Systems Research. Journal of Information Systems, 39(3), 85–130. https://doi.org/10.2308/ISYS-2023-061

Siddiqi, H. (2024). Information Processing in the Brain and Financial Innovations. Journal of Behavioral Finance, 25(4), 410–419. https://doi.org/10.1080/15427560.2023.2198718

Slapničar, S., Ličen, M., Hartmann, F. G. H., Ozimič, A. S., & Repovš, G. (2021). Management Accountants' Empathy and Their Violation of Fiduciary Duties: A Replication and Extension Study Using fMRI. Behavioral Research in Accounting, 33(1), 21–42. https://doi.org/10.2308/BRIA-2020-021

Tank, A. K., & Farrell, A. M. (2022). Is Neuroaccounting Taking a Place on the Stage? A Review of the Influence of Neuroscience on Accounting

Research. European Accounting Review, 31(1), 173–207. https://doi.org/10.1080/09638180.2020.1866634

Wang, Y., Xu, M., & Zhao, L. (2025). Exploring the Cognitive Mechanisms Behind the Adoption of Algorithmic Advice. Business & Information Systems Engineering. https://doi.org/10.1007/s12599-025-00925-7

Working Memory Training, Session Duration, and Reading Ability: A Causal Comparative Study - ProQuest. (n.d.). Retrieved December 19, 2025, from https://www.proquest.com/openview/ced23e9e631a02a66dc32d8c5b516802/1?pq-origsite=gscholar&cbl=44156

Yi, Z., Cao, X., Chen, Z., & Li, S. (2023). Artificial Intelligence in Accounting and Finance: Challenges and Opportunities. IEEE Access, 11, 129100–129123. https://doi.org/10.1109/ACCESS.2023.3333389