

A multi-objective approach to supply chain risk management: improving visibility with quality

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Abstract

This paper investigates the effect of supply chain visibility, quality (SCVQ) on supply chain performance. Operationally, SCV has been linked to the capability of sharing timely and accurate information on exogenous demand, quantity and location of inventory, transport related cost, and other logistics activities throughout an entire supply chain. Hence, our model incorporates the objectives of SCVQ maximization, SCR minimization, and cost minimization under the constraints of budget, customer demand, production capacity, and supply availability. A numerical example is used to demonstrate the applicability of the model. Our results suggest that decision makers tend to mitigate SCR first then enhance SCV.

Key words: supply chain-multi objective-visibility-quality

1. Introduction:

Risk management of supply chain is defined as an activity management to recognize and manage the risks for supply chain by cooperation approach among supply members for decreasing chain damaging. Risk management of supply chain, as a process for directing and controlling the whole enter steps in creating, forming risk controls is applied in chains and also help every member if chains that control and manage their own input and output expense or charge. Supply chain management is as an art and science that improves the required raw material finding way of companies to

product or serve. Therefore supply chain management is represented as an integrated process of supply chain and also the related information process by improving and integrating activities in producing supply chain and spreading products or goods (IBM, ۲۰۰۸). Although we initially took the traditional approach of literature review, i.e., examining the research output, the fact that SCRM is still at a nascent stage made it more appealing to conduct a field research study of researchers in this area. As articulated by Eisenhardt (۱۹۸۹) and Yin (۲۰۰۳). Today's e-world has led to an information explosion from the countless data sources that appear