论文

面临汇率和供应风险的双渠道采购决策研究

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Dual Sourcing Decisions under Exchange Rate and Supply Risks

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摘要 多渠道采购是制造商降低采购风险的有效手段之一。本文考虑一个制造商向两个供应商进行联合采购的最优决策问题。其中本土(国内)供应商价格稳定,但供应不可靠;母国(国外)供应商供应可靠,但实际价格受汇率波动影响。本文研究了制造商在风险厌恶情形下的最优联合采购决策,并与风险中性情形进行了比较。研究表明,风险中性制造商只会向一个供应商采购;而风险厌恶制造商的采购决策会受到供应可靠性、汇率的波动以及两者相关关系的影响。具体来说,当产品合格率和汇率相对独立时,风险厌恶的制造商倾向于单渠道采购;当合格率和汇率相关时则可能选择双渠道采购以分散风险。数值实验表明,双渠道采购可以有效降低制造商的损失风险。

关键词： 采购管理 风险管理 风险厌恶 汇率波动 供应可靠性

Abstract： Dual sourcing is an effective way for procurement risk diversification. This paper considers a risk-averse manufacturer that faces two sourcing alternatives: a domestic supplier that is unreliable, and a supplier in the manufacturer's home country that is fully reliable, and actual price of components is affected by fluctuated exchange rate. The joint optimal procurement decision for the risk-averse manufacturer is developed and is compared with the situation of risk neutrality. Modeling analysis shows that the risk-neutral manufacturer only places order to single supplier. The risk-averse manufacturer, however, is influenced by the fluctuations of both exchange rate and supply and their correlation. When the reliability and exchange rate correlates, it may procure from both sources so as to reduce risk. Results from numerical study show that dual sourcing can lower the loss risk.

引用本文:

温源, 肖勇波 .面临汇率和供应风险的双渠道采购决策研究[J] 中国管理科学, 2013,V21(4): 35-43

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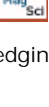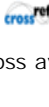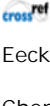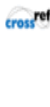
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