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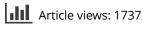
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EDITORIAL

Risk issues in operations: methods and tools

Risk management is an expanding field, growing beyond the rich work done in finance and insurance to include accounting, especially in the form of COSO (Committee of Sponsoring Organizations process for auditing control) and Basel II (European counterpart to COSO) – regulations and procedures designed to enhance top executive responsibility to stockholders. In addition to these initiatives, there has been a growing concern with aspects of risk in information systems, emergency management and supply chain management. We discuss various risk issues from the perspective of operations in this special issue of *Production Planning & Control*.

Keywords: risk; operations management; supply chain; model

We are very pleased to see this special issue of *Production Planning & Control* on 'Risk issues in operations: methods and tools'. Over the past decade, risk issues in operations such as supply chain and banking operations have attracted a great deal of attention from both researchers and practitioners. Risk refers to the uncertain change of the future value of an entity of interests (Wu and Koenig 2008). Traditionally, risks are tied to the loss resulted from the change of a risky event (Baranoff 2004, Drew 2007).

Risk management is an expanding field, growing beyond the rich work done in finance and insurance to include accounting, especially in the form of COSO (Committee of Sponsoring Organizations process for auditing control) and Basel II (European counterpart to COSO) – regulations and procedures designed to enhance top executive responsibility to stockholders. In addition to these initiatives, there has been a growing concern with aspects of risk in information systems, emergency management and supply chain management (Olson and Wu 2007, Wu and Olson 2008a). Risk management can be used as a tool for greater rewards, and not just to control against loss (Wu and Olson 2008b).

Complexity and uncertainty in many practical problems require new methods and tools. This special issue called for papers in the areas of risk management models and tools to aid in performance analysis, operations management and other aspects of risk management in the broad perspective. We have collected seven very useful papers addressing various aspects of these important issues.

Liu, Tian, Sun and Wu model competitive aspects of competing distribution channels, focusing on retailer motivation to provide high service. The model was used to show external competition and information symmetry as important factors within supply chains. The results have been used by a large Chinese consumer electronics corporation.

Xie, Liu, Peng, Chen and Chen consider the potential of developing technology to aid in risk control within supply chain participants. Label-card management is proposed as a means for small business enterprises to control risk. The approach is defined, and a risk-evaluation process presented and justified. The approach was demonstrated using an empirical study of an automotive parts manufacturer in China. Label-card management offers a promising approach for smaller firms to apply risk management.

Yang, Xiao and Shen present a theoretical supply chain model based on economic order quantity equilibrium. The effect of risk sensitivity is examined, and managerial insights are offered.

Stefansson, Jensson and Shah present a heuristical procedure involving optimisation models for a maketo-order production system. Risk factors in that environment are developed, and a systematic approach described to aid planning and scheduling in this environment involving high levels of uncertainty. The procedure has been applied in real environments with positive results.

Oehmen and co-workers in their article 'Systemoriented supply chain risk management' consider the many risks involved in contemporary global supply chains. A risk structure model provides a means to analyse supply chain risk causes and effects. A supply chain risk dynamics model allows more detailed analysis. These two models are demonstrated in a case study involving three companies.

Wu and Olson present the concept of business risk scorecards as a means for risk management.

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The approach is demonstrated with data from a bank loan application process based upon real data. This article has also expanded the traditional credit risk management issues to the framework of enterprise risk management.

Yang and Wu assess advanced image interactivity technology in the domain of electronic retail. The analysis is based on behavioural intentions model, considering perceived risk impact on shoppers. The model was verified through survey.

Thus this special issue includes a variety of modelling approaches to the common theme of supply chain risk management, an area that has become one of major importance in twenty-first-century business.

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