عنوان مقاله:

Solve a New Robust Bi-Objective Model for Designing Blood Supply Chain Network by NSGA II and Imperialist Competitive Algorithm

محل انتشار:

نویسندگان:

Hamed Kazemipoor - *Assistant Professor, Industrial Engineering, Islamic Azad University, Central Tehran Branch*

Melika Ghanbarzadeh - *M.Sc, Industrial Engineering, Industrial Engineering, Islamic Azad University, Central Tehran Branch*

خلاصه مقاله:

In this supply chain, blood and blood products are investigated as a product from donor to patient. Specific characteristics of blood supply chain such as perishability and existence of uncertainty in the structure of this chain have caused problems for planning in this regard. However, this point should be considered that the importance of this supply chain cannot be compared to perishable products. Life and death issue of this product is the main difference between blood and other perishable products. Therefore, a comprehensive model was presented in this study to locate blood bank components within a network and to determine the allocation of these components considering blood donation centers, blood testing and processing laboratories, distribution centers or blood banks, and demand centers. Since designing supply chain and locating issues at large dimensions are NP-hard, the suggested models at small sizes were compared using the exact method (GAMS), non-dominated genetic sorting algorithm, and multi-objective imperialist competitive algorithm. The results were compared with GAMS. This shows normal performance of the proposed algorithms and led to using these two algorithms at average and large sizes for research questions. Also, by analyzing sensitivity on important parameters, important managerial findings are suggested for similar conditions.

کلمات کلیدی:

blood supply chain, integer programming, robust planning, multi-objective genetic algorithm

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1273177