

عنوان مقاله:

Designing a Sustainable Reverse Logistics Network Considering the Conditional Value at Risk and Uncertainty of Demand under Different Quality and Market Scenarios

محل انتشار:

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خلاصه مقاله:

In recent years, regarding the issues such as lack of natural resources, government laws, environmental concerns and social responsibility reverse and closed-loop supply chains has been in the center of attention of researchers and decision-makers. Then, in this paper, a multi-objective multi-product multi-period mathematical model is presented in the sustainable closed-loop supply chain to locate distribution, collection, recycling, and disposal centers, considering the risk criterion. Conditional value at risk is used as the criterion of risk evaluation. The objectives of this research are to minimize the costs of the chain, reducing the adverse environmental effects and social responsibility in order to maximize job opportunities. Uncertainty in demand and demand-dependent parameters are modeled and determined by the fuzzy inference system. The proposed model has been solved using multi objective particle swarm optimization algorithm (MOPSO) approach and the results have been compared with Epsilon constraint method. Sensitivity analysis was performed on the problem parameters and the efficiency of the studied methods was investigated.

کلمات کلیدی:

Closed-loop supply chain, Conditional value at risk, Fuzzy inference system, Supply chain network design, sustainable

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