

救灾供应链采购策略及契约协调机制研究

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Research of Purchasing Strategy Coordination on Reliefsupply Chain

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摘要 在救灾物资管理中,购买方在物资采购策略上常陷入两难的境地。从零售商处即时采购物资虽然可以减少库存成本,但物资单价高。从生产商处预先采购物资虽然物资单价低,但会面临风险损失。为解决这一问题,本文将供应链管理引入救灾物资管理体系中,将其视为一个单购买方、单供应方的供应链系统。本研究给出了,带期权契约机制的生产商采购策略中的救灾物资供应链整体期望利润,大于带退货机制的零售商采购策略中的救灾物资供应链总体期望利润的存在条件。在该存在条件满足的情况下,期权契约机制可以协调救灾物资供应链并达到Pareto均衡。此外在考虑了风险水平和风险偏好的情况下,提出了一种基于Nash讨价还价模型的效用函数,以确定能够被供应和购买双方同时接受的期权契约。

关键词: 救灾供应链 契约协调 退货机制 回购契约 期权契约

Abstract: In relief material management, the purchaser is wrestling with a dilemma in purchase strategy. Reactive purchasing from supermarket implies zero inventory cost but the unit price is high. Proactive purchasing from manufactory is in risk of loss but the unit price is low. By introducing the methodology on supply chain management into relief material management, the supply chain system of a single-purchaser and single-supplier is considered. The research gives out the condition under which, compared with purchasing from supermarket with return policy, proactive purchasing relief material from manufactory with option contract can coordinate the relief material supply chain and achieve Pareto-improvement as well. Moreover, by considering the risk level and risk performance, the profit distribution with an option contract which is acceptable for both the supplier and the purchaser is proposed.

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