عنوان مقاله:

A possibilistic bi-objective model for a competitive supply chain network design under variable coverage

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نویسندگان:

R. Ghodsi - *, Central Connecticut State University*

S. A. Torabi - *School of Industrial Engineering, University of Tehran*

A. Shamekhi Amiri - *School of Industrial Engineering, University of Tehran*

خلاصه مقاله:

In this paper, the strategic planning of a supply chain under a static chain-to-chain competition on the plane is addressed. It is assumed that each retailer has a coverage area called the radius of influence. The demand of each demand zone is divided equally between the retailers which can cover that market. However, the demand of distant customers who are not in the retailers' radius of influence, will be lost. This competition is modelled for a real case application of a super market chain. It is assumed that the chain's owner wants to expand retail outlets to improve its market share. Since this expansion could affect the current customers of existing retailers, the owner wants to avoid attacking the market share of its current retailers. A bi-objective fuzzy mixed integer nonlinear model is proposed. For solving the model, it is first reformulated to a mixed integer linear program and then an interactive approach is devised to handle the fuzzy bi-objective model. Four expansion strategies are analysed from which useful managerial insights are drawn.

کلمات کلیدی:

Facility location on the plane, Chain, to, chain competition, Radius of influence, Cannibalization effect, capacity planning, multi, objective possibilistic programming

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