

CRITICAL RISK FACTORS IN CONSTRUCTION PROJECTS: A DEMATEL-BASED MODEL

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Abstract:

Construction projects are defenseless to more risks compared to the other industries due to their nature and complexities. These risks can lead to performance reductions, increased costs, scheduling delays, and even project failure. It is noted that the success of the project depends on identifying the most common risk factors and mitigate them effectively. Numerous studies have discussed the significance of investigating the critical risks in the construction projects but the complex causal relationships among the risk factors and their relative significance with respect to each other remain unexplored. The purpose of this paper is to identify the critical risk factors and investigate the interrelationship among the risk factors in the construction projects. Detailed literature review has been conducted and ten risk factors were identified. Decision Making Trial and Evaluation Laboratory (DEMATEL) is employed in the study to prioritize the risks and then analyze the causal relationship among the factors. Based on the interview data from thirteen experts, the results show design risks are the critical risk factors. The findings in this study can provide structural visualization of complex causal relationships among risk factors and also allow construction experts to prioritize the resource allocation to achieve project objectives

Keywords: : Construction Industry; Critical Risks; Decision Making Trial & Evaluation Laboratory (DEMATEL).

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