

عنوان مقاله:

A Fuzzy Multi-objective Model for Order Allocation to Suppliers under Shortfall and Quantity Discounts

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خلاصه مقاله:

For new strategies of purchase and production process, suppliers play a key role in achieving competitive capabilities for large-sized companies. The selection of suitable suppliers is a critical component of this strategy. The problem of allocating order to suppliers is a multi-objective one that includes fuzzy parameters; in addition, suppliers usually consider discount in the case of different levels of purchase amount. Since there is no multi-objective fuzzy model for order allocation in the literature to consider discount and shortfall simultaneously in the planning horizon of multiple products, this research proposes a new model that includes minimization of costs, delays, and the percentage of defective parts as objective functions. Price, demand, delay, and percentage of defective parts are considered fuzzy parameters. Since the model is NP-hard, the two metaheuristic algorithms, NSGAI and MOPSO, have been used for solving the problem with tuned parameters using Taguchi method. According to the results of numerical problems, the proposed algorithms can provide a good approximation of the optimal solutions

کلمات کلیدی:

.Supplier selection, Order allocation, Discount, Genetic algorithm, Particle swarm optimization algorithm

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