Strategies for enhancing construction waste recycling: A fuzzy synthetic evaluation

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ABSTRACT
Construction waste recycling (CWR) is one of the solutions that address construction waste issues. As various strategies target the enhancement of CWR implementation, stakeholders face difficulties in selecting the right strategies. Understanding the effectiveness of the strategies can guide stakeholders in making better decisions. Therefore, this study evaluates strategies that target the enhancement of CWR implementation. To do that, CWR enhancement strategies were identified through a systematic literature review. Then, the identified strategies were inserted into a questionnaire survey and distributed to project managers. Finally, 108 responses were collected and analyzed using the factor analysis and fuzzy synthetic evaluation (FSE) techniques. The factor analysis grouped 12 out of the 13 enhancement strategies into two interrelated groups: direct and indirect enhancement strategies. However, the FSE technique indicated that the overall effectiveness of the enhancements strategies is only between neutral and high. This is due to the effectiveness of both groups is also only between neutral to high. This study contributes to the literature by evaluating existing CWR enhancement strategies. The findings allow practitioners, policymakers, and researchers to justify developing new and alternative enhancement strategies for CWR.

KEYWORDS
Sustainable development; Sustainable construction; Decision making; Waste management; Fuzzy synthetic evaluation

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