Cheng, Hongya; Meng, Lijun; Hu, Yuqing; Huang, Zuqing
Research on CLSC decision of dual-channel remanufacturing considering power structure and brand advantage. (Chinese. English summary) [Zbl 07448836]

Summary: This paper aims to explore the decision-making problem of dual channel remanufacturing under different power structure and brand advantages. A closed loop supply chain (CLSC) system for simultaneous remanufacturing by original equipment manufacturers (OEM) and third party remanufacturers (TPR) is constructed. The decision models of centralized decision (C), manufacturer-led (MS) and retailer-led (RS) are studied by game theory. The results show that: the change of power structure will not affect the retail price of products, but will affect the wholesale price, and the dominant members can always get higher profits; the reduction of brand advantage will weaken the market competitiveness of OEM and lead to the loss of profits, but it is conducive to the improvement of the total profits of retailers and CLSC, and not always conducive to the increase of TPR profits; CLSC under Model C has the highest benefit and the most conducive to consumer purchases, OEM should actively maintain and enhance its brand influence, so as to restrain the market run and share occupation caused by the appearance of similar remanufactured products. Finally, through the improved profit sharing contract, the profits of all parties under decentralized decision-making are increased, and the total profit of CLSC also reaches the total profit level of centralized decision-making.

MSC:
90B50 Management decision making, including multiple objectives
91A80 Applications of game theory

Keywords:
power structure; remanufacturing; brand advantage; heterogeneous demand; game theory