Process Graph Theory for Multi-product Supply Network

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Supply network modeling normally involves a large scale and is often highly complex to be defined. Existing methods such as mixed integer linear programming solve the problems of simple decision or of moderate scale, but cannot manage the large scale realistic problems. In this study, the Process graph is studied for its application to multi-product supply network modeling. The proposed approach provides optimal and alternative feasible solutions by eliminating the infeasible structures in advance to the actual calculation. Moreover, the resulting graphical representation endows visibility to the networks in the changing business environment.
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