

模糊需求下 n 级供应链的收益共享契约机制研究

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Revenue Sharing Contract For n-echelon Supply Chains with Fuzzy Demand

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- 摘要
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摘要 在模糊需求环境下,研究 n 级供应链系统的收益共享契约机制。将市场需求视为模糊变量,通过模糊截集理论建立了模糊需求下 n 级供应链的分散决策模型、集中决策模型以及收益共享契约机制模型,并给出了各模型中的最优策略。研究表明:零售商的产品最优订购量处于模糊需求中心点的左侧还是右侧,取决于产品零售价格和单位产品成本,并且随着零售价格的增加而提高;单位产品批发价格并不随着零售价格的变化而改变;供应链各成员的最优模糊期望利润随着零售价格的增加而增加。最后通过数值算例对模型进行了分析。

关键词: 供应链 收益共享 模糊需求 三角模糊数

Abstract: The revenue sharing contract mechanism for n -echelon supply chains in fuzzy demand environment is researched in this paper. The models of decentralized decision, centralized decision and revenue sharing contract are built by the method of fuzzy cut sets theory, and their optimal policies are also proposed. It is shown that the optimal order quantity of retailer locating in left or right side of the center of the fuzzy demand, is affected with the changing of the retail price and the unit cost. The optimal order quantity also increases with the raise of the retail price. The wholesale price does not vary with the changing of the retail price. The optimal fuzzy expected profits for the actors in supply chain increase with increasing of the retail price. Finally, a numerical example is given to illustrate and validate the models and conclusions.

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