

عنوان مقاله:

A New Mathematical Model for a Multi-product Supply Chain Network with a Preventive Maintenance Policy

محل انتشار:

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خلاصه مقاله:

The supply chain network design (SCND) implicates decision-making at a strategic level and makes it possible to create an effective and helpful context for managing. The aim of the network is to minimize the total cost so that customer s demands should be met. Preventive maintenance is pre-determined work performed to a schedule with the aim of preventing the wear and tear or sudden failure of equipment components. Unfortunately, there is very little work on the issues of preventive maintenance in the SCND. At first, a mixed integer nonlinear programming model (MINLP) is formulated that maximize the profit of the network. Since the SCND is an NP-hard problem, we use three meta-heuristic algorithms, namely tabu search, harmony search and genetic algorithm to solve the given problem. Taguchi method is also used to adjust the significant parameters of the forgoing meta-heuristics and select the optimal levels of the influential factors for the better algorithm performance. The results of different numerical .experiments endorse the effectiveness of the HS algorithm

کلمات کلیدی:

Genetic Algorithm, harmony search, preventive maintenance, Production-distribution, Supply chain network design, Tabu Search

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