عنوان مقاله:

Genetic and simulated annealing algorithms for the allocation of customers to potential distribution centers in green supply chain network

محل انتشار:

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نویسندگان:

Sarah Nourian - *Department of Industrial Engineering, Shomal University, Amol, Iran*

Ahmad J Afshari - *Department of Industrial Engineering, Shomal University, Amol, Iran*

Mostafa Hajiaghaei-Keshteli - *Department of Industrial Engineering, University of Science and Technology of Mazandaran, Behshahr, Iran*

خلاصه مقاله:

In this paper, we study a supply chain network design problem with environmental concerns. There are customers with particular demands and potential places which are candidate to be distribution centers. Each of the potential DCs can ship to any of the customers. Three types of costs are considered; Environmental investment cost and opening cost, assumed for opening a potential DC plus shipping cost per unit from DC to the customers. The proposed model selects some potential places as distribution centers in order to supply demands of all the customers. Since the problem is considered as an NP-hard, in this paper we propose several meta-heuristics to solve the problem. Furthermore, we apply the Taguchi experimental design method to set the proper values of the algorithms in order to improve their performances. For the purpose of evaluating the performances of the proposed algorithms, various problem sizes are utilized and the computational results of the algorithms are compared with each other. The results show that our model can be applied as an effective tool for strategic planning of green supply chains.

کلمات کلیدی:

Green supply chain, Genetic algorithm, simulated annealing algorithm, Taguchi experimental design

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