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**Dynamic game research on dual-channel supply chain of manufacturers' quality input competition and cooperation.** (Chinese. English summary) [Zbl 07267362](#)

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Summary: For the dual-channel supply chain with different quality inputs and service inputs, this paper mainly studies the optimal equilibrium decision-making problem of its members. A two-level dual-channel supply chain decision-making model consisting of two manufacturers and one retailer was constructed. The differential game was used to determine the optimal equilibrium decision and profit of each member under the two models of manufacturer competition and cooperation, and the quality was emphasized. The impact of the three key parameters (input coefficient, service competition coefficient and traditional channel market share) on them was discussed. The model is simulated with an example. The results show that the retailer's profit increases with the increase of traditional channel market share, quality investment competition and service competition under the competition model, but the profit under the cooperation model has nothing to do with service competition; when manufacturers cooperate, the sum of their profits increases, and the ratio of the profit margins of the two manufacturers in the two channels is within a certain range; the two manufacturers will have a willingness to cooperate, but the profits of the retailers will decrease. The research can provide support and reference for the optimal equilibrium decision of each member company.

**MSC:**

- [91A25](#) Dynamic games
- [91A23](#) Differential games (aspects of game theory)
- [90B06](#) Transportation, logistics and supply chain management

**Keywords:**

manufacturer competition and cooperation; quality input; differential game; dual channel supply chain