

A Comparison of Some Fuzzy Relation-based Linguistic Preference Models for Multiple-Factor Project Assessment

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Abstract

Some approaches to the use of linguistic-preference models based on fuzzy relations in the context of multiple factor project assessment are considered. Projects are characterized in terms of linguistic expressions of 'performance' with respect to factors or impacts and the 'importance' of those factors and impacts. Some variations of methods by Wilhelm and Parsaei (1991) and Eldukair and Ayyub (1992) are considered with some possible analogous methods. A simple illustrative, hypothetical example is developed to compare methods in the context of a proposed bridge river crossing in the city of Brisbane, Queensland, Australia, assessed against six factors: (1) cost, (2) lifespan, (3) usage, (4) aesthetics, (5) construction time, and (6) environmental impact.

Keywords

fuzzy relations; multiple factor project assessment

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