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**Effect of risk attitude on outsourcing leadership preferences with demand uncertainty.** (English) [Zbl 1398.90066](#)

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**Summary:** To maintain the competence, an increasing number of original equipment manufacturers (OEMs) outsource their production manufacturing to contract manufacturers (CMs). While the outsourcing strategy benefits the manufacturers greatly, it also brings huge risk derived from uncertain environment, which may directly affect the supply chain members' competitive profits and then, their leadership preferences in competition. To address this problem, this paper considers a model in which an OEM outsources its production partly to a competitive CM (CCM), who also sells her own products; moreover, they hold different risk attitudes toward the uncertain demand, characterized by the confidence level in the framework of uncertainty theory. Based on the framework, to explore the OEM's and the CCM's leadership preferences, we derive and compare the simultaneous game, the OEM-as-leader game and the CCM-as-leader game. We present an interesting insight that, with a high wholesale price, the leadership position is more attractive for a relatively risk-aversion OEM and a relatively risk-loving CCM, which demonstrates contrary effects of both one's risk attitudes. Furthermore, we also find that both the OEM and the CCM would like to play the leadership when both the wholesale price and the outsourcing rate to the CCM is relatively low. However, in the case of a relatively high outsourcing rate and wholesale price, both parties would like to compromise to move last rather than sticking on moving first.

**MSC:**

[90B50](#) Management decision making, including multiple objectives  
[91B30](#) Risk theory, insurance (MSC2010)

Cited in **2** Documents

**Keywords:**

[operation outsourcing](#); [quantity leadership](#); [risk attitude](#); [confidence level](#); [uncertainty environment](#)

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