

## VMI 模式下考虑促销努力的销量回扣契约模型研究

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## Research on Sales Rebate Contract with Promotional Effort in VMI

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**摘要** 本文在促销努力影响市场需求,单周期季节性产品销售环境下,分析了集中式供应链和供应商管理库存(VMI)供应链中的供应商供货量和零售商促销努力水平的决策问题。在无契约VMI供应链中引入滞销产品补贴的销量回扣契约,讨论了零售商参与合作的条件,结论表明该契约能够提高VMI供应链的绩效并改善其收益;而VMI供应链中的成员采用改进的销量回扣契约进行协调时,有可能实现集中式供应链的最优收益。最后,通过算例验证了引入滞销产品补贴的销量回扣契约能增加供应商供货量和零售商促销努力水平,大幅度地提升VMI供应链的总收益。

**关键词:** 供应商管理库存 销量回扣契约 促销努力 滞销补贴 供应链协调

**Abstract:** The optimal promotional effort and supply quantity of the center control mode and VMI mode are analyzed in a single-period supply chain facing stochastic effort dependent demand. Then, a sales rebate contract model with retailer's paying the supplier a surplus subsidy for the products that are not sold out is established in VMI. Whether the retailer pays the surplus subsidy to take part in the sales rebate contract or not is also analyzed and that the contract can improve the supply chain revenue is shown. Furthermore, the contract is modified to be possible to realize the optimal revenue in supply chain. Finally, a numerical example is presented to illustrate that the sales rebate contract can increase supply quantity and promotional effort and significantly improve supply chain revenue.

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