عنوان مقاله:

A bilevel inventory-routing decision framework under hybrid uncertain environment

محل انتشار:

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خلاصه مقاله:

This paper introduces an inventory-routing problem (IRP) where suppliers distribute a single product to multiple customers facing hybrid uncertain demands over an infinite discrete time horizon. The suppliers who are responsible for the inventory management of their customers, have sufficient inventory to replenish the customers, and distribute the product using capacitated vehicles. Backlogging of the demand at customers is not allowed. The problem is to determine the delivery quantities as well as the routes to the customers while minimizing the total cost composed of transportation, inventory holding and shortage costs. A new mathematical formulation in a form of multi-objective MINLP is proposed. We elaborate a solution approach composed of constrained Nelder–Mead method and TS algorithm to solve the complexity. Computational results show the performance of the solution approach.

کلمات کلیدی:

IRP, Nelder–Mead method, TS