

عنوان مقاله:

Coordination of Pricing and Inventory Decisions in a Fresh-product Supply Chain Considering the Competition between New and Old Products

محل انتشار:

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نویسندگان:

Tahere Hashemi - *School of Industrial Engineering, Iran University of Science & Technology, Tehran, Iran*

Ebrahim Teimoury - *School of Industrial Engineering, Iran University of Science & Technology, Tehran, Iran*

Farnaz Barzinpour - *School of Industrial Engineering, Iran University of Science & Technology, Tehran, Iran*

خلاصه مقاله:

Retailers selling fresh products often encounter unsold inventory remains at the end of each period. The leftover product has a lower perceived quality than the new product. Therefore, retailers try to influence consumers' preferences through price differentiation that leads to an internal competition based on product age and prices. This paper addresses the pricing and inventory control problem for fresh products to capture the influence of this competition on the supply chain members' decisions and profits. A new coordination model based on a return policy with the revenue and cost-sharing contract is developed to improve the profits of independent supply chain members. The supply chain consists of one supplier and one retailer, where consumers are sensitive to the product's retail price and freshness degree. Firstly, the retailer's optimal decisions are derived in a decentralized decision-making structure. Then a centralized approach is used to optimize the supply chain decisions from the whole supply chain viewpoint. Eventually, a new coordination contract is designed to convince the members to participate in the coordination model. Numerical examples are carried out to compare the performance of different decision-making approaches. Our findings indicate that the proposed contract can coordinate the supply chain effectively. Furthermore, the coordinated decision-making model is more profitable and beneficial for the whole supply chain compared to the decentralized one. The results also demonstrate that when consumers are more sensitive to freshness, the simultaneous sale of multiple-aged products at different prices is more profitable.

کلمات کلیدی:

Fresh-product supply chain, Channel coordination, Pricing and inventory decisions, Cannibalization effect

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