

Rank-Based Sensitivity Analysis of Multiattribute Value Models

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Abstract:

We extend methods for multi-way sensitivity analysis of multiattribute value models by examining what rankings the alternatives can attain subject to incomplete information about attribute weights and alternatives' scores. These rankings - which complement other sensitivity results such as value intervals and dominance relationships - are computed from an MILP model that allows hundreds of alternatives to be analyzed efficiently. Numerical examples with university rankings are given.

Keywords:

Additive Value Function, Sensitivity Analysis, Incomplete Information, Rankings