Abstract

In the paper, we present chance constrained multi-level linear programming problem. The right hand parameters and the coefficients of the constraints are considered as the random variables of known distribution function and the chance constraints are transformed into equivalent deterministic constraints. Membership function for each level objective function is constructed subject to the equivalent deterministic constraints. In the multi-level decision making situation, lower level decision makers may not be satisfied with the decision of higher level decision maker. To avoid this problem, each level decision maker provides relaxation in his/ her decision. Three FGP models are adopted to get the membership goals. Euclidean distance function is used to select the best FGP model offering the most satisfactory solution. Two numerical examples are solved to demonstrate the proposed approach.

Index Terms

Computer Science Programming Languages

Keywords

Multi-level programming Fuzzy goal programming Chance constrained programming.