عنوان مقاله:

A Mathematical Model Of Two-Level Closed-Loop Supply Chain With An Approach VMI To Perishable Products

محل انتشار:

سومین کنفرانس بین المللی چالش ها و راهکارهای نوین در مهندسی صنایع، مدیریت و حسابداری (سال: 1401)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

In this study, we have considered a two-level closed-loop supply chain with one vendor and several retailers for perishable products using the VMI approach. Products begin to deteriorate after reaching a certain time called the critical time, so we used a discount strategy to more selling and to minimize the cost of deteriorate. However, not all products are sold, and due to the environmental effects of deteriorated products, the problem model collects and, if possible, recycles the product in order to minimize costs. We have solved the problem using accurate software and meta-heuristic algorithms and thereby minimizing system costs using VMI approach. Because the model is an NP-hard issue, a Genetic algorithm (GA) and a Particle Swarm Optimization (PSO) algorithm are designed to solve it correctly, and the results show that the PSO approach outperforms the GA algorithm in this research.

کلمات کلیدی:
supply chain; meta-heuristic algorithms

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