



“IMPACT OF ARTIFICIAL INTELLIGENCE ON MANAGEMENT.”

Rinki¹, Smriti Priya², KM Chanchal³

Department of MBA II nd year Noida Institute of Engineering and Technology. Greater Noida, Uttar Pradesh, India.

ABSTRACT:

The purpose of this paper is to investigate the ways in which managerial decision-making and leadership abilities can be improved by artificial intelligence (AI). A methodical literature review will be used to conduct the research, looking into publications that are judged objective and pertinent. Given that the literature assessment revealed this to be the research gap, the problem formulation may be summed up as follows: "the adaptation of leadership skills and managerial decision-making processes due to the implementation of AI in the workplace." There will be a change in leadership styles, according to the research's findings. In order to succeed in the future, managers will need to veer towards more distinctly human talents, like inspiring staff members and fostering creativity in the workplace, as AI will eventually replace the more difficult aspects of leadership. Regarding how the application of AI will alter the decision-making process, the study comes to the conclusion that the changes are not entirely evident. However, if AI is equipped with high-quality training data, its use will accelerate and improve the precision of choices.

Keywords - Artificial intelligence, decision-making, deep learning, leadership, machine learning.

Introduction :

An introduction to the subject matter of this thesis is provided in the introduction chapter. Beginning with a background, the introduction then formulates the problem, explains its goal, and poses the questions that the study seeks to address in its conclusion. Before concluding with an overview of the thesis and definitions pertinent to the investigation, the introductory chapter also discusses delimitations and sustainability issues. In order to compete in the future with AI, managers must veer towards more distinctly human abilities, like inspiring workers and fostering creativity at work. The study concludes that there is a lack of clarity regarding the ways in which the implementation of AI would alter the decision-making process. It's crucial to remember, though, that as technology develops, so does what we refer to as artificial intelligence. Certain AI technologies are no longer referred to as AI when they are widely available to us and are taken for granted. This is due to the fact that AI is thought of as a technology of the future. Perception, thinking, and learning are some of the objectives of AI. AI can reason and act in a way that maximises the likelihood that it will succeed by using these features. The aforementioned traits offer artificial intelligence (AI) tremendous promise for solving problems. Artificial intelligence (AI) can solve problems that humans solve because it can think and behave like humans. Eliminating human error and operating at an astonishing speed are two benefits of using artificial intelligence (AI) to solve problems rather than people. Modern microprocessors can operate at a pace of 10 million times faster than that of biological neurones, whereas biological neurones function at a frequency of approximately 200 Hz. It would be fascinating to compare AI's and humans' problem-solving capacities in relation to intricate board games in order to gain an understanding of the power and potential of AI in this area. Go, a Chinese board game, is a good example. The goal of the game, which is thought to be older than 2500 years, is for players to cover greater areas with their stones in order to score points. Go is played by two players who alternately place stones on a board; one player has white stones and the other has black stones. Discuss the ways in which artificial intelligence (AI) techniques can be used to detect and reduce research management risks, including protocol violations, unfavourable events, and compliance problems.

Literature Review :

Artificial Intelligence (AI) can be characterized in various manners. In this thesis, the authors have opted to reference the definitions provided by the English Oxford Living Dictionaries (n.d.), which describes AI as "the theory and development of computer systems capable of executing tasks that typically require human intelligence," alongside Merriam-Webster's (2018) definition that emphasizes "the ability of a machine to replicate intelligent human behavior." These definitions suggest that AI encompasses the endeavor to enable machines to think and act like humans, thereby allowing them to undertake human tasks and engage with their environment. It is crucial to recognize that the understanding of AI evolves over time as technological advancements occur. When certain AI technologies become widely available, they are often no longer referred to as AI, as the term is associated with future innovations. Key objectives of AI include learning, reasoning, and perception. These attributes empower AI to analyze situations and make decisions that maximize the likelihood of achieving its objectives (Frankenfield, 2020). The aforementioned characteristics endow AI with significant potential for problem-solving. By mimicking human thought and action, AI can tackle challenges traditionally faced by humans. The advantages of AI

in problem-solving include the reduction of human error and the remarkable speed of operation. While human neurons function at approximately 200 Hz, contemporary microprocessors can operate at an astonishing 2,000,000,000 Hz, making them roughly 10 million times faster than biological neurons (Paasschen, 2017). To appreciate the capabilities and potential of AI in problem-solving relative to humans, it is insightful to compare AI's skills with those of humans in complex board games. .. Go, a Chinese board game, is a good example. The goal of the game, which is thought to be older than 2500 years, is for players to cover greater areas with their stones in order to score points. Go is played by two players who alternately place stones on a board; one player has white stones and the other has black stones.

3. Objective of the study

- To Study the importance of artificial intelligence in education management.
- To highlight the function of artificial intelligence applications in education management.
- To Identifying the major issues of Artificial intelligence in education management.
- To Evaluate how artificial intelligence technologies streamline study processes, such as data collection, analysis, and interpretation, to enhance efficiency.
- To Determine how artificial intelligence can optimize resource allocation, include time, personnel, and financial resources in study planning and execution
- To Investigate how AI-driven algorithms can enhance the quality of study outcomes through advanced data analysis, predictive modeling, and decision support systems.
- To Identify how AI tools can help in identifying and mitigating potential risks in study management, such as protocol deviations, adverse events, and compliance issues.

Limitation of The Study :

A significant limitation of research examining the influence of artificial intelligence on management is the possibility of bias in both data collection and analysis, which can distort results and conclusions. Furthermore, the swift advancement of AI technologies may quickly render certain findings obsolete, thereby diminishing the long-term applicability of the study. Additionally, the issue of generalizability may arise, particularly if the research is concentrated on a specific industry or organization, complicating the broader application of the results. The introduction provides a contextual background, followed by a formulation of the problem and the study's objectives, including the questions it seeks to address in its conclusions. It is essential to explore how AI tools can assist in identifying and mitigating potential risks in study management, such as protocol deviations, adverse events, and compliance challenges, while also highlighting the primary issues related to artificial intelligence in educational management. Lastly, ethical considerations, including privacy issues and the need for algorithmic transparency, may not be thoroughly examined, which could affect the overall comprehensiveness of the study.

5. Research Methodology

A methodical approach to addressing the research challenge is through research technique. It might be viewed as a science that studies scientific research methodology. In it, we examine the many approaches that a researcher typically takes to analyse his research challenge and the reasoning behind them. In order to guarantee the validity, dependability, and credibility of study findings, research technique is essential.

6. Research Design

Research design is a blueprint of a scientific study. It includes research methodologies, tools, and techniques to conduct the research. It helps to identify and address the problem that may rise during the process of research and analysis.

6.1 Sources of Data Collection

Data Source

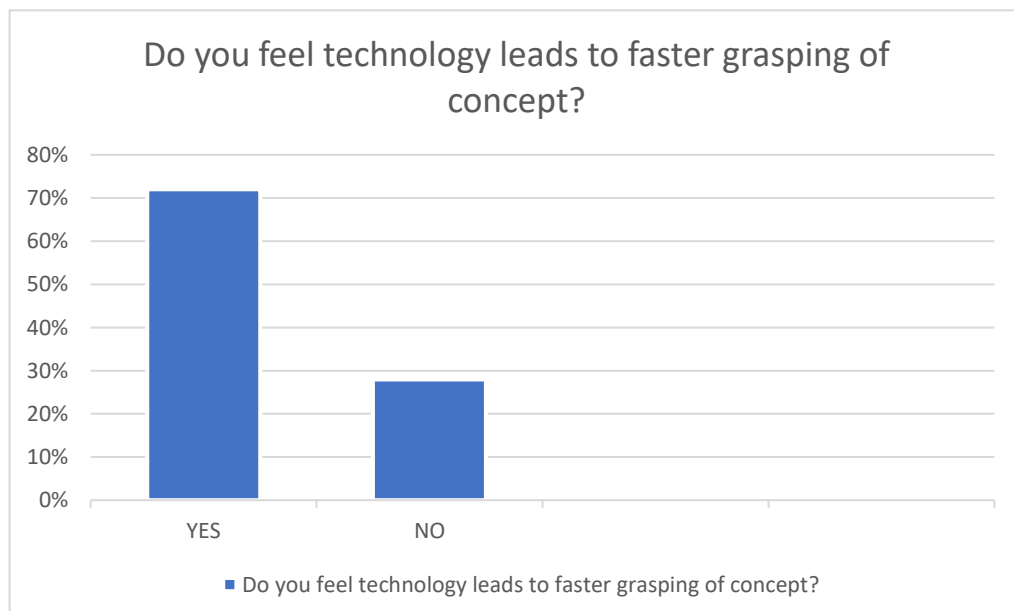
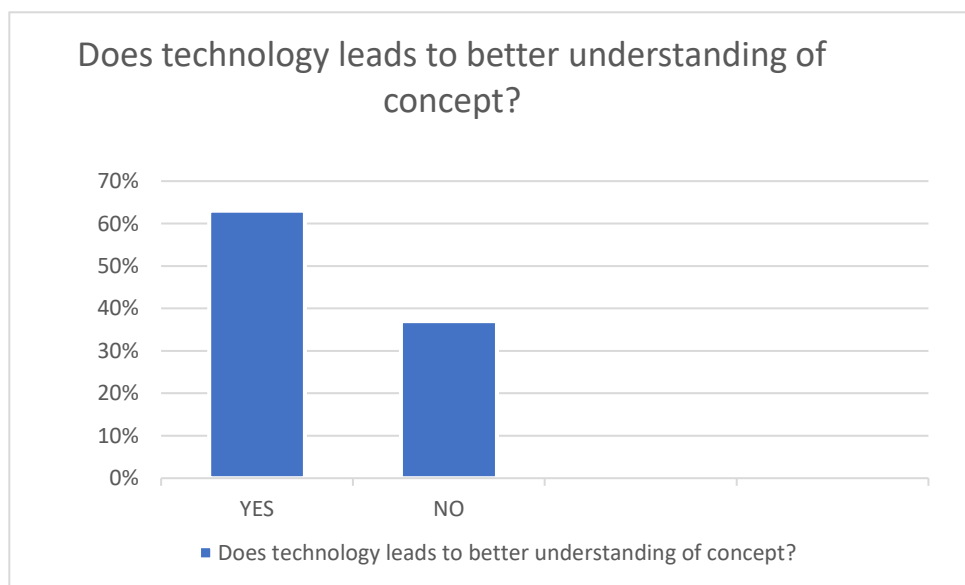
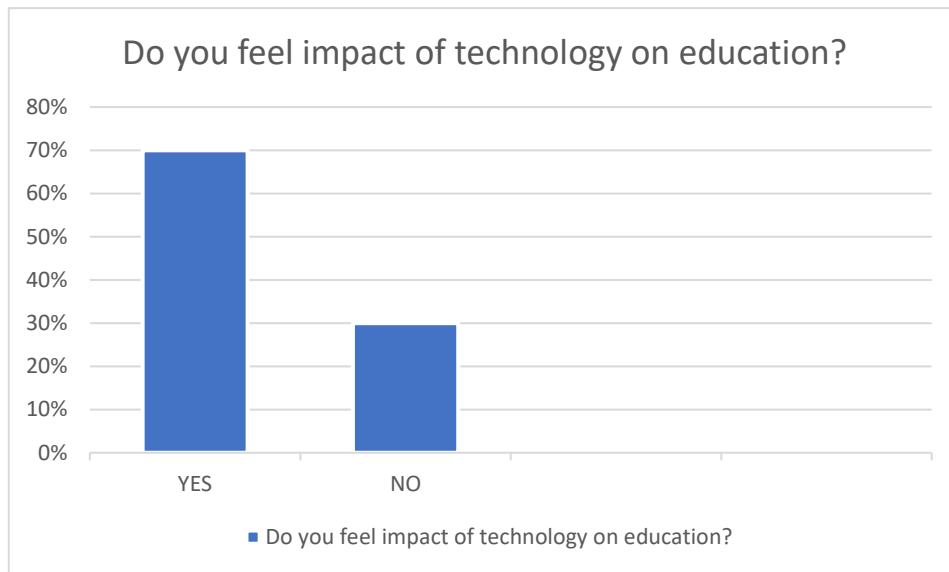
The research was carried out with the help of primary as well as secondary data.

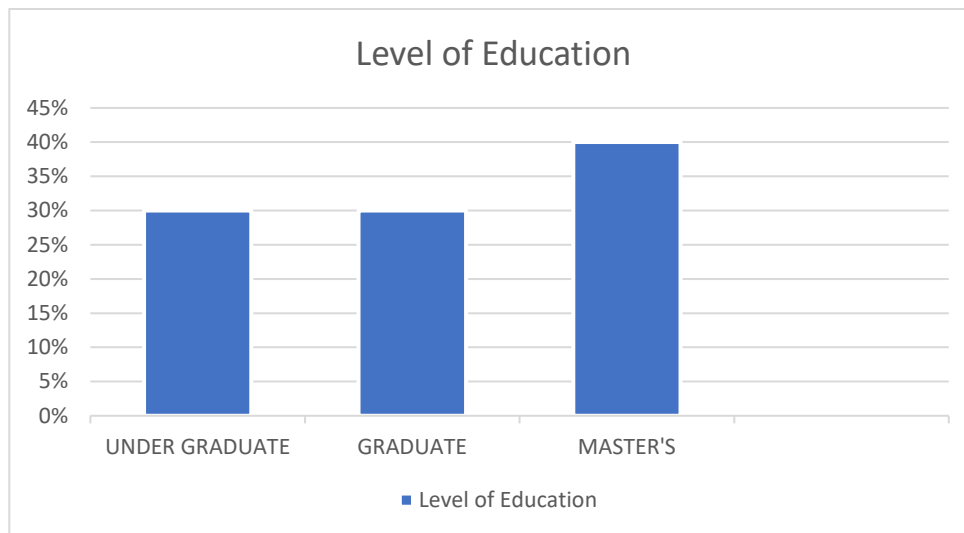
6.1.1 Primary Data

Primary data is a type of data that is collected by researchers directly from main sources through **interviews, surveys, experiments**, etc. Primary data are usually collected from the source—where the data originally originates from and are regarded as the best kind of data in research.

6.1.2 Secondary Data

Secondary data are basically second-hand pieces of information. These are not gathered from the source as the primary data. Data collected by someone else earlier. **Surveys, observations, experiments, questionnaire, personal interview, etc.**

7. Data Analysis and Interpretation :



Findings :

1. Among the 64 participants surveyed, 60% identified as male while 40% identified as female.
2. Within the same group of 64 respondents, 14% are under the age of 18, 43% fall within the 18-25 age range, 38% are aged 25-35, and 5% are over 35 years old.
3. Of the 64 respondents, 30% are pursuing undergraduate studies, 30% are graduates, and 40% have attained postgraduate qualifications.
4. A total of 70% of the 64 respondents report experiencing the impact of technology.
5. Among the respondents, 72% believe that technology facilitates a quicker understanding of concepts.
6. Additionally, 63% of the 64 respondents assert that technology enhances the comprehension of concepts.
7. Furthermore, 75% of the respondents express the opinion that technology should be integrated into all traditional classroom settings.
8. Similarly, 70% of the respondents contend that technology contributes to a deeper understanding of concepts.
9. Moreover, 55% of the respondents advocate for government subsidies for education through the use of modern technology.
10. Lastly, 67% of the respondents perceive that the rising costs of education are attributable to the widespread adoption of technology.

Conclusions :

1. This research aims to explore the categorization of studies on the application of artificial intelligence (AI) within emerging project management (PM) practices into project management process domains (PMPDs) and to identify the AI techniques that have enhanced project performance, with the goal of uncovering solutions for the digital transformation towards Industry 5.0. The literature indicates that various AI techniques have been developed to address a range of project domains across construction, information technology, and other sectors:

- Stakeholder management can leverage machine learning (ML), natural language processing (NLP), and neural networks (NN) to effectively understand, classify, and analyze stakeholders.
- AI-enhanced communication in projects, facilitated by ML, has shown the potential to elevate team performance.
- Techniques such as ML, neural networks, genetic algorithms (GA), expert systems, ant colony optimization (ACO), support vector machine-genetic algorithm (SVM-GA), and deep learning (DL) exhibit significant promise for planning, duration forecasting, effort estimation, scheduling, human resource allocation to project tasks, resource leveling, and cost estimation.
- In the context of project work process domains, fuzzy expert systems, SVM, NLP, DL, and NN can facilitate effective procurement management, enhance communication with stakeholders, support continuous learning, and manage physical resources efficiently.
- The automation of requirements meetings and project quality management through DL, NN, and fuzzy systems presents opportunities for more efficient project delivery.
- Employing AI techniques such as ML, SVM, GA, fuzzy systems, and NN to evaluate project performance metrics, analyze delays, implement suitable responses, and monitor activities leads to accurate project assessments.
- AI-driven uncertainty features contribute to risk identification, probability distribution modeling, risk assessment, stability forecasting, dispute risk prediction, and classification of project riskiness. Techniques that enhance uncertainty functions include ML, fuzzy systems, artificial neural networks (ANN), ACO, and NLP.
- Consequently, this investigation adds to the theoretical framework of PM digitalization literature by elucidating how AI can enhance PMPDs. On a practical level, this research aims to inform project managers about the potential benefits of AI-enabled project management, thereby promoting investments in AI-assisted practices.

REFERENCES :

-
- [1] Breque, M.; De Nul, L.; Petrides, A.; European Commission. Directorate-General for Research and Innovation. In *Industry 5.0: Towards a Sustainable, Human-Centric and Resilient European Industry*; European Commission, Directorate-General for Research and Innovation: Luxembourg, 2021; ISBN 9789276253082. [Google Scholar]
- [2] McCarthy, J. What Is Artificial Intelligence? 1998. Available online: <http://www-formal.stanford.edu/jmc/whatisai/whatisai.html> (accessed on 15 February 2022).
- [3] Vaishya, R.; Javaid, M.; Khan, I.H.; Haleem, A. Artificial Intelligence (AI) Applications for COVID-19 Pandemic. *Diabetes Metab. Syndr. Clin. Res. Rev.* 2020, 14, 337–339. [Google Scholar] [CrossRef] [PubMed]
- [4] PMI. *AI @ Work: New Projects, New Thinking*; Project Management Institute: Newtown Square, PA, USA, 2019. [Google Scholar]
- [5] PMI. *PMBOK Guide*; Project Management Institute: Newtown Square, PA, USA, 2021. [Google Scholar]
- [6] Russell, S.; Norvig, P. *Artificial Intelligence a Modern Approach*, 3rd ed.; Pearson Education, Inc.: London, UK, 2010. [Google Scholar]
- [7] Frazer, H.M.; Qin, A.K.; Pan, H.; Brotchie, P. Evaluation of Deep Learning-Based Artificial Intelligence Techniques for Breast Cancer Detection on Mammograms: Results from a Retrospective Study Using a BreastScreen Victoria Dataset. *J. Med. Imaging Radiat. Oncol.* 2021, 65, 529–537. [Google Scholar] [CrossRef] [PubMed]
- [8] Agarwala, N.; Chaudhary, R.D. *Artificial Intelligence and International Security*. In *International Political Economy Series*; Springer International Publishing: Berlin/Heidelberg, Germany, 2021; pp. 241–254. [Google Scholar] [CrossRef]
- [9] Warin, T.; Stojkov, A. Machine Learning in Finance: A Metadata-Based Systematic Review of the Literature. *J. Risk Financ. Manag.* 2021, 14, 302. [Google Scholar] [CrossRef]
- [10] Thakkar, A.; Lohiya, R. A Survey on Intrusion Detection System: Feature Selection, Model, Performance Measures, Application Perspective, Challenges, and Future Research Directions. *Artif. Intell. Rev.* 2022, 55, 453–563. [Google Scholar] [CrossRef]
- [11] Zhang, X.-D. *A Matrix Algebra Approach to Artificial Intelligence*; Springer: Singapore, 2020; pp. 1–805. [Google Scholar] [CrossRef]
- [12] Lecun, Y.; Bengio, Y.; Hinton, G. Deep Learning. *Nature* 2015, 521, 436–444. [Google Scholar] [CrossRef]
- [13] Yegnanarayana, B. *Artificial Neural Networks*; Prentice-Hall of India Private Limited: New Dehli, India, 2005. [Google Scholar]
- [14] Chowdhury, G.G. Natural Language Processing. *Annu. Rev. Inf. Sci. Technol.* 2003, 37, 51–89. [Google Scholar] [CrossRef]
- [15] Zadeh, L.A. Fuzzy Sets. *Inf. Control* 1965, 8, 338–353. [Google Scholar] [CrossRef]