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Cooperative strategies for sustainability in a decentralized supply chain with competing suppliers

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Abstract

In today's global market, organizations increasingly recognize that they must address the issue of sustainability in their operations. In addition, the decision-making processes surrounding sustainable supply chain management are raising a wide range of theories and claims about how best to address the issue. In this study, mathematical modeling is used to analyze managerial decision-making in terms of improving sustainability in a decentralized supply chain with two competing suppliers. Firstly, the concept of managerial decision-making for competing suppliers is introduced. Next, the mechanism used in the selection of cooperative strategies is described, and the decisions related to demand, energy efficiency and profits are analyzed in different scenarios of cooperative strategy combinations. Also, lump sum transfer contracts are designed for supply chain coordination. An experimental test of an automobile supply chain in China illustrates the impacts of competition intensity on profits, the energy

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