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Decisions of e-commerce supply chain under consumer returns and different power structures. (English) Zbl 1459.90008

Summary: Considering the growing phenomenon of consumer returns and channel power struggles in e-commerce supply chains (ESCs), the ESC model is constructed and its equilibrium solutions are calculated and compared. Further, the consumer utility function is constructed to explore the impact of returns and dominant enterprises on consumer utility. Based on this, the “return cost-sharing and commission readjusting” contract is designed to maximize both ESC and consumer utility. Finally, the paper validates and further analyzes conclusions through numerical simulation. The main conclusions are as follows: higher return rates and return handling costs will reduce market demand and ESC profits, while higher salvage value of returned products will have a positive impact on ESC, but the above factors will not affect the online service level under decentralized decisions. The impact of consumer’s service quality preferences on manufacturer’s profits and e-commerce platform’s profit is determined by channel power structure. The impact of return rate on consumer utility depends on two factors: the decision-making model and the hidden cost of consumer returns.

MSC:
90B05 Inventory, storage, reservoirs
90B06 Transportation, logistics and supply chain management
91B42 Consumer behavior, demand theory

Full Text: DOI

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