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Impact and Practices of Risk Management Strategies in Large-scale Construction Projects

Nitish Kumar[1] and Raushan Kumar[2]
Research Scholar, Eklavya University Damoh, MP, India[1]
Assistant Professor, Department of Civil Engineering, Eklavya University Damoh, MP, India[2]

Abstract: *This study investigates risk management strategies in large-scale construction projects through a comparative analysis. A mixed-methods approach was used, combining a quantitative survey (n=438) and qualitative semi-structured interviews (n=20). The findings reveal that brainstorming, expert interviews, probability-impact matrices, and expert judgment are the most frequently used risk identification and assessment techniques. Risk mitigation, transfer, and contingency planning are the most common risk response strategies. Infrastructure projects exhibited significantly higher usage of risk identification and assessment practices compared to other project types. The interviews highlight challenges such as lack of formal processes, insufficient expertise, and inadequate communication, while best practices include top management support, early risk management, and integration with other project processes. The study provides recommendations for improving risk management, including establishing a supportive culture, investing in training and resources, and enhancing communication and reporting mechanisms.*

Keywords: risk management; construction projects; comparative analysis; mixed-methods; project management

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