论文

两零售商竞争下多因素同时扰动的供应链协调研究

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Supply Chain Coordination with Multi Multi-Factors Disruptions under Two Retailers' Competition

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摘要 本文研究了由一个制造商两个竞争零售商组成的供应链在百川德博弈下,生产成本、市场需求和价格敏感系数同时扰动的协调机制,考虑了线性数量折扣契约对供应链的协调作用。研究表明,当三因素同时发生扰动后, 集权式供应链中线性数量折扣契约可以协调供应链,而在分散式供应链中,原来的协调契约不具有鲁棒性,制造商只有采用新的线性数量折扣契约,分散式供应链才能实现协调。 最后用一个算例验证了结论。

关键词： 扰动管理　多因素扰动　线性数量折扣契约　博弈论　供应链管理

Abstract： The paper investigates the coordination mechanism for a supply chain with one manufacture and two competing retailers when the product cost, market demand and price sensitive coefficient are disrupted simultaneously under the Bertrand game. We analyze how the linear quantity discount contract may take its effect to coordinate the supply chain. The study shows that the concentrated supply chain can be coordinated by linear quantity discount contract after the three factors disrupted simultaneously, and the study also shows the original coordination mechanism has no longer robustness to the decentralized supply chain. The decentralized supply chain can be coordinated only when the manufacture adopts a new linear quantity discount contract. Finally, a numerical example is given to illustrate the findings.

Service

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