Keywords: Supply Chain System, Fuzzy Set Theory, Fuzzy PERT, Lead Time

Under the pressure of the globalizational competition, the enterprise must increase the ability for developing high-quality products speedily and diversely to satisfy the requirements of customers. Hence, the ability and speed for responding the market fluctuation are key factors to raise the competition of business. However, the statuses of operational flows of supply chain system are often lack of transparency. Each member of supply chain system can not control the operation time exactly. It will affect the management of the supply chain system.

Furthermore, we can clearly define each member's crash cost according to the crash time to shorten the operation time and adjust the resource of the critical members. According to the analysis result of the proposed model, the members of a supply chain system will strengthen the cooperation and trust to share the cost and profit.

In this study, the authors propose a process decision analysis model for supply chain system to evaluate the completion time and the performance of the supply chain system. Combining the Fuzzy Set Theory (FST) with the Program Evaluation and Review Technique (PERT), we propose a process decision analysis model for supply chain system to evaluate the completion time and the performance of the supply chain system.


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