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A STUDY ON GREEN INNOVATION BEHAVIOR OF ELDERCARE PRODUCTS SUPPLY CHAIN BASED ON THE PERSPECTIVE OF “COST-SHARING-REVENUE-SHARING” CONTRACT

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Abstract

The purpose of this study was to investigate the coordination of the eldercare products supply chain and the promotion of synergistic innovation among enterprises using a "cost-sharing-revenue-sharing" contract framework. Adopting an evolutionary game theory approach, the research analyzed the strategic interactions between suppliers and manufacturers, highlighting how cost and revenue dynamics influence green innovation strategies. The findings revealed that: 1) the costs and revenues of green innovation significantly affect enterprises' strategic decisions; 2) higher cost-sharing ratios can incentivize green innovation by reducing the financial burden on participants; 3) an increase in revenue-sharing ratios discourages green innovation by diminishing the direct financial rewards for innovators; and 4) enhancing synergistic innovation revenues fosters collaborative efforts and accelerates the adoption of green innovation strategies across the supply chain. Numerical simulations validated the model's effectiveness, providing insights into the stability of different equilibrium states under varying parameter conditions. This study contributes to the literature on sustainable supply chain management by offering theoretical and practical implications for designing effective contractual mechanisms to overcome barriers to green innovation. These findings provide a valuable theoretical basis and actionable insights for policymakers and practitioners aiming to promote sustainable development in the eldercare industry.

Key words: cost-sharing-revenue-sharing contract, eldercare products supply chain, enterprises, green innovation

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