Vendor Selection and Supply Quotas Determination by Using Revised Weighting Method and Multi-Objective Programming Methods

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Abstract : In this paper a new methodology for vendor selection and supply quotas determination (VSSQD) is proposed. The problem of VSSQD is solved by the model that combines revised weighting method for determining the objective function coefficients, and a multiple objective linear programming (MOLP) method based on the cooperative game theory for VSSQD. The criteria used for VSSQD are: (1) purchase costs and (2) product quality supplied by individual vendors. The proposed methodology is tested on the example of flour purchase for a bakery with two decision makers.
Keywords : cooperative game theory, multiple objective linear programming, revised weighting method, vendor selection