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PROMETHEE: A new family of outranking methods in multicriteria analysis. (English)

Zbl 0571.90042

Operational research '84, Proc. 10th IFORS Int. Conf., Washington/D.C. 1984, 477-490 (1985).

[For the entire collection see [Zbl 0566.00032](#).]

We consider a new family of outranking methods, called PROMETHEE, for solving multicriteria problems. These methods are based on a generalization of the notion of criterion. A fuzzy outranking relation is first built. This relation is then used to set up a partial preorder (PROMETHEE I) or a complete preorder (PROMETHEE II) or an interval order (PROMETHEE III) on a finite set of feasible solutions. These results can easily be apprehended by the decision-maker, as illustrated in a numerical application. In the last section, a method, called PROMETHEE IV, is proposed for the case where the set of feasible solutions is continuous.

MSC:

[90B50](#) Management decision making, including multiple objectives

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Keywords:

[outranking methods](#); [PROMETHEE](#); [multicriteria problems](#)