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Are robustness measures robust?



By: R. Yılmaz Argüden

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To a large degree, the classical approach to problem-solving in operations research (OR) is to fit a real life situation into a well-known or OR model. When OR models are used to deal with major policy problems in which the underlying processes are not well understood, this effort results in too much simplification. Due to an inability to perceive all uncertainties, and a consequent wish to retain flexibility once the decisions are made, decision makers are more interested in the "robustness" of their policy decisions than their "optimality," which becomes a vague concept due to the nature of these problems. This paper emphasizes the desirability of robustness and criticizes attempts to fit an operationalized measure of robustness into an optimization structure, by the aid of a decision analytic example.