

Midocean University

Faculty of Management

Project Management

The Impact of AI-Powered Tools Training on Managerial Efficiency in Majan Construction Company

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1. Chapter 1: Introduction

1.1. Research Background

In the past 10 years, state-of-the-art technologies such as artificial intelligence (AI), data analytics, and machine learning tools have revolutionized the performance of organizations from top to bottom across business functions (Hwang & Kim, 2021). The extensive implementation of such technologies within firms generates higher effectiveness, increases efficiency, and drives overall productivity (Czarnitzki et al., 2023; Damioli et al., 2021). Although there's growing interest in how AI is being used in construction, we still know very little about how structured training in AI tools actually affects managers on the ground. Specifically, it's unclear how such training might influence their decision-making speed, ability to automate tasks, or improve planning.

As Gounde and Olusegun (2024) argue, the effectiveness of AI adoption is often limited by a lack of digital training and preparedness among managers. This study aims to fill that gap by looking at how training in AI tools affects real-world performance among managers at Majan Construction Company. Using a mixed-method approach, we'll compare key performance metrics before and after the training. We'll also gather feedback from participants to get a clearer picture of how AI training plays out in everyday construction management.

1.2. Research Problem

AI tools offer real benefits in construction management, but many managers aren't trained to use them effectively. At Majan Construction Company, this gap means valuable tools may be underused. This study looks at whether training can help managers use AI tools more confidently and improve their overall efficiency.

1.2.1. Theoretical Gaps

Most research on AI in construction tends to focus on what the technology can do, rather than how managers actually learn to use it. There's not much theory linking AI adoption to real-world issues like training, behavior change, or decision-making. This study looks to fill that gap by examining how training affects managers' ability to use AI tools effectively.

1.2.2. Practical Gaps

AI tools are available, but many managers aren't trained to use them effectively. At Majan Construction Company, this limits their impact. There's a need for practical training to bridge the gap between having the tools and using them well.

How does training in AI-powered tools affect managerial efficiency at Majan Construction Company?

1.3. Research Significance

AI tools can make a big difference in how construction projects are managed—but only if people know how to use them. This research matters because it looks beyond the technology and focuses on the people using it. By exploring how training helps managers at Majan Construction Company work more efficiently with AI, the study offers practical insights for other companies facing the same challenge. It shows that investing in people is just as important as investing in tools.

1.3.1. At the theoretical level

At the heart of this research is a simple idea: even the smartest technology needs people who know how to use it. While a lot of theory talks about what AI can do, not enough attention is given to how managers actually learn to use it and apply it in their daily work. This study brings a human-centered view to the conversation by showing that training plays a key role in turning potential into real impact. It adds to the theory by connecting AI tools not just to systems and outcomes but to people.

1.3.2. At the practical level

On a practical level, this research helps companies like Majan Construction Company get more out of the AI tools they already have. It focuses on the real-world challenge many organizations face: giving managers the training they need to confidently use new technology. By showing how the right training can improve decision-making and efficiency, this study offers clear, useful guidance for companies that want to make their digital investments pay off.

1.4. Research Questions

1.5. Research Objectives

1.6. Research Hypotheses

1.7. Research Model

1.8. Research Methodology

1.9. Scope of The Study

1.10. The Suggested Project Structure

2. Chapter 2: Literature Review

2.1. Introduction

Brief introduction for the chapter

2.2. The independent variable

2.3. The dependent variable

2.4. The relationship between the independent and the dependent variables

2.5. Conclusion

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