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Impact of Cause and Effect on Project Performance and Mitigation Management

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ABSTRACT

A survey distributed to over 150 construction professionals yielded 123 valid responses to identify the root causes of delays in the construction industry and assess their impact on project outcomes. The findings underscore project management inefficiencies as the predominant cause of project timeline disruptions. Key contributors include scope changes, communication breakdowns, stakeholder disputes, approval delays, and sluggish decision-making by project managers. Additionally, limited access to advanced construction techniques, inadequate funding, and ambiguous financial processes impede timely project completion. The study employed statistical analysis to support these findings, revealing a significant correlation between project delays and both project management factors ($r = 0.358$, p-value < 0.01) and financial constraints ($r = 0.313$, p-value < 0.01).

KEYWORDS

Construction Delays, Saudi Arabia Construction Industry, Project Management, Resource Management, Delay Mitigation Strategies, Risk Management

INTRODUCTION

Rapid economic and infrastructural development has been observed in the Kingdom of Saudi Arabia (KSA). The construction industry plays a vital role in this transformation, contributing approximately 10% to the nation's GDP (Alajmi and Ahmed Memon, 2022). However, project delays significantly challenge the industry's growth and overall success.

Project delays are a pervasive issue in the global construction sector, affecting numerous projects across all regions (Sanni-Anibire et al., 2022). This phenomenon is not limited to developed nations; developing countries also struggle with project delays, resulting in substantial financial losses (Alajmi & Memon, 2022; Alsharef et al., 2021; and Haseeb et al., 2011). A World Bank report indicates that 90% of its global projects experience delays exceeding the contractually stipulated timelines (Alsuliman, 2020). These delays can drastically increase project costs, as exemplified by the Scottish Parliament Building project that exceeded its initial budget by over 1000% due to a 20-month delay (Alsuliman, 2020).

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The situation in Saudi Arabia is particularly concerning, and the data indicate that over 70% of construction projects experienced delays (Abdallah et al., 2024; Ahmed et al., 2022; Alajmi, 2022; Albtoush, 2024). This alarming statistic underscores the need for a comprehensive understanding of the factors driving project delays in the Saudi context.

The motivation for the research, however, is that persistent project delays impede this progress and hinder the industry's full potential. While research on project delays in the global construction sector is extensive, studies specifically focused on the Saudi Arabian context remain limited (Alsharef et al., 2021). The construction industry in Saudi Arabia has undergone substantial growth in recent years, driving national economic diversification and expansion (Alajmi and Ahmed Memon, 2022). This lack of focused research makes it challenging to pinpoint the root causes and consequences of project inefficiencies within the Kingdom. Project delays pose a significant challenge for the Saudi Arabian construction industry, resulting in adverse consequences for stakeholders, project success, and the industry's overall performance. A quantitative approach identifies the root causes of project delays and their effects. The research findings are expected to empower stakeholders within the Saudi Arabian construction industry with valuable knowledge to minimize delays, optimize project delivery, and contribute to the sector's continued growth and development. This study examines the causes of project delays in Saudi Arabia's construction industry in the Madinah region, which is attributed to the rapid development of infrastructure projects. It also explores the effects of these delays and proposes solutions to mitigate them. The data is collected through a survey of professionals working in the construction sector.

To comprehensively understand project delays in the construction sector, we employ a multifaceted conceptual framework that integrates key theoretical perspectives. Project Management Theory highlights the role of ineffective planning, scheduling, risk management, and communication practices in causing delays (Yap et al., 2021; Hoque et al., 2023; Rauzana & Dharma, 2022). Resource Dependence Theory emphasizes the impact of resource constraints, such as shortages of skilled labor, equipment, and materials, on project delays and disruptions (Shash & AbuAlnaja, 2023; Alsharef et al., 2021; Alsinawi & Anil, 2022). Institutional theory focuses on how institutional factors, including government regulations and contractual arrangements, influence project execution and potentially contribute to delays (Priya et al., 2021; Al-Emad, 2021; Assaf et al., 2019). Finally, Stakeholder Theory emphasizes the importance of considering the needs and viewpoints of all stakeholders involved in a project, as conflicts or misaligned interests can lead to delays (Shash & Habash, 2021; Ahmed et al., 2022; Assaf et al., 2019).

This research identifies and analyzes delays in the construction industry and the associated project risks. The intentions of this study are as follows:

- To identify and categorize the main factors contributing to project delays within the construction sector.
- To assess the relative impact of various delay factors on project delivery timelines and costs.
- To investigate the financial and operational consequences of project delays on critical stakeholders involved in the construction projects.
- To propose evidence-based solutions and best practices for minimizing project delays within the construction sector.

The research will address the following key questions:

- What are the main reasons for project delays within the Madinah region's construction sector?
- To what extent do different factors contribute to project delays?
- How do project delays impact stakeholders' financial performance and operational efficiency in the construction industry?