

MidOcean University

College of Business

Department / Major: Business Administration



Research Title

The Impact of Artificial Intelligence Adoption on Project Risk Prediction Accuracy: An Applied Study in Project Management Practices

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Introduction:

Traditionally used risk assessments have been significantly altered as a result of the implementation of artificial intelligence (AI) in project management. In today's complex projects, it is necessary to make decisions quickly and based on data because there are a great number of variables, uncertainties, and changing circumstances involved. Natural language processing, machine learning, and predictive analytics are examples of artificial intelligence (AI) tools that make it simpler to identify potential dangers at an earlier stage and to arrive at more informed choices. It is not well understood how artificial intelligence affects the accuracy of risk prediction, despite the fact that AI tools are becoming more widely available. Adoption rates vary from company to company.

Problem Statement:

There is currently no empirical data that demonstrates how well artificial intelligence technologies for project management increase the accuracy of risk predictions. This is despite the fact that the cost of these technologies is increasing at an alarming rate. This study investigates whether the application of artificial intelligence in organizational settings contributes to a significant improvement in the accuracy, timeliness, and efficacy of project risk prediction strategies.

Importance of Study:

Considerable Importance in Theory:

The individual makes contributions to scholarly publications concerning the management of project risks and digital transformation.

This paper establishes a conceptual connection between the maturity of artificial intelligence and the risk intelligence of organizations.

Importance in a Practical Form:

Assists project managers in comprehending the advantages of decision-making that is powered by artificial intelligence.

The company provides strategic advice to businesses that are interested in implementing AI solutions in order to reduce the number of project failures and delays.

Research Objectives:

1. Find out how much artificial intelligence is currently being used in the process of managing risks associated with projects.
2. The second step is to evaluate the connection between the implementation of AI and the accuracy of project risk prediction.
3. To conduct research into the ways in which artificial intelligence can be successfully incorporated into the processes of project risk management.
4. Make some suggestions for how artificial intelligence-based project management prediction models could be improved.

Research Questions:

1. What does the application of artificial intelligence look like in terms of risk prediction for project management?
2. What are the primary motivating factors and challenges leading to the deployment of artificial intelligence?
3. Does the application of AI result in decisions that pertain to risk mitigation that are more precise and proactive?
4. How does the support of leadership, the size of the corporation, and the development of digital technology affect the outcomes of AI-driven projects?

Research Hypotheses:

- According to the primary hypothesis (H1), the application of artificial intelligence (AI) results in a significant improvement in the accuracy of project risk prediction.
- Increased integration of artificial intelligence makes it possible to identify potential risks to a project at an earlier stage.
- The sub-hypothesis (H1b) contends that the predictive accuracy of an organization improves in tandem with its level of digital maturity.
- The adoption of artificial intelligence (AI) does not have any discernible impact on the accuracy of risk prediction, according to the null hypothesis (H0).

Previous Studies:

- The book "Business Research Methods" by Sekaran and Bougie was published in 2019.
- AI and Project Management: Emerging Practices (Project Management Institute, 2023).
- According to Muller and Turner (2022), artificial intelligence-powered risk management decision assistance.
- Project-based organizations and digital transformation are three topics that Crawford (2021) discusses.
- Gartner's report on adopting artificial intelligence in risk and operations management for the year 2024.

Theoretical Framework:

- The Conceptual Framework of Decision-Making
- Example of Digital Maturity as a Model
- Regarding risk management, the PMI Framework.
- Models for the purpose of predictive analytics

Methodology and Research Design:

- A quantitative descriptive-correlational study was the strategy that was utilized for the research design.
- Data analysts, project managers, and risk officers are all included in the population.
- One example is a company that is undergoing digital transformation or that uses tools for project management that are based on artificial intelligence.
- Semi-structured interviews and structured questionnaires were among the methods that were utilized for data collection strategies.
- Cronbach's Alpha, regression, and correlation analysis of the data using Power BI or SPSS tools.

Research Tools:

- an extremely well-organized survey.
- interviews in which the structure is not entirely consistent.
- Power BI and SPSS are examples of statistical analysis tools and software.

Study Limitations:

- 2023–2025 is the term of duration.
- Saudi Arabia and the Organizations of the Gulf Cooperation Council
- Accuracy of risk prediction based on artificial intelligence should be the primary focus.
- Some limitations include limited access to the data, a limited sample size, and the presence of self-reported bias.

Reference List

In 2019, Bougie and Sekaran published their findings. Techniques for conducting research in business are a means of acquiring competence.

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