Exploring Neuro Management: Bridging Science and Leadership – An Overview

P. S. Aithal [1] & C. P. D. J. Satpathy [2]

[1] Senior Professor, Institute of Management and Commerce, Srinivas University, Mangaluru, India,
ORCID-iD: 0000-0002-4691-8736; E-mail: psaithal@gmail.com

[2] Research Professor, Institute of Management and Commerce, Srinivas University, Mangaluru, India,
ORCID-iD: 0000-0003-2087-6619; E-mail: jyotisatpathy@gmail.com

Subject Area: Management.
Type of the Paper: Exploratory Research.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed In: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.10960626
Google Scholar Citation: IJAEML

How to Cite this Paper:
Aithal, P. S. & Satpathy, C. P. D. J. (2024). Exploring Neuro Management: Bridging Science and Leadership – An Overview. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *8*(2), 39-73. DOI: https://doi.org/10.5281/zenodo.10960626

International Journal of Applied Engineering and Management Letters (IJAEML)
A Refereed International Journal of Srinivas University, India.

Crossref DOI: https://doi.org/10.47992/IJAEML.2581.7000.0223

Received on: 06/01/2024
Published on: 12/04/2024

Exploring Neuro Management: Bridging Science and Leadership – An Overview

P. S. Aithal [1] & C. P. D. J. Satpathy [2]

[1] Senior Professor, Institute of Management and Commerce, Srinivas University, Mangaluru, India,
ORCID-iD: 0000-0002-4691-8736; E-mail: psaithal@gmail.com

[2] Research Professor, Institute of Management and Commerce, Srinivas University, Mangaluru, India,
ORCID-iD: 0000-0003-2087-6619; E-mail: jyotisatpathy@gmail.com

ABSTRACT

Purpose: *To develop a comprehensive overview of Neuro Management, by bridging the gap between scientific insights and effective leadership within organizational contexts based on exploring Neuro Management concepts, applications, and their implications for managerial practices.*

Procedure: *The overview begins by delineating the fundamental concepts and applications of Neuro Management, elucidating its relevance in leveraging neuroscience principles for enhancing leadership effectiveness. It then provides an extensive overview of key themes and contributions within the field, identifying foundational works and highlighting significant research directions. A critical analysis of the evolution of Neuro Management concepts is presented, identifying existing research gaps and tracing the evolutionary trajectory of the field. Furthermore, a conceptual framework is developed, integrating neuroscience principles with leadership practices, and delineating a structured approach for applying neuroscience insights in leadership contexts.*

Analysis: *The paper discusses the neural mechanisms underlying various aspects related to Neuro Management, exploring decision-making processes, emotional intelligence, and their neural correlates. Subsequently, it analyzes how Neuro Management concepts bridge the gap between scientific insights and effective leadership, highlighting the translation of neuroscience findings into practical leadership strategies. Moreover, the implications of Neuro Management for organizational practices, decision-making, team dynamics, and productivity are expounded upon, emphasizing its transformative impact on enhancing organizational performance. The study assesses the connection between human productivity and Neuro Management, focusing on how Neuro Management strategies affect organizational effectiveness. The study also critically analyzes leadership and neuro management from a managerial perspective, evaluating their effects on organizational outcomes and their roles in decision-making. Additionally, it explores how different Neuro Management models that are helpful in decision science might be applied to create efficient decision-making processes. Furthermore, the paper adopts an ABCD listing framework, analyzing Neuro Management from Managers' Points of View, evaluating its Advantages, Benefits, Constraints, and Disadvantages. Finally, it suggests postulates for future research and practical applications in Neuro Management, emphasizing areas warranting further exploration and implementation.*

Originality/Value: *This comprehensive overview aims to serve as a foundational resource in the expanding field of Neuro Management, offering insights, analyses, and frameworks for advancing leadership practices informed by neuroscience principles.*

Type of Paper: *Conceptual exploratory research.*

Keywords: Neuro Management, Conceptual framework, Bridging science and leadership, Neuro-Leadership, ABCD listing,

1. INTRODUCTION :

In today's rapidly evolving business landscape, the convergence of neuroscience and management practices has ushered in a transformative approach known as Neuro Management. This multidisciplinary topic has become well-known due to its significant influence on how contemporary organizational and leadership tactics are shaped [1]. Fundamentally, neuro management aims to understand the complex processes of the human brain and use this knowledge to improve decision-making, leadership, and organizational performance as a whole [2].

The field of Neuro Management provides a link between the scientific understanding of neurology and the complexities of effective leadership in corporate contexts. It makes use of the amount of information found in neuroscience to unravel the neurological mechanisms underlying human cognition, behavior, and decision-making. It offers a paradigm shift in how leaders see, interact with, and lead their teams to success by incorporating these neurological insights [3].

Understanding that our cognitive processes have a substantial impact on how we lead, make decisions, and interact inside businesses is the foundation of neuro-managing. It clarifies the complex interactions that exist between behaviour, emotions, and brain function, providing a better understanding of what motivates both individual and group conduct in work environments. As such, this new knowledge is extremely pertinent to the development of more complicated, compassionate, and successful leadership approaches that take into account the intricacies of the human mind [3].

Neuro Management integrates principles from neuroscience into the realm of management and leadership. It involves understanding how the human brain functions in decision-making, communication, motivation, and behaviour within organizational contexts. By applying insights from neuroscience, it aims to optimize managerial strategies, team dynamics, and organizational performance [4]. Table 1 lists importance, applications, impact, and challenges and future prospects of neuro Management.

Table 1: Importance, Applications, Impact, and Challenges & future prospects of Neuro Management

S. No.	Key Factors	Description
Importance of Neuro Management:		
1	Enhanced Decision-Making	Understanding how the brain processes information and makes decisions can lead to better-informed and more effective managerial decisions.
2	Improved Leadership Skills	Insights into neural mechanisms of motivation, empathy, and persuasion can help leaders cultivate better relationships, foster collaboration, and inspire teams.
3	Optimized Workplace Environment	Knowledge of neuroscience can aid in designing workspaces and structures that enhance productivity, creativity, and employee well-being.
Applications of Neuro Management:		
1	Leadership Development	Utilizing neuroscientific insights, leadership training programs can be tailored to develop self-awareness, emotional intelligence, and adaptive leadership styles.
2	Team Dynamics and Collaboration	Understanding the brain's social aspects facilitates better team communication, conflict resolution, and the creation of inclusive environments.
3	Change Management	Provide insights into how the brain perceives and adapts to change can inform strategies for implementing organizational changes more effectively.
Impact of Neuro Management:		
1	Employee Engagement and Well-being	By leveraging neuroscientific insights, organizations can create environments that promote employee engagement, reduce stress, and enhance well-being.
2	Performance Optimization	Neuro Management strategies can improve individual and team performance, leading to increased productivity and innovation within organizations.

3	Strategic Decision-Making	Applying neuroscience to managerial decision-making processes can lead to more informed, strategic, and effective decisions for long-term organizational success.
Impact of Neuro Management:		
1	Employee Engagement and Well-being	By leveraging neuroscientific insights, organizations can create environments that promote employee engagement, reduce stress, and enhance well-being.
2	Performance Optimization	Neuro Management strategies can improve individual and team performance, leading to increased productivity and innovation within organizations.
3	Strategic Decision-Making	Applying neuroscience to managerial decision-making processes can lead to more informed, strategic, and effective decisions for long-term organizational success.
Challenges and Future Prospects:		
1	Ethical Considerations	The ethical implications of using neuroscientific techniques in management, such as privacy concerns and the potential for manipulation, require careful consideration and regulation.
2	Integration into Practice	Bridging the gap between neuroscience research and practical managerial applications requires collaboration between scientists, practitioners, and policymakers.
3	Continuous Learning and Adaptation	Neuro Management is a dynamic field that necessitates ongoing learning and adaptation to incorporate new findings and technologies.

This paper makes an attempt to introduce and analyse the latest issues related to Neuro Management to optimize leadership, team dynamics, and organizational performance by integrating insights from neuroscience into management practices. The successful implementation of neuro management involves a balanced approach that respects ethical considerations while leveraging the potential for a positive impact on workplace dynamics and organizational success.

2. OBJECTIVES OF THE PAPER :

(1) To present an overview on the concept and applications of Neuro Management.
(2) To develop an overview of the key themes and contributions within the field.
(3) To identify the research gap and the Evolution of Neuro Management Concepts.
(4) To develop a conceptual framework for Neuro Management that integrates neuroscience principles with leadership practices.
(5) To explore neural mechanisms underlying several aspects related to Neuro Management.
(6) To analyse How Neuro Management concepts can bridge the gap between scientific insights and effective leadership.
(7) To find the Implications of Neuro Management for organizational practices, decision-making, team dynamics, and productivity.
(8) To evaluate the concept of Neuro management and Leadership and how they help Managers for Decision Making.
(9) To evaluate various Neuro Management Models Useful in Decision Science.
(10) To find the relationship between Neuro Management and Human Productivity and the Impact of Neuro Management Techniques on Organizations Performance.
(11) To analyse the applications of Neuro Management in various Industry Sectors.
(12) To identify the research and innovation opportunities in Neuro Management.
(13) To analyse Neuro Management from Managers Points of View using ABCD Listing framework.
(14) To suggest areas of future research and practical applications in Neuro Management.

3. LITERATURE REVIEW :

The existing literature on Neuro Management and neuroscience in leadership reflects a rich tapestry of research, theories, and models that have significantly shaped our understanding of how

neuroscience intersects with management and leadership practices. An overview of the key themes and contributions within this field are presented below:

3.1. Neuro Management Concepts and Frameworks:
Authors like David Rock, Jeffrey Schwartz, and others have laid the foundation for Neuro Management by introducing concepts like Neuro Leadership. Their works delve into how understanding the brain's functioning can optimize leadership, decision-making, and organizational behaviours [5-7].

3.2. Neuroscience in Decision-Making:
Researchers like Antonio Damasio and Daniel Kahneman have explored the neural mechanisms underlying decision-making. Their works, such as "Descartes' Error" and "Thinking, Fast and Slow," shed light on how emotions and biases influence decision-making, offering insights applicable to managerial contexts [8-11].

3.3. Emotional Intelligence and Leadership:
Daniel Goleman's research on emotional intelligence has been pivotal. His works like "Emotional Intelligence" highlight the significance of emotions in leadership and how understanding emotional responses contributes to effective management [12-15].

3.4. Neuroscientific Insights into Learning and Change Management:
Richard Boyatzis, among others, has contributed to understanding neural processes related to learning and change. His research focuses on emotional and social intelligence in leadership, emphasizing the role of neural connections in fostering change and development [16-17].

3.5. Dual-Process Models and Cognitive Biases:
Dual-process models, like those proposed by Nobel laureate Daniel Kahneman, have influenced Neuro Management significantly. These models outline System 1 (fast, intuitive) and System 2 (slow, deliberate) thinking, highlighting how cognitive biases impact decision-making [18-21].

3.6. Neuroeconomic Studies:
Neuroeconomic studies, blending neuroscience and economics, offer insights into how the brain evaluates risks, rewards, and decision-making in economic contexts. This interdisciplinary approach has implications for managerial decision-making and organizational behaviour [22-24].

3.7. Social Neuroscience and Team Dynamics:
Work by Matthew Lieberman and others [25-28] in social neuroscience explores how the brain processes social interactions. These insights into human connectivity and social behaviour contribute to understanding team dynamics and collaboration within organizations.

3.8. Models on Stress, Well-being, and Performance:
Research by Sonia Lupien and others focuses on stress and its impact on brain function. Understanding neural responses to stress contributes to strategies for stress management, employee well-being, and performance optimization [29-30].

3.9. Brain-Based Learning Models:
Models like the SCARF model by David Rock explore social triggers that impact brain function in social settings. These models offer insights into motivation, collaboration, and performance in organizational contexts [31-33].

The collective body of literature in Neuro Management and neuroscience in leadership presents diverse perspectives, theories, and models that elucidate the neural underpinnings of human behaviours in organizational settings. These contributions provide a robust foundation for applying neuroscientific insights to optimize leadership, decision-making, and organizational effectiveness.

In the evolution of Neuro Management, several key findings, ongoing gaps in research, and the conceptual evolution have shaped the field are listed in Table 2:

Table 2: The key findings of review, research gap, and evolution of neuro management concepts

S. No.	Key Factors	Description
Key Findings:		
1	Neural Basis of Decision-Making	Research highlights the neural mechanisms involved in decision-making processes. Understanding how emotions, biases, and cognitive processes influence decisions has been a key finding.
2	Emotional Intelligence and Leadership	Studies emphasize the role of emotional intelligence in effective leadership. The correlation between neural responses to emotions and leadership effectiveness has been a significant finding.
3	Cognitive Biases and Heuristics	Discoveries regarding cognitive biases (e.g., confirmation bias, availability heuristic) underscore how these biases influence decision-making. Insights into how these biases manifest neurologically have been crucial.
4	Stress and Performance	Findings on the neural responses to stress and its impact on performance have highlighted the need for stress management strategies in organizational settings.
5	Neuroplasticity and Learning	The concept of neuroplasticity has shown that the brain can adapt and change, impacting learning and skill acquisition. This finding has implications for training and development programs.
Gaps in Research:		
1	Longitudinal Studies	There is a need for longitudinal studies to assess the long-term impact of Neuro Management interventions on organizational performance and leadership efficacy.
2	Ethical Implications	Research gaps exist concerning the ethical implications of utilizing neuroscience in management practices. More exploration is needed on the ethical boundaries and responsible applications.
3	Individual Differences	Understanding individual variations in neural responses and how they relate to management practices remains an area for further investigation.
4	Application in Diverse Contexts	There's a need for research examining the applicability of Neuro Management across diverse organizational cultures, industries, and leadership styles.
Evolution of Neuro Management Concepts:		
1	Emergence of Neuro-Leadership	The conceptualization of NeuroLeadership marked the initial phase, focusing on applying neuroscience to leadership development and decision-making.
2	Integration of Neuroscience in Management Practices	Over time, Neuro Management evolved to integrate neuroscience findings into broader management practices, encompassing decision-making, team dynamics, and organizational behaviours.
3	Shift towards Practical Applications	The evolution saw a shift from theoretical frameworks to more practical applications. Concepts evolved to address real-world organizational challenges, emphasizing practical interventions based on neuroscience.
4	Interdisciplinary Approach	The evolution of Neuro Management embraces an interdisciplinary approach, integrating insights from neuroscience, psychology, economics, and organizational behaviours to optimize leadership and organizational performance.

Overall, the evolution of Neuro Management has seen a progression from foundational neuroscientific insights to practical applications in leadership, decision-making, and organizational behaviours, while the gaps in research continue to provide opportunities for further exploration and refinement within the field.

4. CONCEPTUAL FRAMEWORK :

Here is a conceptual framework for Neuro Management that integrates neuroscience principles with leadership practices:

Neuro Management amalgamates insights from neuroscience with leadership practices to optimize organizational effectiveness [34-36]. The Neuro Leadership Model proposed herein encapsulates the fusion of neuroscientific principles and leadership strategies for enhanced performance.

Fig. 1: Conceptual Framework for Neuro Management that integrates neuroscience principles with leadership practices

Components of the Neuro Leadership Model:

(1) Neural Basis of Leadership:

Understanding the neural mechanisms underlying leadership qualities such as emotional intelligence, decision-making, and empathy. This involves exploring brain regions associated with these traits and how they influence leadership effectiveness.

(2) Emotional Regulation and Leadership:

Highlighting the neural pathways involved in emotion regulation and their impact on leadership. This includes strategies for leaders to modulate emotional responses and enhance empathetic communication.

(3) Cognitive Flexibility and Decision-Making:

Examining the neural networks responsible for cognitive flexibility and adaptive decision-making. This component focuses on fostering cognitive agility among leaders, enabling them to navigate complex scenarios effectively.

(4) Social Intelligence and Team Dynamics:

Investigating the neural correlates of social interactions and their implications for team dynamics. Understanding how the brain processes social cues contributes to effective collaboration and inclusive leadership.

(5) Stress Management and Performance Optimization:
Exploring the neural responses to stress and techniques for stress reduction. This segment emphasizes leaders' ability to manage their own stress and create environments that minimize stressors for enhanced team performance.
(6) Learning, Neuroplasticity, and Skill Development:
Incorporating insights into neuroplasticity to facilitate continuous learning and skill development among leaders. Understanding the brain's ability to adapt and learn informs strategies for ongoing professional growth.

Implementation and Application:

The Neuro Leadership Model can be implemented through tailored leadership development programs. These programs integrate neuroscience-based modules focusing on self-awareness, emotional regulation, cognitive agility, and fostering collaborative team environments.
The Neuro Leadership Model represents an integrative approach that harnesses neuroscience principles to cultivate effective leadership. By understanding the neural underpinnings of leadership qualities, this framework equips leaders with strategies to optimize their own performance and foster high-performing teams within organizations.
This conceptual framework outlines key neural principles intertwined with leadership practices, offering a holistic approach to Neuro Management in cultivating effective leaders and fostering organizational success.

5. NEURAL MECHANISMS UNDERLYING DECISION-MAKING, EMOTIONAL INTELLIGENCE, MOTIVATION, AND OTHER RELEVANT ASPECTS RELATED TO NEURO MANAGEMENT :

The neural mechanisms underlying several aspects related to Neuro Management are explored below:

5.1. Decision-Making:

(1) Prefrontal Cortex (PFC): The PFC plays a crucial role in decision-making. The dorsolateral PFC is associated with reasoning and complex decision-making, while the ventromedial PFC is involved in value assessment and emotional processing, influencing choices.
(2) Limbic System: Emotional responses, regulated by structures like the amygdala and insula within the limbic system, significantly impact decision-making. Emotional signals from these regions influence the evaluation of risks and rewards, often guiding decisions.
(3) Dopaminergic Pathways: The brain's reward system, primarily mediated by dopamine pathways originating in the ventral tegmental area (VTA) and projecting to the nucleus accumbens, influences motivation and the assessment of outcomes, shaping decisions.

5.2. Emotional Intelligence:

(1) Amygdala: This brain region plays a central role in processing emotions. Individuals with high emotional intelligence exhibit greater amygdala regulation, enabling better emotional control and empathetic responses.
(2) Prefrontal Cortex Connectivity: Strong connectivity between the PFC and limbic system, especially the amygdala, correlates with higher emotional intelligence. This connectivity allows for better emotional regulation and decision-making.
(3) Insula Activation: Increased insula activation is linked to heightened emotional awareness and empathy. It facilitates the understanding of one's emotions and those of others, a crucial aspect of emotional intelligence.

5.3. Motivation:

(1) Mesolimbic Pathway: The mesolimbic dopamine pathway, involving the VTA and nucleus accumbens, is central to motivation. Dopamine release in this pathway reinforces behaviours associated with rewards, influencing motivation levels.
(2) Prefrontal Cortex: The PFC, particularly the ventromedial area, integrates motivational cues and aids in evaluating potential rewards, thus modulating an individual's drive and determination.
(3) Hormonal Regulation: Hormones like dopamine, serotonin, and norepinephrine influence motivational states. Their fluctuation impacts motivation levels and the brain's response to rewards.

5.4. Stress and Performance:

(1) Hypothalamic-Pituitary-Adrenal (HPA) Axis: Stress activates the HPA axis, leading to the release of cortisol. Chronic stress impacts the PFC, affecting decision-making, attention, and emotional regulation, ultimately influencing performance.
(2) Amygdala Activation: Heightened amygdala activity during stress can impair executive functions. Managing stress involves regulating amygdala responses to prevent detrimental effects on performance.

Understanding these neural mechanisms provides insight into how the brain processes information, regulates emotions, and evaluates motivational cues. Neuro Management leverages this understanding to design interventions, training programs, and strategies that optimize decision-making, enhance emotional intelligence, motivate individuals, and mitigate the negative impacts of stress on performance within organizational settings.

6. METHODOLOGY :

This conceptual paper follows an explorative research method where, the information are collected from various open-access scholarly articles and websites by searching them through appropriate keywords using Google Search Engine, Google Scholar search engine, AI-driven GPTs, etc. The related information of the identified concepts are analysed, compared, evaluated, interpreted as per appropriate analysis frameworks to create new knowledge in the form of postulated presented in the article.

7. DISCUSSION :

7.1 How Neuro Management concepts can bridge the gap between scientific insights and effective leadership:

Neuro Management serves as a vital bridge between scientific insights derived from neuroscience and the practical application of these insights in effective leadership. An analysis of how Neuro Management concepts facilitate this bridge is presented below:
(1) Translating Scientific Insights into Practical Strategies: Neuro Management interprets complex neuroscience findings into actionable strategies for leaders. It takes the intricacies of neural processes and translates them into practical applications, enabling leaders to understand, adapt, and apply these insights in real-world scenarios.
(2) Understanding Behavioural Patterns: By delving into neural mechanisms, Neuro Management provides a deeper understanding of human behaviour, cognition, and emotions. This understanding equips leaders with insights into why individuals act the way they do, enabling more empathetic and insightful leadership approaches.
(3) Optimizing Decision-Making: Neuro Management sheds light on the neural basis of decision-making, highlighting biases, emotional influences, and cognitive processes. This knowledge empowers leaders to make more informed and rational decisions by recognizing and mitigating biases that may otherwise hinder effective leadership.
(4) Enhancing Emotional Intelligence: Scientific insights into emotions and their neural correlates contribute to enhancing emotional intelligence among leaders. Neuro Management offers strategies for regulating emotions, empathetic communication, and understanding the emotional states of team members, fostering better leadership relationships.
(5) Tailoring Leadership Approaches: Neuro Management recognizes individual differences in neural responses. This recognition enables leaders to tailor their approaches based on these differences, adapting leadership styles to resonate with the cognitive and emotional needs of diverse team members.
(6) Fostering Learning and Adaptation: Understanding neuroplasticity and learning mechanisms allows leaders to create environments that facilitate continuous learning and skill development. This fosters adaptive leadership, allowing leaders to evolve alongside changing organizational needs.
(7) Mitigating Stress and Enhancing Performance: Insights into stress responses and their neural underpinnings equip leaders with strategies to manage stress within teams, fostering environments conducive to optimal performance and well-being.

(8) Leveraging Motivational Insights: Understanding motivational neural circuits assists leaders in designing incentives and fostering environments that align with neural motivators, boosting team engagement and commitment.
(9) Facilitating Effective Communication: Neuro Management emphasizes neural responses to communication. This knowledge aids leaders in crafting messages that resonate effectively, ensuring clearer communication and understanding within teams.
In summary, Neuro Management acts as a vital conduit, translating complex neuroscientific findings into practical leadership strategies. By applying these insights, leaders can cultivate more empathetic, informed, and adaptable leadership approaches that resonate with the intricacies of the human brain, thereby bridging the gap between scientific insights and effective leadership practices.

7.2 Implications of Neuro Management for organizational practices, decision-making, team dynamics, and productivity:

The implications of Neuro Management for various aspects of organizational practices are profound, influencing decision-making, team dynamics, and overall productivity are listed in Table 3:

Table 3: Implications of Neuro Management for various aspects of organizational practices

S. No.	Key Factors	Description
(1) Decision-Making:		
1	Mitigating Biases	Neuro Management helps recognize and mitigate cognitive biases by understanding their neural basis. This leads to more rational, objective decision-making within organizations.
2	Emotionally-Informed Decisions	Insights into the neural underpinnings of emotions guide leaders to make emotionally intelligent decisions, considering both cognitive and emotional aspects.
3	Optimized Risk Assessment	Understanding neural responses to risks enhances risk assessment strategies, allowing for more informed and balanced risk-taking.
(2) Team Dynamics:		
1	Enhanced Collaboration	Insights into social neuroscience aid in fostering better communication and collaboration within teams, promoting an environment of trust and mutual understanding.
2	Empathy and Understanding	Knowledge of emotional intelligence and neural responses allows for better empathetic leadership, fostering a culture of empathy and support among team members.
3	Inclusivity and Diversity	Neuro Management helps recognize individual neural variations, encouraging inclusive practices and leveraging diverse perspectives for innovative solutions.
3. Productivity:		
1	Stress Management	Strategies derived from neuroscientific insights enable effective stress management practices, reducing stress levels and enhancing employee well-being, consequently improving productivity.
2	Motivation and Engagement	Understanding neural motivators assists in designing work environments that align with these motivators, boosting employee engagement and commitment.
3	Optimized Learning	Applying neuroplasticity concepts aids in designing training programs that optimize learning, skill acquisition, and knowledge retention among employees, thereby increasing productivity.
4. Leadership and Organizational Practices:		
1	Adaptive Leadership	Neuro Management encourages adaptive leadership, allowing leaders to flexibly adjust their approaches based on neural insights, fostering agility and resilience in organizations.
2	Communication Optimization	Insights into neural responses to communication aid in crafting clearer, more impactful messages, enhancing organizational communication effectiveness.

3	Continuous Improvement	Leveraging neuroscientific insights facilitates a culture of continuous improvement, allowing organizations to adapt strategies based on evolving neural and behavioral understandings.

In summary, Neuro Management significantly influences organizational practices by optimizing decision-making, fostering cohesive team dynamics, enhancing productivity through stress management and motivation strategies, and cultivating adaptive leadership. By leveraging neuroscience insights, organizations can create environments that align with the complexities of the human brain, ultimately leading to improved performance and effectiveness.

8. NEURO MANAGEMENT AND LEADERSHIP :

Neuro Management amalgamates insights from neuroscience with leadership practices, emphasizing the understanding of how the human brain functions within organizational contexts. It aims to enhance leadership effectiveness by leveraging neuroscientific principles to improve decision-making, communication, motivation, and team dynamics.

Understanding Neural Mechanisms in Leadership

(i) Decision-Making: Neuroscience reveals how the brain processes information, weighs options, and makes decisions. Leaders benefit from understanding these cognitive processes to make more informed and effective decisions.

(ii) Emotional Intelligence: Neural insights into emotions, empathy, and social cognition help leaders develop higher emotional intelligence, fostering better relationships, conflict resolution, and team cohesion.

(iii) Motivation and Reward Systems: Understanding the brain's reward systems aids in creating motivating environments, aligning incentives, and fostering intrinsic motivation among team members.

Neuro Management Strategies for Leadership Enhancement:

(i) Self-Awareness and Regulation: Neuroscientific techniques, like mindfulness and self-reflection, assist leaders in developing self-awareness and emotional regulation, crucial for effective decision-making and managing teams.

(ii) Adaptive Leadership Styles: Insights into the brain's responses to different leadership styles enable leaders to adapt their approaches to various situations, fostering a more resonant and effective leadership style.

(iii) Neuro-Linguistic Programming (NLP): Utilizing NLP techniques helps leaders in improving communication by understanding how language patterns and non-verbal cues affect neural responses in their teams.

Applications of Neuro Management in Leadership:

(i) Leadership Training and Development: Incorporating neuroscience principles into leadership development programs enhances self-awareness, emotional intelligence, and adaptive leadership skills among managers.

(ii) Team Dynamics and Collaboration: Understanding neural mechanisms behind social behavior aids in fostering effective team communication, conflict resolution, and creating inclusive work environments.

(iii) Change Management: Applying neuroscientific insights into change management strategies assists leaders in understanding and mitigating resistance to change within organizations.

Impact of Neuro Management on Leadership Effectiveness

(i) Improved Decision-Making: Leaders trained in Neuro Management make more informed and strategic decisions, considering both rational and emotional aspects.

(ii) Enhanced Team Performance: Neuro Management fosters better team dynamics, resulting in improved collaboration, innovation, and higher overall performance.

(iii) Increased Employee Engagement: Leaders employing Neuro Management techniques create environments that promote employee engagement, reducing stress, and improving overall well-being.

Challenges and Future Prospects

(i) Ethical Considerations: The ethical implications of utilizing neuroscience in leadership practices, such as privacy concerns and potential manipulation, require careful consideration and ethical guidelines.
(ii) Continuous Learning and Application: Neuro Management is a dynamic field requiring continuous learning and adaptation to incorporate new findings and technologies into leadership practices.
In conclusion, Neuro Management represents a powerful approach to enhance leadership effectiveness by integrating neuroscience insights into leadership practices. Its successful implementation requires a balance between leveraging neuroscience findings and ethical considerations to foster better decision-making, team dynamics, and overall organizational success.

9. HOW NEURO MANAGEMENT CONCEPTS HELPS MANAGERS FOR DECISION MAKING :

Neuro Management concepts offer valuable insights and tools to aid managers in decision-making processes. Table 4 lists how these concepts assist managers:

Table 4: How neuro management concepts assist managers

S. No.	Concepts	Description
1	Understanding Neural Processes	Neuro Management provides insights into how the brain processes information, perceives risks, and makes decisions. Managers gain a deeper understanding of cognitive biases, emotional influences, and neural mechanisms that affect decision-making.
2	Recognizing and Mitigating Biases	By understanding cognitive biases like confirmation bias or loss aversion, managers can recognize these tendencies in themselves and others. This awareness helps in mitigating biases, leading to more objective and rational decision-making.
3	Improving Emotional Intelligence	Neuro Management enhances emotional intelligence among managers, enabling them to better understand and regulate emotions. This skill assists in making decisions without being overly influenced by emotional responses.
4	Enhanced Problem-Solving Abilities	Insights from neuroscience aid in developing strategies for effective problem-solving. Managers can leverage these insights to approach complex problems from different angles, leading to innovative solutions.
5	Balancing Intuition and Analysis	Neuro Management acknowledges the interplay between intuitive and analytical decision-making processes. Managers learn to balance these approaches, knowing when to rely on intuition and when to employ deliberate analysis for better decisions.
6	Optimizing Risk Management	Understanding neural responses to risks helps managers in assessing and managing risks more effectively. They can employ strategies to mitigate risk aversion biases and make informed decisions in uncertain situations.
7	Tailoring Communication for Better Decisions	Neuro Management insights into how the brain processes information aid in refining communication styles. Managers can communicate information more effectively, ensuring that decision-relevant details are conveyed accurately.
8	Incorporating Diversity in Decision-Making	Neuro Management highlights the importance of diverse perspectives in decision-making. Managers can leverage diverse teams to ensure a wider range of viewpoints, fostering more comprehensive decision-making.
9	Strategic Planning and Goal-Setting	By aligning goals and strategies with neural motivators, managers can set more achievable and motivating objectives, enhancing goal attainment, and strategic planning.

10	Improving Decision-Making Speed and Accuracy	Applying neuroscience findings allows managers to optimize decision-making processes, improving the speed, and accuracy of choices by leveraging insights into cognitive processes.

Overall, Neuro Management equips managers with a deeper understanding of how the brain operates during decision-making. Applying these concepts aids in recognizing biases, fostering emotional intelligence, and enhancing problem-solving abilities, ultimately leading to more informed and effective decision-making.

10. NEURO MANAGEMENT MODELS USEFUL IN DECISION SCIENCE :

Neuro Management models in decision science leverage insights from neuroscience to enhance decision-making processes. Several models have emerged to guide decision-making by incorporating neurological principles. Table 5 lists some of these models:

Table 5: Neuro Management Models Useful in Decision Science with reference

S. No.	Models	Description	Reference
1	Dual-Process Model	This model, based on neuroscientific research, proposes two distinct cognitive systems: System 1 (intuitive, automatic) and System 2 (analytical, deliberate). Understanding how these systems operate helps in recognizing when intuitive judgments might lead to biases and when deliberate analysis is necessary for better decision-making.	Diederich, A., & Trueblood, J. S. (2018). [37] Stanovich, K. E., et al. (2011). [38]
2	Prospect Theory	Developed from neuroscientific findings, this model challenges traditional economic theories by considering how people perceive gains and losses. It reveals that individuals are more sensitive to losses than gains, impacting decision-making. Neuro Management applies these insights to mitigate loss aversion biases in decision-making.	Levy, J. S. (1992). [39] Barberis, N. C. (2013). [40]
3	Neuroeconomic Models	These models integrate neuroscience, psychology, and economics to study decision-making processes. They focus on neural processes underlying risk, reward, and valuation, offering insights into how these factors influence decision-making in economic contexts.	Caplin, A., & Dean, M. (2007). [41] Krajbich, I., Oud, B., & Fehr, E. (2014). [42]
4	Heuristics and Biases Framework	Drawing from neuroscience, this model explores cognitive biases and heuristics that impact decision-making. Understanding these biases, such as anchoring, availability heuristic, and confirmation bias, helps in identifying and mitigating their effects on managerial decisions.	Dale, S. (2015). [43] Ceschi, A., et al. (2019). [44]
5	Brain-Computer Interface (BCI) Models	BCI models bridge neuroscience and technology, allowing direct communication between the brain and external devices. In decision science, these models offer potential applications in improving decision-making speed and accuracy by bypassing traditional sensory pathways.	Mason, S. G., & Birch, G. E. (2003). [45] Fouad, M. M., et al. (2014). [46]
6	Neural Network Models	Neural network models in Neuro Management simulate brain functionalities in decision-making processes. These models use interconnected	Lee, D. (2013). [47]

		nodes to mimic neural pathways, aiding in analyzing complex decision scenarios and predicting outcomes based on past data.	Satpathy, J. (2012). [48]
7	Emotion Regulation Models	Understanding how emotions influence decision-making, emotion regulation models help managers navigate emotional biases. These models provide strategies to regulate emotions effectively during decision-making, leading to more rational and balanced choices.	Grecucci, A., & Sanfey, A. G. (2014). [49] Martin, L. N., & Delgado, M. R. (2011). [50]
8	Reinforcement Learning Models	Inspired by neural processes of learning and reward, these models optimize decision-making by iteratively learning from outcomes. They adjust decision strategies based on positive or negative reinforcement, maximizing desirable outcomes over time.	Lee, D., Seo, H., & Jung, M. W. (2012). [51] Abel, D., et al. (2016). [52]
9	Neurocognitive Architecture Models	These models represent decision-making processes as cognitive architectures based on neural networks. They offer a framework for understanding how cognitive processes interact and influence decision outcomes.	Lebiere, C., et al. (2013). [53] Dimov, C., et al. (2020). [54]

Neuro Management models in decision science integrate neuroscience insights to provide a deeper understanding of human decision-making. Applying these models in managerial contexts aids in recognizing and mitigating biases, enhancing rational decision-making, and optimizing strategies for better outcomes.

11. NEURO MANAGEMENT AND HUMAN PRODUCTIVITY :

Neuro Management, at its core, aims to leverage insights from neuroscience to optimize human performance and productivity within organizational contexts. Understanding how the brain functions and influences behaviour plays a pivotal role in enhancing productivity. Table 6 lists an in-depth look at how Neuro Management intersects with human productivity:

Table 6: How Neuro Management intersects with human productivity

S. No.	Issue	Description
1	Understanding Cognitive Processes	Neuro Management delves into the neural mechanisms underlying human cognition. This understanding assists in recognizing how attention, memory, learning, and decision-making processes occur in the brain, enabling managers to create environments conducive to optimal cognitive functioning.
2	Mitigating Cognitive Biases	Insights from neuroscience help identify and mitigate cognitive biases that hinder productivity. By recognizing biases such as confirmation bias or anchoring, managers can create strategies to minimize their impact, leading to more rational and objective decision-making.
3	Enhancing Focus and Attention Management	Neuro Management offers techniques to improve focus and attention. Managers can implement strategies, such as mindfulness practices or structured work schedules, to enhance concentration and reduce distractions, boosting productivity.
4	Stress Management and Well-being	Neuro Management provides tools for managing stress based on neural responses. By understanding how the brain responds to stressors, managers can introduce stress reduction techniques, fostering employee well-being and consequently increasing productivity.

5	Optimizing Learning and Skill Development	Insights into neural learning processes aid in designing effective training programs. Managers can tailor learning approaches based on how the brain acquires and retains information, improving skill acquisition and performance.
6	Motivation and Goal Alignment	Neuro Management aligns organizational goals with neural motivators. By understanding what drives intrinsic motivation, managers can design tasks and incentives that resonate with employees, boosting engagement and productivity.
7	Team Dynamics and Collaboration	Understanding social behaviours and neural responses within teams allows managers to create environments that encourage collaboration. By fostering inclusive team dynamics and effective communication, productivity is enhanced through collective efforts.
8	Designing User-Friendly Work Environments	Insights into brain-environment interactions aid in designing workplaces conducive to productivity. Ergonomic design, lighting, and spatial arrangements that align with neural responses positively influence employee performance.
9	Emotion Regulation for Productivity	Neuro Management equips managers with tools for effective emotion regulation. This skill enables individuals to manage emotions in high-pressure situations, allowing for better decision-making and sustained productivity.
10	Technology Integration and Productivity	Understanding how the brain interacts with technology aids managers in optimizing technology use. User-friendly interfaces and tools designed based on neural responses enhance efficiency and productivity.

In summary, Neuro Management and human productivity are intricately linked through a deeper understanding of cognitive processes, stress management, motivation, and creating environments that align with neural responses. By leveraging these insights, managers can foster conditions that optimize human performance, leading to increased productivity and organizational success.

12. IMPACT OF NEURO MANAGEMENT TECHNIQUES ON ORGANIZATIONS PERFORMANCE :

Neuro Management techniques wield a significant impact on organizational performance by leveraging neuroscience insights to optimize various aspects of operations, leadership, and employee well-being. Table 7 depicts detailed breakdown of their impact:

Table 7: Impact of Neuro Management Techniques on Organizations Performance

S. No.	Issue	Description
1	Enhanced Decision-Making	Utilizing Neuro Management improves decision-making quality by mitigating biases and leveraging insights into cognitive processes. This leads to more informed, rational, and effective decisions across all levels of the organization.
2	Improved Leadership Effectiveness	Neuro Management enhances leadership by fostering emotional intelligence, adaptive leadership styles, and better communication. Effective leadership positively influences team dynamics, engagement, and overall performance.
3	Increased Productivity and Performance	By understanding neural motivators and cognitive processes, Neuro Management techniques enhance productivity. Strategies that align with neural responses, stress reduction techniques, and optimized work environments lead to higher efficiency and output.
4	Enhanced Innovation and Creativity	Insights from neuroscience foster environments conducive to innovation and creativity. By stimulating creative thinking and

		problem-solving, Neuro Management contributes to a culture of innovation, leading to new ideas and solutions.
5	Better Employee Engagement and Well-being	Neuro Management emphasizes employee well-being by addressing stress, enhancing motivation, and creating inclusive work environments. This leads to higher employee satisfaction, engagement, and lower turnover rates.
6	Optimal Learning and Skill Development	By tailoring learning programs to neural learning processes, organizations witness improved skill acquisition and retention among employees. This leads to a more competent workforce and quicker adaptation to new technologies.
7	Effective Change Management	Understanding neural responses to change assists in implementing smoother organizational transitions. Neuro Management techniques reduce resistance to change, facilitating more seamless and successful transitions.
8	Strategic Goal Alignment	Aligning organizational goals with neural motivators ensures that goals are more motivating and achievable. This alignment enhances goal attainment and strategic planning within the organization.
9	Improved Team Dynamics and Collaboration	By fostering effective team communication and collaboration based on neural responses, Neuro Management strengthens team dynamics, leading to better coordination and collective achievements.
10	Optimized Technology Integration	Understanding how the brain interacts with technology aids in designing user-friendly interfaces and systems. This improves technology adoption rates, efficiency, and user satisfaction.

Overall, Neuro Management techniques positively impact organizational performance by optimizing decision-making, leadership effectiveness, productivity, innovation, employee well-being, and fostering a culture conducive to growth and adaptability. These techniques lead to more agile, engaged, and successful organizations in today's competitive landscape.

13. APPLICATIONS OF NEURO MANAGEMENT IN VARIOUS INDUSTRY SECTORS:

13.1 Applications of Neuro Management in Primary Industry Sector:

The application of Neuro Management in the primary industry sector, which includes agriculture, forestry, fishing, and mining, offers opportunities to optimize operations, enhance safety, and improve overall productivity through a deeper understanding of human behaviours and decision-making. Table 8 contains a detailed description of its applications:

Table 8: Detailed description of applications of neuro Management in Primary industry sector

S. No.	Issue	Description
1	Safety and Risk Management	Understanding the neural mechanisms behind risk perception and decision-making is crucial in industries like mining and forestry. By employing Neuro Management, companies can design safety protocols and training programs that align with how the brain assesses risks, leading to more effective safety measures and reduced accidents.
2	Training and Skill Development	In agriculture and fishing, training workers to operate complex machinery or navigate dynamic environments requires efficient learning methods. Neuro Management can tailor training programs by leveraging neuroscience-backed learning techniques, enhancing skill acquisition, retention, and adaptation to changing conditions.
3	Stress and Performance Optimization	The primary industry sector often involves physically demanding and stressful work environments. Neuro Management can help identify stressors and implement strategies to mitigate their

		impact. Techniques like mindfulness and stress management programs based on neural responses can improve worker well-being and subsequently enhance productivity.
4	Decision-Making in Resource Management	Agriculture and fishing heavily rely on resource management. By understanding how the brain processes information related to resource allocation and sustainability, Neuro Management can aid in better decision-making for crop planning, fishing quotas, and sustainable practices.
5	Leadership and Team Dynamics	Effective leadership is crucial in primary industries. Applying Neuro Management principles to leadership development can enhance the emotional intelligence of managers, fostering better team communication and motivation. This can lead to improved coordination among workers and increased productivity.
6	Adaptation to Environmental Changes	Forestry and agriculture face challenges from climate change and environmental fluctuations. Employing Neuro Management can assist in understanding how workers adapt to changing conditions. This insight can inform strategies for adapting practices, utilizing new technologies, and managing stress during environmental shifts.
7	Technology Integration	The primary industry sector is increasingly incorporating technology, such as automated machinery and data-driven analytics. Neuro Management can aid in designing user interfaces and training modules that align with how the brain processes information, making technology adoption more efficient and user-friendly for workers.

Challenges and Considerations:

(1) Ethical Implications: The use of neuroscience in the workplace raises ethical concerns, such as privacy and potential manipulation of worker behavior, requiring careful regulation and ethical guidelines.

(2) Education and Implementation: Introducing Neuro Management concepts into traditional industries may require education and training for acceptance and effective implementation among workers and management.

In conclusion, Neuro Management's applications in the primary industry sector offer promising avenues to enhance safety, optimize performance, and improve decision-making. However, successful integration requires a balanced approach that considers ethical implications and ensures effective education and implementation strategies.

13.2 Applications of Neuro Management in Secondary Industry Sector:

The secondary industry sector, encompassing manufacturing, construction, and utilities, benefits from Neuro Management applications that enhance operational efficiency, safety, innovation, and employee well-being. Leveraging neuroscience principles in this sector can revolutionize processes, improve leadership, and optimize workforce performance. Table 9 contains a detailed overview of its applications:

Table 9: Detailed description of applications of neuro Management in Secondary industry sector

S. No.	Issue	Description
1	Safety and Risk Management	In manufacturing and construction, workplace safety is paramount. Neuro Management can help identify cognitive biases affecting risk perception and decision-making. Implementing safety protocols aligned with how the brain processes risk can enhance safety measures and reduce accidents.
2	Process Optimization	Understanding cognitive processes related to learning and adaptation assists in streamlining production processes. Training programs tailored to the brain's learning mechanisms improve skill acquisition

		and help workers adapt to technological advancements, thereby optimizing production efficiency.
3	Leadership Development	Leaders in production industries benefit from enhanced emotional intelligence and communication skills. Neuro Management-based leadership training programs empower managers to understand team dynamics better, fostering collaboration, and enhancing productivity on the shop floor.
4	Innovation and Problem-Solving	Encouraging innovation in manufacturing involves tapping into creative thinking. Neuro Management aids in understanding cognitive processes involved in creativity, facilitating brainstorming sessions and problem-solving techniques that stimulate innovative ideas.
5	Stress Management and Well-being	The demanding nature of production work can lead to stress. Neuro Management offers stress management techniques based on neural responses, improving worker well-being, reducing absenteeism, and increasing overall productivity.
6	Technology Integration and Human-Machine Interaction	As manufacturing increasingly incorporates automation and robotics, understanding how the brain interacts with technology becomes crucial. Neuro Management helps design user interfaces and training programs aligned with neural responses, making technology adoption more efficient and user-friendly for workers.
7	Decision-Making and Performance Optimization	Applying neuroscientific insights improves decision-making processes among managers and workers alike. Understanding cognitive biases can lead to more informed decisions, and techniques like goal-setting based on neural responses can optimize performance.

Challenges and Considerations:
(1) Ethical Implications: Using neuroscience in the workplace raises ethical concerns such as privacy and potential manipulation of worker behavior, necessitating careful regulation and ethical guidelines.
(2) Education and Implementation: Integrating Neuro Management concepts into traditional industries may require education and training for effective implementation among workers and management.
In conclusion, Neuro Management applications in the secondary industry sector hold immense potential to enhance safety, optimize processes, foster innovation, and improve overall productivity. Yet, successful integration mandates a balanced approach that considers ethical implications and ensures effective education and implementation strategies.

13.3 Applications of Neuro Management in Tertiary Industry Sector:

In the tertiary sector, which encompasses services such as finance, healthcare, education, and hospitality, Neuro Management offers valuable applications to improve customer service, decision-making, leadership, and overall performance. Table 10 contains a detailed exploration of its applications:

Table 10: Detailed description of applications of neuro Management in Tertiary industry sector

S. No.	Issue	Description
1	Customer Service Enhancement	Understanding customer behaviours is crucial in service industries. Neuro Management helps in comprehending consumer preferences and decision-making processes. This insight enables tailored service offerings and better customer engagement strategies.
2	Decision-Making and Problem-Solving	In finance and healthcare, where critical decisions are made daily, Neuro Management aids in understanding cognitive biases affecting decision-making. Implementing strategies aligned with neural processes results in more informed and effective decision-making.
3	Leadership Development	Effective leadership is pivotal in service-oriented industries. Neuro Management-based leadership training programs enhance emotional

		intelligence and communication skills among managers, improving team dynamics and overall performance.
4	Stress Management and Employee Well-being	The service sector often entails high-stress environments. Neuro Management offers stress management techniques based on neural responses, thereby improving employee well-being and reducing burnout.
5	Innovation in Services	Encouraging innovation in service delivery requires understanding creative thinking processes. Neuro Management insights help foster a culture of innovation by providing strategies that stimulate creative thinking and problem-solving among employees.
6	Personalized Learning in Education and Training	In educational services, personalized learning programs can be developed using Neuro Management principles. Understanding individual learning processes aids in tailoring educational materials and teaching methods to enhance student engagement and knowledge retention.
7	Healthcare Applications	In healthcare, Neuro Management contributes to understanding patient behavior, improving doctor-patient communication, and designing effective treatment plans based on neurological responses to medical interventions.
8	Technology Integration and Service Delivery	Leveraging Neuro Management helps in designing user-friendly interfaces and service delivery systems in the hospitality and service industries. Understanding how the brain interacts with technology improves customer experiences and service efficiency.

Challenges and Considerations:
(1) Ethical Implications: Employing neuroscience in service industries raises ethical concerns, such as data privacy and potential manipulation, necessitating stringent ethical guidelines.
(2) Implementation and Adaptation: Integrating Neuro Management concepts may require comprehensive training and adaptation strategies to suit the diverse nature of service industries.
In conclusion, Neuro Management applications in the tertiary sector hold substantial promise to enhance customer service, decision-making, leadership, and employee well-being. Nonetheless, successful integration calls for a balanced approach that addresses ethical considerations and ensures effective education and implementation strategies.

13.4 Applications of Neuro Management in Quaternary Industry Sector:

In the quaternary sector, comprising Information Technology (IT) and Information Technology Enabled Services (ITES), Neuro Management revolutionizes operations, innovation, leadership, and employee well-being by leveraging insights from neuroscience. Table 11 gives an in-depth exploration of its applications:

Table 11: Detailed description of applications of neuro Management in Tertiary industry sector

S. No.	Issue	Description
1	Decision-Making and Problem-Solving	In IT & ITES, where complex decisions are routine, Neuro Management aids in understanding cognitive biases and decision-making processes. Implementing strategies aligned with neural processes results in more informed, agile, and effective decision-making.
2	Innovation and Creativity	Encouraging innovation in technology requires understanding creative thinking processes. Neuro Management fosters innovation by providing strategies that stimulate creative thinking, leading to breakthroughs in software development, problem-solving, and product design.
3	Leadership Development	Effective leadership is crucial in the fast-paced IT industry. Neuro Management-based leadership programs enhance emotional

		intelligence, adaptability, and communication skills among leaders, improving team dynamics and overall performance.
4	Stress Management and Employee Well-being	The IT sector often experiences high-stress work environments. Neuro Management offers stress management techniques based on neural responses, reducing burnout and improving employee well-being, ultimately enhancing productivity and retention.
5	User Experience and Interface Design	Understanding how the brain interacts with technology is critical in interface design. Neuro Management insights aid in designing user-friendly interfaces and applications, improving user experiences and engagement.
6	Learning and Skill Development	Personalized learning and skill development programs can be tailored using Neuro Management principles. Understanding individual learning processes aids in designing training modules that optimize skill acquisition and retention among employees.
7	Human-Machine Interaction	As IT integrates with automation and artificial intelligence, understanding human-machine interaction is crucial. Neuro Management principles help in designing systems and interfaces that align with how the brain processes information, enhancing usability and efficiency.
8	Data Analytics and Consumer Behaviour	In ITES, understanding consumer behaviour through data analytics is pivotal. Neuro Management contributes to interpreting data in line with neural responses, resulting in better predictions and strategies for customer engagement and marketing.

Challenges and Considerations:

(1) Ethical Implications: Using neuroscience in IT and ITES raises ethical concerns, such as data privacy and potential manipulation, necessitating robust ethical guidelines and regulations.

(2) Implementation Challenges: Integrating Neuro Management concepts in technology-driven sectors requires comprehensive training and adaptation strategies, given the rapid changes in technological landscapes.

In conclusion, Neuro Management applications in the quaternary sector offer immense potential to enhance decision-making, innovation, leadership, and employee well-being in the rapidly evolving IT and ITES industries. Successful integration demands a balanced approach addressing ethical considerations and effective implementation strategies.

14. NEURO MANAGEMENT – RESEARCH AND INNOVATION OPPORTUNITIES :

Neuro Management, at the intersection of neuroscience and management practices, presents a vast landscape of research and innovation opportunities that hold promise for revolutionizing various industries and organizational practices. Table 12 presents an in-depth exploration of potential research and innovation avenues:

Table 12: Neuro Management potential research and innovation avenues

S. No.	Issue	Description
1	Neural Mechanisms of Decision-Making	Research into the neural underpinnings of decision-making processes across different contexts and industries offers opportunities to develop decision-making frameworks, tools, and interventions that optimize choices and reduce biases.
2	Neuro Leadership and Emotional Intelligence	Studying neural correlates of leadership traits, emotional intelligence, and communication styles provides insights for developing tailored leadership training programs that enhance managerial skills and team dynamics.
3	Stress and Well-being in the Workplace	Investigating neural responses to stressors and interventions opens avenues for designing targeted stress management programs and creating work environments that prioritize employee well-being.

4	Human-Machine Interaction and Interface Design	Research into neural responses to technology interfaces and AI interactions can inform interface design, leading to more intuitive, user-friendly technologies that enhance user experience and productivity.
5	Neuro Learning and Skill Acquisition	Understanding neural processes related to learning and skill development offers opportunities to optimize training methods and personalized learning programs across various industries.
6	Ethical Implications and Decision-Making	Research into the ethical implications of using neuroscience in management practices is crucial. Exploring ethical guidelines and decision-making frameworks ensures responsible and ethical use of Neuro Management techniques.
7	Social Dynamics and Team Collaboration	Studying neural mechanisms underlying social dynamics in teams helps in fostering collaboration, resolving conflicts, and enhancing team performance in diverse work environments.
8	Change Management and Adaptability	Research into neural responses to change and adaptation assists in developing change management strategies that minimize resistance and facilitate smoother organizational transitions.
9	Neuro Diversity and Inclusion	Exploring neural bases of diversity, bias, and inclusion can guide the development of inclusive workplace policies, fostering diverse and equitable environments.
10	Neuromarketing and Consumer Behaviour	Investigating neural responses to marketing stimuli aids in understanding consumer behaviour, guiding marketing strategies, and product development.
11	Neuro Ethics and Policy Development	Research into ethical implications, data privacy, and policy considerations surrounding Neuro Management ensures responsible use and regulatory frameworks for its application in various industries.
12	Technology and Neuroscience Integration	Research at the intersection of technology and neuroscience fuels innovations in areas like brain-computer interfaces, neuroimaging technologies, and neuromodulation techniques, opening new possibilities for managing and improving human performance.

In conclusion, the realm of Neuro Management presents a wide array of research and innovation opportunities across diverse fields, offering potential breakthroughs that can transform management practices, enhance workplace dynamics, and improve human performance in various industries. These opportunities underscore the interdisciplinary nature of Neuro Management and its potential to reshape organizational strategies and human behaviours.

15. ABCD ANALYSIS OF NEURO MANAGEMENT FROM MANAGERS POINTS OF VIEW:

ABCD analysis framework developed by Aithal P. S. et al. [55-56] identifies the advantages, benefits, constraints, and disadvantages of a concept, system, strategy, material, product, service, etc. systematically. It can be done either by mere listing [57-104] or from stakeholders' points of view [105-115], or factors and elemental analysis [116-121], or quantitatively [122-137]. The ABCD analysis framework serves as a comprehensive lens through which to scrutinize the landscape of neuro management from the vantage point of managers. Delving into the manifold facets, this approach illuminates the myriad Advantages that neuro management affords, showcasing its potential to enhance team dynamics, foster inclusive workplaces, and optimize decision-making through neuroscience-backed insights. Furthermore, exploring the Benefits underscores its capacity to bolster employee engagement, augment leadership effectiveness, and cultivate a more empathetic organizational culture. Yet, amid these promising aspects, Constraints surface, encompassing challenges such as the need for specialized expertise, potential resistance to change, and the requirement for substantial investment in training and resources. Moreover, the Disadvantages spotlight the ethical considerations and potential biases that might arise, along with the risk of oversimplifying complex human behaviour. This ABCD analysis, therefore, provides a nuanced

perspective, elucidating the multifaceted landscape of neuro management and its implications for managerial practice.

15.1. Advantages :

Neuro Management offers numerous advantages from the perspective of managers, providing insights and tools that empower them to enhance their leadership, decision-making, and team management. Table 13 lists a detailed list of these advantages:

Table 13: Advantages of Neuro Management from Managers Points of View

S. No.	Advantages	Description
1	Enhanced Decision-Making Skills	Understanding the neural mechanisms behind decision-making enables managers to make more informed and effective decisions, considering both rational and emotional aspects.
2	Improved Emotional Intelligence	Neuro Management fosters higher emotional intelligence among managers, allowing them to better understand their own emotions and those of their team members, leading to improved interactions and conflict resolution.
3	Better Team Communication	Insights from neuroscience help in comprehending how communication affects neural responses. This knowledge aids managers in refining their communication styles to be more effective and persuasive.
4	Adaptive Leadership Styles	Understanding how the brain responds to different leadership styles allows managers to adapt their approaches based on situational demands, fostering more flexible and adaptable leadership.
5	Optimized Employee Engagement	Applying Neuro Management principles contributes to creating work environments that align with neural responses, enhancing employee engagement, and motivation.
6	Stress Management and Well-being	Neuro Management techniques offer strategies for managing stress based on neural responses, allowing managers to create environments that prioritize employee well-being.
7	Better Conflict Resolution	Insights into the neural mechanisms of social behaviours and conflict resolution assist managers in effectively handling conflicts within teams.
8	Improved Innovation and Creativity	Managers equipped with neuroscientific insights can foster innovation by implementing strategies that stimulate creative thinking among team members.
9	Enhanced Problem-Solving Abilities	Understanding cognitive processes related to problem-solving aids managers in developing more effective strategies for addressing challenges and obstacles.
10	Effective Change Management	Neuro Management principles provide strategies for understanding and managing resistance to change, facilitating smoother organizational transitions.
11	Personalized Learning and Skill Development	Managers can utilize Neuro Management to tailor training programs based on individual learning processes, optimizing skill acquisition and retention among employees.
12	Ethical Decision-Making Frameworks	Insights from neuroscience can assist managers in developing ethical decision-making frameworks that consider both moral reasoning and neural responses to ethical dilemmas.
13	Improved Performance Metrics	By applying Neuro Management principles, managers can optimize team performance metrics by aligning them with neural responses and motivational factors.
14	Strategic Planning and Goal-Setting	Neuro Management aids in setting goals that are more aligned with neural motivators, enhancing goal achievement and strategic planning.

15	Technology Integration and User Experience	Understanding how the brain interacts with technology helps managers in designing user-friendly interfaces and systems, improving the overall user experience.

Overall, Neuro Management equips managers with a deeper understanding of human behaviours, cognition, and motivation, enabling them to create more engaging work environments, make better decisions, and foster improved team dynamics.

15.2 Benefits:

Neuro Management offers numerous benefits specifically from the viewpoint of managers. It equips them with insights and tools derived from neuroscience, enhancing their abilities to lead, make decisions, and manage teams effectively. Table 14 lists a comprehensive list of these benefits:

Table 14: Benefits of Neuro Management from Managers Points of View

S. No.	Benefits	Description
1	Enhanced Decision-Making	Understanding neural processes behind decision-making improves the quality of decisions, considering emotional and rational aspects, leading to more effective outcomes.
2	Improved Emotional Intelligence	Neuro Management fosters higher emotional intelligence, enabling managers to better comprehend and regulate their own emotions and those of their team members, leading to more empathetic and constructive leadership.
3	Effective Communication Skills	Insights from neuroscience aid managers in refining their communication styles to be more impactful and persuasive, resulting in better team understanding and engagement.
4	Adaptive Leadership Styles	Understanding how the brain responds to various leadership styles allows managers to adapt their approaches based on situations, fostering flexibility and effectiveness in leadership.
5	Better Team Collaboration	Neuro Management principles help in understanding social behavior and team dynamics, enabling managers to foster a more cohesive and collaborative team environment.
6	Enhanced Conflict Resolution	Insights into neural mechanisms related to conflict help managers address conflicts within teams more effectively, leading to quicker resolutions and improved relationships.
7	Stress Reduction and Well-being	Neuro Management techniques offer strategies for managing stress, contributing to a healthier work environment and higher employee morale.
8	Improved Innovation and Creativity	Neuroscientific insights enable managers to implement strategies that stimulate creative thinking among team members, fostering innovation and problem-solving.
9	Optimal Problem-Solving Abilities	Understanding cognitive processes aids managers in developing more effective problem-solving strategies, facilitating quicker resolution of challenges.
10	Change Management	Insights into neural responses to change assist managers in implementing change management strategies that minimize resistance and promote smoother transitions.
11	Personalized Learning Programs	Neuro Management allows managers to design training programs tailored to individual learning processes, resulting in more effective skill acquisition and retention.
12	Ethical Decision-Making Frameworks	Managers can develop ethical decision-making frameworks based on neuroscience, enabling them to navigate ethical dilemmas more effectively.
13	Enhanced Performance Metrics	Applying Neuro Management principles helps optimize team performance metrics by aligning them with neural motivators, leading to improved productivity.

14	Strategic Planning and Goal-Setting	Neuro Management aids in setting goals aligned with neural motivators, leading to improved goal achievement and more effective strategic planning.
15	Technology Integration and User Experience	Understanding brain-technology interaction assists managers in designing user-friendly interfaces and systems, enhancing user experience and efficiency.

These benefits collectively empower managers with a deeper understanding of human behavior and cognition, enabling them to create more engaging work environments, make better decisions, and foster improved team dynamics.

15.3. Constraints:

While neuro Management offers numerous advantages, there are also constraints and challenges that managers may encounter when implementing this concept. Table 15 lists a detailed list of these constraints from a manager's perspective:

Table 15: Constraints of Neuro Management from Managers Points of View

S. No.	Constraints	Description
1	Complexity and Learning Curve	Understanding neuroscience concepts can be intricate and require significant time and effort to grasp, posing a challenge for managers unfamiliar with this field.
2	Resource and Expertise Limitations	Implementing Neuro Management might require specialized expertise and resources that some organizations may lack, such as access to neuroscientists or specific training programs.
3	Ethical Concerns and Privacy Issues	Utilizing neuroscience in management practices raises ethical dilemmas, including concerns about data privacy, potential manipulation, and the ethical boundaries of using neural insights in decision-making.
4	Resistance to Change	Introducing new concepts like Neuro Management might face resistance from employees or higher management who may be skeptical or resistant to adopting unfamiliar approaches.
5	Lack of Clear Application Guidelines	There might be a lack of standardized guidelines or best practices for applying neuroscience principles to management, leading to uncertainty in implementation.
6	Difficulty in Measuring Impact	Measuring the direct impact of Neuro Management strategies on organizational outcomes can be challenging, making it difficult to assess the effectiveness of these approaches.
7	Overreliance on Neuroscience Findings	Managers might run the risk of overreliance on neuroscience findings, potentially neglecting other crucial aspects of management or overlooking individual differences among team members.
8	Accessibility and Affordability	Access to neuroscience research, technologies, or experts might be limited or costly, posing barriers to organizations with limited resources.
9	Resistance from Traditional Management Approaches	Neuro Management might face skepticism or resistance from managers accustomed to traditional management practices, hindering its adoption and implementation.
10	Lack of Long-term Research and Evidence	The field of Neuro Management is relatively new, and there might be limited long-term research or evidence supporting the sustained effectiveness of these approaches.
11	Complexity in Applying Findings	Translating neuroscience findings into practical management strategies can be complex and challenging, requiring a nuanced understanding of how to apply these findings effectively in a work setting.

12	Potential Bias and Interpretation Challenges	Interpreting neuroscience findings might be subject to biases or misinterpretation, leading to misconceptions or incorrect applications in management practices.

Overcoming these constraints often requires a balanced approach, combining neuroscience insights with traditional management practices, and addressing ethical considerations while implementing Neuro Management strategies. It also involves continuous learning and adaptation to optimize its application in organizational settings.

15.4. Disadvantages:

While Neuro Management offers substantial benefits, there are certain disadvantages and potential challenges that managers might encounter when applying this concept. Table 16 lists a detailed list of these disadvantages from a manager's perspective:

Table 16: Disadvantages of Neuro Management from Managers Points of View

S. No.	Disadvantages	Description
1	Complexity and Implementation Challenges	Understanding and implementing neuroscience concepts in management practices can be complex, requiring specialized knowledge and expertise that may be challenging to acquire.
2	Lack of Established Best Practices	As Neuro Management is a relatively new field, there might be a lack of established best practices or standardized guidelines for its effective implementation, leading to uncertainty in its application.
3	Ethical Dilemmas and Privacy Concerns	Utilizing neuroscience findings in management raises ethical concerns related to privacy, data security, and the potential manipulation of individual behaviour, posing ethical dilemmas for managers.
4	Resistance to Change	Introducing Neuro Management concepts might face resistance from managers or employees accustomed to traditional management practices, hindering the adoption and implementation of new approaches.
5	Overemphasis on Neuroscience at the Expense of Other Factors	Overreliance on neuroscience findings might lead to overlooking other critical factors influencing management practices, neglecting the holistic nature of management.
6	Difficulty in Measuring Impact and Return on Investment	Measuring the direct impact or return on investment of Neuro Management strategies on organizational outcomes can be challenging, making it difficult to justify resources allocated to these approaches.
7	Misinterpretation of Neuroscientific Findings	Interpreting and applying complex neuroscience findings in management practices might lead to misinterpretation or incorrect application, potentially leading to ineffective strategies.
8	Time and Resource Constraints	Implementing Neuro Management may require significant time, resources, and investments in training, technologies, or experts, which could pose challenges for organizations with limited resources or time constraints.
9	Limited Accessibility to Neuroscience Expertise	Access to specialized neuroscience expertise or resources might be limited or costly, making it challenging for organizations to effectively implement Neuro Management strategies.
10	Lack of Long-term Evidence and Research	The field of Neuro Management might have limited long-term evidence or research supporting the sustained effectiveness of its approaches, leading to uncertainties about its long-term impact.
11	Complexity in Application and Integration	Translating neuroscience findings into practical management strategies can be complex, requiring careful integration into existing organizational frameworks and practices.

12	Potential Bias and Misinterpretation	Managers might inadvertently apply biased interpretations of neuroscience findings, leading to misconceptions or incorrect applications in management practices.

Navigating these disadvantages often requires a cautious approach, incorporating neuroscience insights into existing management practices, addressing ethical concerns, and ensuring that Neuro Management complements rather than supersedes traditional management approaches. Continuous learning and adaptation are essential to optimize its value in organizational settings.

16. CONCLUSION :

Neuro Management stands as a pivotal discipline reshaping modern leadership and organizational paradigms by leveraging insights from neuroscience. Its significance lies in its ability to bridge the gap between scientific understanding and practical leadership applications, offering a profound understanding of how the human brain functions within organizational contexts. In today's rapidly evolving business landscape, Neuro Management is instrumental in guiding leaders to navigate complexities, optimize decision-making, and cultivate environments conducive to high-performance teams.

At its core, Neuro Management empowers leaders with a nuanced understanding of the neural mechanisms driving human behaviour, cognition, and emotions. This understanding goes beyond traditional management theories, offering leaders insights into cognitive biases, emotional responses, and the intricate neural underpinnings of decision-making. By integrating these insights, leaders can make more informed, empathetic, and effective decisions, fostering a culture of inclusive and adaptive leadership within organizations.

Moreover, in the contemporary era marked by diverse workplaces and rapid technological advancements, Neuro Management assumes heightened significance. It equips leaders with tools to navigate diverse team dynamics, leveraging individual neural variations for innovation and creativity. By optimizing team collaboration, understanding motivational drivers, and managing stress through neuroscientific approaches, Neuro Management enhances organizational resilience and adaptability, paving the way for sustained success in today's dynamic business environments. Ultimately, its significance lies in revolutionizing leadership approaches, driving organizational effectiveness, and nurturing a culture of continuous improvement and innovation.

Future research and practical applications in Neuro Management can focus on several areas to deepen understanding and enhance its impact on managerial and leadership decision-making and are listed in Table 17:

Table 17: Some of future research and practical applications in Neuro Management

S. No.	Research Area	Description
1	Longitudinal Studies on Neuro Management Interventions	Conducting long-term studies to assess the sustained impact of Neuro Management interventions on leadership effectiveness, team dynamics, and organizational performance. This could involve tracking changes in decision-making, emotional intelligence, and productivity over extended periods.
2	Ethics and Responsible Application	Research addressing ethical considerations in using neuroscience in management. Exploring ethical boundaries and responsible applications of Neuro Management to ensure ethical leadership practices.
3	Individual Differences and Neural Responses	Investigating individual variations in neural responses and their implications for leadership. Understanding how diverse neural profiles influence decision-making, communication styles, and leadership approaches.
4	Neural-Based Leadership Development Programs	Designing and evaluating leadership development programs integrating neuroscience principles. Assessing the effectiveness of these programs in enhancing leadership skills, emotional intelligence, and decision-making among managers.

5	Neurofeedback and Cognitive Enhancement	Exploring the potential of neurofeedback techniques for cognitive enhancement among leaders. Studying how targeted interventions can improve cognitive functions relevant to decision-making and emotional regulation.
6	Cross-Cultural Applications of Neuro Management	Examining the applicability of Neuro Management across diverse cultural contexts. Investigating how cultural differences influence neural responses and leadership practices, and adapting Neuro Management strategies accordingly.
7	Neuroscience-Informed Organizational Design	Applying neuroscience insights in organizational design. Researching how physical work environments, policies, and structures impact neural processes and, consequently, leadership effectiveness and team performance.
8	Neural Predictors of Leadership Success	Identifying neural markers or predictors of successful leadership. Researching whether certain neural patterns or responses correlate with effective leadership qualities, aiding in leadership selection and development.
9	Advanced Technology Integration and Neuro Management	Leveraging advancements in technology, like AI and machine learning, to enhance Neuro Management. Exploring how these technologies can analyze neural data to offer real-time insights for decision-making and leadership training.
10	Impact of Neuro Management on Organizational Culture	Investigating the influence of Neuro Management interventions on organizational culture. Studying how implementing neuroscience-based practices influences workplace culture, employee engagement, and innovation.

These research directions and practical applications can advance the field of Neuro Management, offering deeper insights into neural mechanisms in leadership and decision-making while providing actionable strategies for improving managerial practices.

REFERENCES :

[1] Sharma, A. (2020). Neuro-Management: A Key to Maintain Performance. *New Paradigms in management and social sciences*, 19. ISBN No: 978-81-948872-7-0. Google Scholar↗

[2] Opris, I., Ionescu, S. C., Lebedev, M. A., Boy, F., Lewinski, P., & Ballerini, L. (2020). Application of neural technology to neuro-management and neuro-marketing. *Frontiers in neuroscience*, *14*, 53. Google Scholar↗

[3] Parincu, A. M. T., Capatina, A., Varon, D. J., Bennet, P. F., & Recuerda, A. M. (2020). Neuromanagement: the scientific approach to contemporary management. In *Proceedings of the International Conference on Business Excellence* (Vol. 14, No. 1, pp. 1046-1056). Google Scholar↗

[4] Rajab, S., & Sharma, V. (2018). A review on the applications of neuro-fuzzy systems in business. *Artificial Intelligence Review*, *49*, 481-510. Google Scholar↗

[5] Rock, D. (2018, May). A neuroscience-based approach to changing organizational behaviour. In *Healthcare Management Forum* (Vol. 31, No. 3, pp. 77-80). Sage CA: Los Angeles, CA: SAGE Publications. Google Scholar↗

[6] Schwartz, J., Thomson, J., & Kleiner, A. (2017). The neuroscience of strategic leadership. *Organization and People*, *87*(1), 01-10. Google Scholar↗

[7] Satpathy, C. P. D. J., & Banerji, J. S. (2019). Neuro–Economic 'Agent' In Business Transformation. *IUJ Journal of Management*, 7(2), 93-110. Google Scholar↗

[8] Damasio, A. (2003). Feelings of emotion and the self. *Annals of the New York Academy of Sciences*, *1001*(1), 253-261. Google Scholar↗

[9] Vartanian, O., & Mandel, D. R. (Eds.). (2011). *Neuroscience of decision making*. Psychology Press. Google Scholar↗

[10] Sanfey, A. G. (2007). Decision neuroscience: New directions in studies of judgment and decision making. *Current Directions in Psychological Science*, *16*(3), 151-155. Google Scholar↗

[11] Yoon, Carolyn, Richard Gonzalez, Antoine Bechara, Gregory S. Berns, Alain A. Dagher, Laurette Dubé, Scott A. Huettel et al. "Decision neuroscience and consumer decision making." *Marketing letters* 23 (2012): 473-485. Google Scholar↗

[12] Cherniss, C., Extein, M., Goleman, D., & Weissberg, R. P. (2006). Emotional intelligence: what does the research really indicate?. *Educational psychologist*, *41*(4), 239-245. Google Scholar↗

[13] McCleskey, J. (2014). Emotional intelligence and leadership: A review of the progress, controversy, and criticism. *International Journal of Organizational Analysis*, *22*(1), 76-93. Google Scholar↗

[14] Sadri, G. (2012). Emotional intelligence and leadership development. *Public Personnel Management*, *41*(3), 535-548. Google Scholar↗

[15] Gómez-Leal, R., Holzer, A. A., Bradley, C., Fernández-Berrocal, P., & Patti, J. (2022). The relationship between emotional intelligence and leadership in school leaders: A systematic review. *Cambridge Journal of Education*, *52*(1), 1-21. Google Scholar↗

[16] Boyatzis, R., & McKee, A. (2011). Neuroscience and leadership: The promise of insights. *Ivey Business Journal*, *75*(1), 1-3. Google Scholar↗

[17] Oliver, M. (2011). Towards an understanding of neuroscience for science educators. *Studies in Science Education*, *47*(2), 211-235. Google Scholar↗

[18] Daniel Kahneman, Amos Tversky, (1972). Subjective probability: A judgment of representativeness. *Cognitive Psychology, 3*(3), 430-454. Google Scholar↗

[19] Parincu, A. M. T., Capatina, A., Varon, D. J., Bennet, P. F., & Recuerda, A. M. (2020). Neuromanagement: the scientific approach to contemporary management. In *Proceedings of the International Conference on Business Excellence* (Vol. 14, No. 1, pp. 1046-1056). Google Scholar↗

[20] Houlihan, S. (2018). Dual-process models of health-related behaviour and cognition: a review of theory. *Public Health*, *156*(1), 52-59. Google Scholar↗

[21] Lambe, K. A., O'Reilly, G., Kelly, B. D., & Curristan, S. (2016). Dual-process cognitive interventions to enhance diagnostic reasoning: a systematic review. *BMJ quality & safety*. 25(10), 808-820. Google Scholar↗

[22] Camerer, C., Loewenstein, G., & Prelec, D. (2005). Neuroeconomics: How neuroscience can inform economics. *Journal of economic Literature*, *43*(1), 9-64. Google Scholar↗

[23] Serra, D. (2021). Decision-making: from neuroscience to neuroeconomics—an overview. *Theory and Decision*, *91*(1), 1-80. Google Scholar↗

[24] Satpathy, C. P. D. J. (2014). Dynamics of neuroeconomics decision-making. *Available at SSRN 2509585*, 01-25. Google Scholar↗

[25] Lieberman, M. D. (2010). Social cognitive neuroscience. *Handbook of social psychology*, *5*, 143-193. Google Scholar↗

[26] Algumaei, M., Hettiarachchi, I. T., Farghaly, M., & Bhatti, A. (2023). The Neuroscience of Team Dynamics: Exploring Neurophysiological Measures for Assessing Team Performance. *IEEE Access*, *11*, 129173-129194. Google Scholar↗

[27] Waldman, D. A., Wang, D., Stikic, M., Berka, C., & Korszen, S. (2015). Neuroscience and team processes. In *Organizational neuroscience* (Vol. 7, pp. 277-294). Emerald Group Publishing Limited. Google Scholar↗

[28] Satpathy, C. P. D. J., & Neena, P. C. (2019). Neuro-Trajectories in Managerial Decisions. *Journal of Xi'an University of Architecture & Technology*, 01-08. Google Scholar↗

[29] Lupien, S. (2012). *Well stressed: Manage stress before it turns toxic*. John Wiley & Sons. Google Scholar↗

[30] Rabenu, E., Yaniv, E., & Elizur, D. (2017). The relationship between psychological capital, coping with stress, well-being, and performance. *Current Psychology*, *36*, 875-887. Google Scholar↗

[31] Rock, D., & Cox, C. (2012). SCARF in 2012: Updating the social neuroscience of collaborating with others. *NeuroLeadership journal*, *4*(4), 1-16. Google Scholar↗

[32] Handayani, B. S., & Corebima, A. D. (2017). Model brain-based learning (BBL) and whole brain teaching (WBT) in learning. In *International Journal of Science and Applied Science: Conference Series* (Vol. 1, No. 2, pp. 153-161). Google Scholar↗

[33] Connell, J. D. (2009). The global aspects of brain-based learning. *Educational Horizons*, *88*(1), 28-39. Google Scholar↗

[34] Satpathy, C. P. D. J., Okeyo, W., Isa, S. M., Lockhart, J., Larsen, T. B., Rolle, J. A., ... & Aithal, P. S. (2023). Neuro-Signatures in C-3 Economic Decisions. *Available at SSRN 4352320*. pp. 01-26. Google Scholar↗

[35] Satpathy, C. P. D. J., Malhotra, S., Hejmadi, A., Pradhan, S., Sahoo, K., & Wadhwa, C. (2019). Endoscopic View of Neuro-Preference Connectionism. *European Journal of Business & Social Sciences*. 01-21. Google Scholar↗

[36] Satpathy, C. P. D. J., Mallik, B., & Gorg, S. (2019). Skin Conductance in 'Smart' Managerial Judgement. *Available at SSRN 3485507*. Google Scholar↗

[37] Diederich, A., & Trueblood, J. S. (2018). A dynamic dual process model of risky decision making. *Psychological review*, *125*(2), 270-278. Google Scholar↗

[38] Stanovich, K. E., West, R. F., & Toplak, M. E. (2011). The complexity of developmental predictions from dual process models. *Developmental Review*, *31*(2-3), 103-118. Google Scholar↗

[39] Levy, J. S. (1992). An introduction to prospect theory. *Political psychology*, 171-186. Google Scholar↗

[40] Barberis, N. C. (2013). Thirty years of prospect theory in economics: A review and assessment. *Journal of economic perspectives*, *27*(1), 173-196. Google Scholar↗

[41] Caplin, A., & Dean, M. (2007). The neuroeconomic theory of learning. *American Economic Review*, *97*(2), 148-152. Google Scholar↗

[42] Krajbich, I., Oud, B., & Fehr, E. (2014). Benefits of neuroeconomic modeling: New policy interventions and predictors of preference. *American Economic Review*, *104*(5), 501-506. Google Scholar↗

[43] Dale, S. (2015). Heuristics and biases: The science of decision-making. *Business Information Review*, *32*(2), 93-99. Google Scholar↗

[44] Ceschi, A., Costantini, A., Sartori, R., Weller, J., & Di Fabio, A. (2019). Dimensions of decision-making: An evidence-based classification of heuristics and biases. *Personality and Individual Differences*, *146*, 188-200. Google Scholar↗

[45] Mason, S. G., & Birch, G. E. (2003). A general framework for brain-computer interface design. *IEEE transactions on neural systems and rehabilitation engineering*, *11*(1), 70-85. Google Scholar↗

[46] Fouad, M. M., Amin, K. M., El-Bendary, N., & Hassanien, A. E. (2014). Brain Computer Interface: A Review. *Brain-Computer Interfaces: Current Trends and Applications*, *74*(1), 03-30. Google Scholar↗

[47] Lee, D. (2013). Decision making: from neuroscience to psychiatry. *Neuron*, *78*(2), 233-248. Google Scholar↗

[48] Satpathy, J. (2012). Issues in neuro-management decision making. *International Journal of Business Management*, *2*(2), 23-36. Google Scholar↗

[49] Grecucci, A., & Sanfey, A. G. (2014). Emotion regulation and decision making. *Handbook of emotion regulation*, (pp. 140-153). Guilford press. Google Scholar↗

[50] Martin, L. N., & Delgado, M. R. (2011). The influence of emotion regulation on decision-making under risk. *Journal of cognitive neuroscience*, *23*(9), 2569-2581. Google Scholar↗

[51] Lee, D., Seo, H., & Jung, M. W. (2012). Neural basis of reinforcement learning and decision making. *Annual review of neuroscience*, *35*(1), 287-308. Google Scholar↗

[52] Abel, D., MacGlashan, J., & Littman, M. L. (2016, March). Reinforcement Learning as a Framework for Ethical Decision Making. In *AAAI Workshop: AI, Ethics, and Society* (Vol. 16, p. 02). Google Scholar↗

[53] Lebiere, C., Pirolli, P., Thomson, R., Paik, J., Rutledge-Taylor, M., Staszewski, J., & Anderson, J. R. (2013). A Functional Model of Sensemaking in a Neurocognitive Architecture. 2013(1), 01-29. Google Scholar↗

[54] Dimov, C., Khader, P. H., Marewski, J. N., & Pachur, T. (2020). How to model the neurocognitive dynamics of decision making: A methodological primer with ACT-R. *Behavior research methods*, *52*, 857-880. Google Scholar↗

[55] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2015). A new ABCD technique to analyze business models & concepts. *International Journal of Management, IT and Engineering*, *5*(4), 409-423. Google Scholar↗

[56] Aithal, P. S. (2016). Study on ABCD analysis technique for business models, business strategies, operating concepts & business systems. *International Journal in Management and Social Science*, *4*(1), 95-115. Google Scholar↗

[57] Aithal, P. S. (2017). ABCD Analysis as Research Methodology in Company Case Studies. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *2*(2), 40-54. Google Scholar↗

[58] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2015). Application of ABCD Analysis Model for Black Ocean Strategy. *International journal of applied research*, *1*(10), 331-337. Google Scholar↗

[59] Aithal, A., & Aithal, P. S. (2017). ABCD analysis of task shifting–an optimum alternative solution to professional healthcare personnel shortage. *International Journal of Health Sciences and Pharmacy (IJHSP)*, *1*(2), 36-51. Google Scholar↗

[60] Aithal, S., & Aithal, P. S. (2016). ABCD analysis of Dye-doped Polymers for Photonic Applications. *IRA-International Journal of Applied Sciences*, *4*(3), 358-378. Google Scholar↗

[61] Raj, K., & Aithal, P. S. (2018). Generating Wealth at the Base of the Pyramid–a Study Using ABCD Analysis Technique. *International Journal of Computational Research and Development (IJCRD)*, *3*(1), 68-76. Google Scholar↗

[62] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). The study of the new national institutional ranking system using ABCD framework. *International Journal of Current Research and Modern Education (IJCRME)*, *1*(1), 389-402. Google Scholar↗

[63] Shenoy, V., & Aithal, P. S. (2016). ABCD Analysis of On-line Campus Placement Model. *IRA-International Journal of Management & Social Sciences*, *5*(2), 227-244. Google Scholar↗

[64] Kumari, P., & Aithal, P. S. (2020). Growth & Fate Analysis of Mangalore International Airport–A Case Study. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *4*(2), 71-85. Google Scholar↗

[65] Aithal, P. S., & Pai T. V. (2016). Concept of Ideal Software and its Realization Scenarios. *International Journal of Scientific Research and Modern Education (IJSRME), 1*(1), 826-837. Google Scholar↗

[66] Bhuvana, R., & Aithal, P. S. (2020). Blockchain-based service: A case study on IBM blockchain services & hyperledger fabric. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *4*(1), 94-102. Google Scholar↗

[67] Prabhu, G. N., & Aithal, P. S. (2023). Inbound Corporate Social Responsibility Model for Selected Indian Banks and Their Proposed Impact on Attracting and Retaining Customers – A Case Study. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(3), 55-74. Google Scholar↗

[68] Panakaje, N. (2023). Educational Loan for Religious Minority Under Arivu Scheme. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(1), 26-35. Google Scholar↗

[69] Maiya, A. K., & Aithal, P. S., (2023). A Review-based Research Topic Identification on How to Improve the Quality Services of Higher Education Institutions in Academic, Administrative, and Research Areas. *International Journal of Management, Technology, and Social Sciences (IJMTS), 8*(3), 103-153. Google Scholar↗

[70] Mahesh, K. M., Aithal, P. S. & Sharma, K. R. S., (2023). Impact of Aatmanirbharta (Self-reliance) Agriculture and Sustainable Farming for the 21st Century to Achieve Sustainable Growth. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 175-190. Google Scholar↗

[71] Shubhrajyotsna Aithal & P. S. Aithal (2023). Importance of Circular Economy for Resource Optimization in Various Industry Sectors – A Review-based Opportunity Analysis. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 191-215. Google Scholar↗

[72] Salins, M., & Aithal, P. S. (2023). Consumers' Intention toward Mitigation of Plate Waste Behaviour in Restaurants – Development of Conceptual Model. *International Journal of Management, Technology, and Social Sciences (IJMTS), 8*(2), 190-230. Google Scholar↗

[73] Aithal, P. S. & Shubhrajyotsna Aithal (May 2023). The Changing Role of Higher Education in the Era of AI-based GPTs. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(2), 183-197. Google Scholar↗

[74] Nethravathi P. S., & P. S. Aithal (2023). How Internal Quality Assurance System is Re-defined in Private Universities – A Case of Srinivas University, India. *International Journal of Management, Technology, and Social Sciences (IJMTS), 8*(1), 234-248. Google Scholar↗

[75] Kumar, S., Krishna Prasad, K., & Aithal, P. S., (2023). Tech-Business Analytics – a Review based New Model to Improve the Performances of Various Industry Sectors. *International Journal of Applied Engineering and Management Letters (IJAEML), 7*(1), 67-91. Google Scholar↗

[76] Pradeep, M. D., Adithya, K. M., & Aithal, P. S., (2023). Indigenous Distinctive Innovations to Achieve its Vision, Priority and Thrust – A Case Study of Srinivas University. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(1), 36-61. Google Scholar↗

[77] Aithal, P. S. (2023). Advances and New Research Opportunities in Quantum Computing Technology by Integrating it with Other ICCT Underlying Technologies. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(3), 314-358. Google Scholar↗

[78] Aithal, P. S., (2023). Super-Intelligent Machines - Analysis of Developmental Challenges and Predicted Negative Consequences. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(3), 109-141. Google Scholar↗

[79] Kumar, S., & Kunte, R. S. R. (2023). ABCD Analysis of Industries Using High-Performance Computing. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(2), 448-465. Google Scholar↗

[80] Nayana, K., & Manjula, K. T. (2023). Colonialism and Cross-Cultural Ties in Sea of Poppies. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(3), 220-228. Google Scholar↗

[81] Rameesa, K., & Veeramanju, K. T. (2023). Analysis of Software Industry: Natural Language Processing Approach. *Scope Journal, 13*(02), 743-752. Google Scholar↗

[82] Maheswary, B. U., & Lourdusamy, A. (2023). An Evaluation of the Partition Narratives: A Special Focus on Psychological Trauma. *International Journal of Philosophy and Languages (IJPL)*, *2*(1), 18-26. Google Scholar↗

[83] Aithal, S., & Aithal, P. S. (2023). Importance of Circular Economy for Resource Optimization in Various Industry Sectors–A Review-based Opportunity Analysis. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 191-215. Google Scholar↗

[84] Mishra, N., & Aithal, P. S. (2023). Ancient Indian Education: It's Relevance and Importance in the Modern Education System. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(2), 238-249. Google Scholar↗

[85] Naresh Ramdas Kini H., Pai, A. R. (2023). HR Practices of Ultratech Cement Limited: A Case Study. *EPRA International Journal of Multidisciplinary Research (IJMR)*, *9*(8), 87-94. Google Scholar↗

[86] Nair, S. B., & Aithal, P. S. (2023). Impact of Digital Transformation Marketing Strategies on Homepreneur Business Practices in Kerala. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(2), 121-132. Google Scholar↗

[87] Nair, S. B., & Aithal, P. S. (2023). An Assessment of Green Marketing Tools and Strategies for Increasing the Consumption Pattern of Khadi Textile Products Among Millennials in Kerala. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(3), 340-355. Google Scholar↗

[88] Sasi Kumar, A., & Aithal, P. S. (2023). DeepQ Based Heterogeneous Clustering Hybrid Cloud Prediction Using K-Means Algorithm. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *8*(2), 273-283. Google Scholar↗

[89] Asif, N., Aithal, P. S., & Niyaz Panakaje, D. (2023). A Comparison of the Mahila Samman Savings Certificate with Other Small Savings Schemes for the Empowerment of Women in India. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *7*(2), 348-359. Google Scholar↗

[90] Jomon Jose, M., & Aithal, P. S. (2023). An Analytical Study of Applications of Artificial Intelligence on Banking Practices. *International Journal of Management, Technology, and Social Sciences (IJMTS), 8*(2), 133-144. Google Scholar↗

[91] Sasi Kumar, A., & Aithal, P. S. (2023). DeepQ Residue Analysis of Brain Computer Classification and Prediction Using Deep CNN. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 144-163. Google Scholar↗

[92] Aithal, P. S., & Aithal, S. (2023). New Research Models under Exploratory Research Method. *a Book "Emergence and Research in Interdisciplinary Management and Information Technology" edited by PK Paul et al. Published by New Delhi Publishers, New Delhi, India*, 109-140. Google Scholar↗

[93] Shetty, V., & Abhishek, N. (2023). Beneficiaries Behavioural Intention Towards Primary Agricultural Co-Operative Credit Society–A Development of Conceptual Model. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(3), 226-247. Google Scholar↗

[94] Aithal, P. S., Maiya, A. K., Aithal, S., & Pradeep, M. D. (2022). Atomic Research Centres to Intensify Research–An Innovative Approach of Srinivas University, India. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *6*(2), 13-35. Google Scholar↗

[95] Parvin, S. R., & Panakaje, N. (2022). A Study on the Prospects and Challenges of Digital Financial Inclusion. *Education (IJCSBE)*, *6*(2), 469-480. Google Scholar↗

[96] Rajasekar D., Aithal, P. S. (2022). Direct to Consumer using Livestream as an Innovative Marketing Medium during COVID-19. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *6*(1), 77-86. Google Scholar↗

[97] Bharathi, S. C. & Mayya, Suresh Ramana, (2022). Performance Evaluation of Dabur India Ltd through Profitability Ratio Analysis: A Case Study. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *6*(1), 387-400. Google Scholar↗

[98] Aithal, P. S., Maiya, A. K., & Pradeep, M. D. (2022). Holistic Integrated Student Development Model & Service Delivery Model–A Best Practice of Srinivas University, India. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *6*(1), 590-616. Google Scholar↗

[99] Aithal, P. S., & Aithal, S. (2023). Introducing Systematic Patent Analysis as an Innovative Pedagogy Tool/Experiential Learning Project in HE Institutes and Universities to Boost Awareness of Patent-based IPR. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(4), 1-19. Google Scholar↗

[100] Aithal, P. S., & Aithal, S. (2023). How to Increase Emotional Infrastructure of Higher Education Institutions. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(3), 356-394. Google Scholar↗

[101] Aithal, P. S. (2023). Super-Intelligent Machines-Analysis of Developmental Challenges and Predicted Negative Consequences. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(3), 109-141. Google Scholar↗

[102] Kumar, S., Krishna Prasad, K. & Aithal, P. S. (2023). Tech-Business Analytics in Primary Industry Sector. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *7*(2), 381-413. Google Scholar↗

[103] Kumar, S., Krishna Prasad, K., & Aithal, P. S., (2023). Tech-Business Analytics in Secondary Industry Sector. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(4), 1-94. Google Scholar↗

[104] Mishra, N., & Aithal, P. S. (2023). Modern Multidisciplinary Education: Challenges and Opportunities of Modern Learning Pedagogy. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(4), 269-280. Google Scholar↗

[105] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). Application of ABCD Analysis Framework on Private University System in India. *International journal of management sciences and business research*, *5*(4), 159-170. Google Scholar↗

[106] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). ABCD analysis of Stage Model in Higher Education. *International Journal of Management, IT and Engineering*, *6*(1), 11-24. Google Scholar↗

[107] Aithal, P. S. (2021). Analysis of systems & technology using ABCD framework. *Chapter*, *8*(1), 345-385. Google Scholar↗

[108] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). Analysis of NAAC Accreditation System using ABCD framework. *International Journal of Management, IT and Engineering*, *6*(1), 30-44. Google Scholar↗

[109] Aithal, P. S., & Aithal, S., (2023). Stakeholders' Analysis of the Effect of Ubiquitous Education Technologies on Higher Education. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 102-133. Google Scholar↗

[110] Aithal, P. S. (2023). How to Create Business Value Through Technological Innovations Using ICCT Underlying Technologies. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 232-292. Google Scholar↗

[111] Kumar, Sachin., Krishna Prasad, K., & Aithal, P. S., (30/06/2023). Tech-Business Analytics in Primary Industry Sector. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(2), 381-413. Google Scholar↗

[112] Lonappan, J., & Aithal, P. S., (13/08/2023). Journey Towards Entrepreneurship Education-A Qualitative & Quantitative Perspective. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(3), 205-225. Google Scholar↗

[113] Jomon Lonappan, Aithal, P. S., & Meera Jacob (2023). E-Professionalism as a Professional Identity in the Digital Era of Medical Education. *International Journal of Health Sciences and Pharmacy (IJHSP)*, *7*(2), 35-48. Google Scholar↗

[114] Aithal, P. S., & Aithal, S. (2023). Key Performance Indicators (KPI) for Researchers at Different Levels & Strategies to Achieve it. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(3), 294-325. Google Scholar↗

[115] Varshini, B. P. (2020). *Study on Factors that Influence Students Perception of a Web Based Recruiting System at the College Level in Coimbatore Region* (Doctoral dissertation, Anna University, Chennai). pp. 24-37. Google Scholar↗

[116] Aithal, P. S., Kumar, P. M., & Shailashree, V. (2016). Factors & elemental analysis of six thinking hats technique using ABCD framework. *International Journal of Advanced Trends in Engineering and Technology (IJATET)*, *1*(1), 85-95. Google Scholar↗

[117] Aithal, P. S., & Aithal, S. (2018). Factor & Elemental Analysis of Nanotechnology as Green Technology using ABCD Framework. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *3*(2), 57-72. Google Scholar↗

[118] Aithal, P. S., & Aithal, S. (2017). Factor Analysis based on ABCD Framework on Recently Announced New Research Indices. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *1*(1), 82-94. Google Scholar↗

[119] Aithal, P. S., & Kumar, P. M. (2016). CCE Approach through ABCD Analysis of 'Theory A'on Organizational Performance. *International Journal of Current Research and Modern Education (IJCRME)*, *1*(2), 169-185. Google Scholar↗

[120] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). Application of ABCD Analysis Framework on Private University System in India. *International journal of management sciences and business research*, *5*(4), 159-170. Google Scholar↗

[121] Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). Analysis of NAAC Accreditation System using ABCD framework. *International Journal of Management, IT and Engineering*, *6*(1), 30-44. Google Scholar↗

[122] Shenoy, V., & Aithal, P. S. (2017). Quantitative ABCD Analysis of IEDRA Model of Placement Determination. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *1*(2), 103-113. Google Scholar↗

[123] Mendon, S., & Aithal, P. S. (2022). Quantitative ABCD Analysis of Organic Food Product and its Impact on Purchase Intention. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *7*(1), 254-278. Google Scholar↗

[124] Kumari, P., & Aithal, P. S. (2022). Stress Coping Mechanisms: A Quantitative ABCD Analysis. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *6*(2), 268-291. Google Scholar↗

[125] Prabhu, N., & Aithal, P. S. (2023). Quantitative ABCD Analysis of Green Banking Practices and its Impact on Using Green Banking Products. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(1), 28-66. Google Scholar↗

[126] Raj, K., & Aithal, P. S. (2022). Assessing the Attractiveness & Feasibility of doing Business in the BoP Market–A Mixed Method Approach using ABCD Analysis Technique. *International*

Journal of Case Studies in Business, IT, and Education (IJCSBE), *6*(2), 117-145. Google Scholar↗

[127] Frederick, D. P., & Salins, M. (2022). Quantitative ABCD Analysis of Online Shopping. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *6*(1), 313-329. Google Scholar↗

[128] Nayak, P., & Kayarkatte, N. (2022). Education for Corporate Sustainability Disclosures by Higher Educational Institutions–A Quantitative ABCD Analysis. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *7*(1), 465-483. Google Scholar↗

[129] Nandini Prabhu, G., (2023). Quantitative ABCD Analysis of Integrating Corporate Social Responsibilities with Green Banking Practices by Banks from Customers' Attraction and Retention Perspectives in Selected Indian Banks. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(2), 1-37. Google Scholar↗

[130] Madhura, K., & Panakaje, N., (2023). The Power of Social Media on Online Buying Behaviour of the Fashion Products: A Quantitative ABCD Analysis. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(3), 90-118. Google Scholar↗

[131] Raghavan, S., & Pai, R. (2023). Quantitative Evaluation of "e-Customer Engagement Strategies" of Millennials for Online Brands, through ABCD Analysis Framework. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(1), 159-182. Google Scholar↗

[132] Steevan D'Souza, N., & Varambally, K. V. M. (2023). Value Creation through Corporate Social Responsibility: A Quantitative ABCD Analysis. *International Journal of Management, Technology, and Social Sciences, (IJMTS), 8*(1), 183-212. Google Scholar↗

[133] Namreen Asif, V. A., & Ramesh Pai (2023). A Quantitative ABCD Analysis of Coffee Industry Stakeholders. *International Journal of Case Studies in Business, IT, and Education (IJCSBE*), 7(3), 301-340. Google Scholar↗

[134] Amin, V. S., & Kumar, A. (2023). Quantitative ABCD Analysis of In-store Customer Perception Purchase of Home Furniture. *International Journal of Management, Technology and Social Sciences (IJMTS)*, *8*(2), 231-253. Google Scholar↗

[135] Santhumayor, F. M. L. (2023). A Quantitative ABCD Analysis on Fostering Emotional Intelligence Among the College Teachers. *EPRA International Journal of Economics, Business and Management Studies (EBMS)*, *10*(8), 125-134. Google Scholar↗

[136] Kambali, U., Shailashri, V. T., & Panakaje, N. (2023). A Quantitative ABCD Analysis of Agricultural Stakeholders. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, *7*(4), 1-32. Google Scholar↗

[137] Bindhu, D., & Shailashri, V. T., (2023). A Quantitative ABCD Analysis of Various Issues in Implementation of Corporate Responsibility Initiatives. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 7*(4), 91-113. Google Scholar↗

****