



Call for Papers - Special Issue on "Role of Flexibility in Supply Chain Design and Modeling"

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Manufacturers face uncertain demand for quantity and variety of products. Enterprise-level flexibility is an often-considered strategy to deal with uncertainty and enables varying production volume and switching from production of one product to another at a low cost. In industries with limited short-term flexibility such as the automotive industry, commitment to adopting the flexibility strategy is a strategic-long term decision. Among some of the key commitments are strategic capacity planning and adoption of manufacturing technologies and product design that enable flexible operations. The primary challenge in strategic planning for flexibility is to identify appropriate enablers of flexibility in order to determine the level of flexibility needed to cope with uncertainty and to provide the basis for operational implementation of flexibility requirements. Additionally, flexibility requirements at the enterprise need to be balanced with supply and distribution tiers of the supply chain. These issues must be addressed with respect to various factors characterizing the decision-making environment, e.g., suppliers unable to meet demand increases, delivery route breakdowns and biased customer demand forecasts. These issues have not been adequately addressed in published research because the developed models are limited in scope and size having not covered the entire supply chain, thereby preventing efficient analysis of realistic problems and decision-making scenarios.

The objective of this special issue is to publish articles that investigate the problem of planning and operating flexible supply chains facing demand, supply and other types of uncertainty. Original contributions that shed light on issues such as, (a) determining which decision-making criteria influence flexibility and robustness of supply chains, (b) identifying appropriate enablers of flexibility with focus jointly on various types of flexibility, (c) ascertaining the level of flexibility required to cope with uncertainty, and, (d) mathematically model, analyze, and evaluate various phenomena contributing to flexibility in this environment. The goal is to publish articles that discuss how to determine the value of flexibility in a supply chain through elaboration of models of flexibility evaluation, supplemented by methods for application, modification, and solving these models.

Topics include but are not limited to investigating the impact of various types of flexibility and the associated environment on supply chain design and modeling:

- Enterprise-wide manufacturing flexibility
- Product-mix flexibility and volume flexibility
- Design flexibility, network flexibility and configuration flexibility
- Process flexibility, technology flexibility and scheduling, routing and transportation flexibility
- Hybrid (or mixed) flexibility
- Flexibility and product-variety
- Flexible supply chains
- Flexibility metrics for supply chains
- Quantitative and qualitative models for design and analysis of flexible systems
- Manufacturing and supply chain technologies for implementing flexible systems
- Applied studies of flexible systems

Authors should submit their paper via EES <http://www.ees.elsevier.com/omega/> and indicate in the title “Special Issue: Role of Flexibility in Supply Chain Design and Modeling”

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Refereeing and the selection of papers will be carried out according to the standards of OMEGA. For details related to the page format for submission to OMEGA, please check the webpage: <http://www.omegajournal.org/authors.html>.

The submission deadline is March 31, 2007.

The Special Issue is scheduled for publication in late 2008.