عنوان مقاله:

A Flexible Integrated Forward/ Reverse Logistics Model with Random Path-based Memetic Algorithm

محل انتشار:

مجله ایرانی مطالعات مدیریت, دوره 8, شماره 2 (سال: 1394)

تعداد صفحات اصل مقاله: 27

نویسندگان:

احسان یادگاری - *Faculty of Management and Accounting, Shahid Beheshti University, Tehran, Iran*

حسام الدین نجمی - *Department of Industrial Engineering, University of Tehran, Iran*

مرتضی قمی اویلی - *Faculty of Industrial Engineering, Iran University of Science and Technology, Tehran, Iran*

مصطفی زندیه - *Faculty of Management and Accounting, Shahid Beheshti University, Tehran, Iran*

خلاصه مقاله:

Due to business and environmental issues, the efficient design of an integrated forward/reverse logistics network has recently attracted more attention from researchers. The significance of transportation cost and customer satisfaction spurs an interest in developing a flexible network design model with different delivery paths. This paper proposes a flexible mixed-integer programming model to deal with such issues. The model integrates the network design decisions in both forward and backward logistics networks, and also applies three kinds of delivering modes (normal delivery, direct shipment, and direct delivery) which enrich the model to be able to deliver the products to customers by distribution-skipping the mid-process strategy in order to deliver products in more flexible paths to customer zones. To tackle with such an NP-hard problem, a memetic algorithm (MA) with random path-based direct representation and combinatorial local search methods is developed. Numerical experiments are conducted to demonstrate the .significance and applicability of the model as well as the efficiency and accuracy of the proposed solution approach

کلمات کلیدی:

Integrated supply chain, Logistics network design, Random path-based direct encoding, Memetic algorithm