The Performance Evaluation and Resilience Analysis of Supply Chain Based on Logistics Network

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Abstract	With the development of globalization, more and more enterprises are involved in the supply chain network with increasingly complex structure. In this paper, enterprises and relations in the logistics network are abstracted as nodes and edges of the complex network. A graph model for a supply chain network to specified industry is constructed, and the Neo4j graph database is employed to store the graph data. This paper uses the theoretical research tool of complex network to model and analyze the supply chain, and designs a supply chain network evaluation system which include static and dynamic measurement indexes according to the statistical characteristics of complex network. In this paper both the static and dynamic resilience characteristics of the the constructed supply chain network are evaluated from the perspective of complex network. The numeric experimental simulations are conducted for validation. This research has practical and theoretical significance for enterprises to make strategies to improve the anti-risk capability of supply chain network based on logistics network information.
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