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## **Editorial**

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### **Guest Editors**

#### **Abdelaziz Bouras, Yacine Ouzrout and Nickolas Sapidis**

**Biographical notes:** Nickolas Sapidis is an Associate Professor with the Department of Product and Systems Design Engineering of the University of the Aegean, in Greece. He received his PhD in Mechanical and Aerospace Science from the University of Rochester in 1993. N. Sapidis' research focuses on Computer-Aided Design and Engineering and Geometric Modeling. He is the author of more than 40 papers on geometric modelling, finite-element meshing, and International Journal of Product Development (IJPD).

Abdelaziz Bouras is currently a Professor at Lumière Lyon University where he is leading the Supply Chain Group since 2000 and heading the CERRAL R&D Centre of the IUT Technology Institute of the university.

Yacine Ouzrout is an Associate Professor at Lumière Lyon University. He is currently working on simulation models for supply chain, using multi-agent approaches within some research projects as COPILOTES and the PLATON French-Greek integrated project.

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### **Introduction**

The field of Supply Chain Management is an important source of technology for design, management and use of information systems for decision support. Much of the interest in this field can be attributed to the need for software tools to improve data management and analysis given the large amounts of information circulating between Supply Chain partners.

However, it is obvious that technology has social consequences: collaborating and sharing of data within Supply Chain, challenges existing processes and culture. For this reason, the success of this technology heavily depends upon the willingness of the organisation to accept change and especially, on the people who must form inter-organisational and cross-functional teams to collaboratively develop and manage products, processes, etc.

This issue presents a group of papers dealing with Information Technology in Supply Chains, specifically chosen to be of particular interest to management students. All these papers examine different aspects of the use of the Information Technology for integration and cooperation and, provide fundamental theories, tools and methods, to organise, manage, apply, share and reuse Supply Chain data and knowledge effectively. Some of these papers drew attention on the fact that a successful strategy requires a deep appreciation of customer needs and wants, and on how to leverage resources to fulfil opportunities.

The paper by B. Bilgen and I. Ozkarahan reviews recent research on Supply Chain Management based on a novel classification scheme identifying the principal solution methodology and model, underlying each contribution (metaheuristic-based models, Information Technology (IT)-driven models, hybrid-based models, etc). This paper also offers a critical evaluation of past review publications as well as a list of promising subjects for research.

The second paper, written by J. Coleman *et al.* argues for a Supply Chain where upstream synchronisation is improved, using primary demand to calculate second and third-tier component requirements. This synchronisation is achieved through increased information transparency, using scorecard measures and internet technologies to share information throughout the supply system. Hence the term 'Glass pipeline' has been used as a label for the proposed model.

The work of N.R.S. Raghavan *et al.* relates to the well known 'bullwhip effect' suggesting that, demand variability increases along the upstream direction of the Supply Chain. The authors focus on understanding this phenomenon and propose the use of a web-implementation of the standard 'beer game'. This implementation is detailed and demonstrated in the paper.

K.L. Choy *et al.* show how companies with no common Information Technology infrastructures can access common data warehouse to select preferred suppliers during new product development. They use a case study particularly to discuss a Supplier Relationship Management module of a server-based enterprise collaborative management system, using Enterprise Application Integration (EAI) technology for trial implementation.

The paper of P. Ho *et al.* studies XML-based business-to-business integration and identifies the critical problem of incompatible XML flavours among commercial systems. The remedy proposed is a generic 'XML hub architecture', based on standard web technologies. A prototype implementation for the aerospace industry is presented, manifesting the robustness of the proposed solution for multi-platform environments.

L-F. Hsieh presents a study providing empirical evidence that the partner's commitment, coordination and information sharing are positively related to a long-term partnership. In this case, the progress in Information Technology significantly upgrades both, the intensity and efficiency of information sharing.

The contribution of G. Neubert *et al.* is devoted to the identification of tools and methods used for collaborative works in the Supply Chain and focuses on some of its areas, as between a company and its suppliers (i.e., inventory sharing) and its customers (i.e., customer demand, forecasting), and also the integration of product information in the value chain.

The final paper by S. Abukhader and G. Jönson, is devoted to e-commerce and greening Supply Chains. They discuss the influence of e-commerce on the processes of Supply Chain, and more generally the environmental effects of e-commerce. E-commerce is considered through different points of view as processes, decision-strategies, and technology.

Altogether, the presented papers describe interesting applications and solutions in Supply Chain field, as well as innovative directions for future research in this area.

The Guest Editors would like to thank all the authors for submitting their papers to this special issue and the reviewers for their valuable comments and contribution to this special issue.