

Fuzzy Hybrid Approaches in Construction Engineering and Management: Advancing Project Performance and Sustainability

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ABSTRACT

The construction industry is constantly evolving, and with it, the need for innovative and effective methodologies to manage and execute projects are also evolving. Construction engineering and management (CEM) play a crucial role in ensuring project success, and practitioners and researchers are continually seeking ways to optimize the building process. In recent years, fuzzy hybrid approaches have emerged as a promising avenue for addressing ambiguity and subjective uncertainty in CEM settings. These techniques combine the strengths of fuzzy logic with other computational methods, such as neural networks, evolutionary algorithms, and multi-criteria decision-making (MCDM) techniques. By leveraging the ability of fuzzy logic to handle imprecise and uncertain data, fuzzy hybrid approaches offer a powerful tool for tackling complex decision-making problems in CEM. This paper provides an overview of fuzzy hybrid approaches in CEM, highlighting their potential to enhance project performance and contribute to a more sustainable and resilient construction industry.

Keywords: Neural network, fuzzy logic, decision-making techniques

How to Cite

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