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## Editorial

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**Biographical notes:** Dr S.C. Lenny Koh, was a Deputy Director of MBA in EcoBusiness, is a Senior Lecturer in Operations Management at the University of Sheffield, Management School, UK, and the Director of the Logistics and Supply Chain Management Research Group. Her research interests are in the areas of enterprise resource planning (ERP), uncertainty management, modern operations management, logistics and supply chain management, e-business, and e-organisations. She has published widely in various international and national academic journals and conferences. She is the Editor of the *International Journal of Enterprise Network Management*, Associate Editor of the *International Journal of Operational Research*, an editorial board member of the *International Journal of Logistics Systems and Management* and *Benchmarking: An International Journal*, serves as a chair and on the board of committee of various international conferences, and a referee for several international journals in these disciplines.

Dr Ken Platts is Reader in Manufacturing, and Head of the Centre for Strategy and Performance at the University of Cambridge. He is a fellow and Director of Studies in Engineering at Fitzwilliam College, Cambridge. Dr Platts graduated with a first degree in engineering from Cambridge in 1973 and spent the early part of his career working in manufacturing engineering and manufacturing management. Following a Fellowship in Manufacturing Management at Cranfield University, he joined TI Group as a consultant in Manufacturing Engineering and Management, and then went on to head the Computer Aided Manufacturing Group at TI Research labs. He returned to Cambridge in 1988, completing a PhD in Manufacturing Strategy, and initiating process based research in manufacturing management. This research has a particular emphasis on delivering methodologies which are directly applicable within industry. Dr Platts has published widely in the field, and sits on the Editorial Board of several journals.

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This Special Issue of *International Journal of Risk Assessment and Management (IJRAM)* on Uncertainty Management for Supply Chain Competitiveness covers recent research and developments in uncertainty management for supply chain competitiveness. It addresses theory building, theory testing and reports case studies and experience of best practice.

Outsourcing, for example, to Eastern Europe and Asia, has resulted in an increased number of suppliers in a supply chain for enterprises in the West. The imposition of a new set of political, economic, social, environmental and cultural rules and policies between the outsourced enterprise and the outsourcer triggers more uncertainties in a supply chain. To compete in such a complex supply chain, both the outsourced enterprise and the outsourcer are encouraged to collaborate to meet customers' satisfaction.

The collaboration between partners in a supply chain requires understanding and mutual benefits to be exploited. One way of doing this is to collectively manage uncertainties in a supply chain in order to control its bullwhip effects. Literature shows various means of uncertainty management techniques, but these are mainly rooted in decision science theory in the context of the optimisation of the use of buffering or dampening techniques. This type of approach hides the effects of uncertainty rather than tackling the underlying causes.

This Special Issue contains five papers discussing a range of techniques for managing uncertainty in various supply chains. It consists of contributions from Australia, Canada, Denmark, Greece, Hong Kong and the UK. A mix of theory building and empirical study papers that have strong relevance to practical manufacturing and logistics industries are presented.

Wong, El-Beheiry, Johansen and Hvolby in their paper, *'The implications of information sharing on bullwhip effects in a toy supply chain'* compares actual bullwhip effects provided by retailers who share, and retailers who do not share, downstream demand information in a three-level (divergent) toy supply chain. Their simulation study shows that the toy supply chain analysed faces high forecast errors and bullwhip effects due to unpredictable and seasonal demands. The results indicate a reduction of the bullwhip effect and an improvement of fill rate due to the increase of retailers who share downstream demand information. This paper addresses two main causes of bullwhip effect in the toy supply chain: supply variability and the limited use of shared demand information. To reduce the bullwhip effect, two solutions using the shared information are tested: a proposed premature replenishment mechanism and a simple forecast updating mechanism. Both solutions have proved capable of reducing the bullwhip effects of the toy supply chain even without coordination between the toy manufacturer and the retailers.

The paper, *'Managing uncertainty in logistics service supply chain'*, by Choy, So, Lau, Kwok and Leung notes that many third party logistics (3PL) providers in South China are small and medium-sized companies and lack a system for handling information. Uncertainties are created in the business processes due to insufficient information for decision making. In their study, a logistics information system called Integrated Logistics Information Management System (ILIMS) is proposed. It aims to manage the information flow efficiently between the parties involved in the logistics supply chain through integrating business processes and increasing information transparency to reduce uncertainty. In addition, it provides an effective channel for the 3PL providers to communicate with different contracted suppliers as well as customers through wireless internet applications. A case study of applying ILIMS in a local 3PL company is discussed. By using this generic system, supply chain uncertainty associated with the logistics processes can be reduced and lead to a significant performance improvement in the overall order fulfilment process.

Kotsifaki, Dimitriadis, Ketikidis and Misopoulos in their paper, *'The value of logistics strategic planning: Current status and future prospects in Greek companies'* explores and

evaluates the use of logistics strategic planning in Greek companies. They argue that although the importance of logistics strategic planning is evident, not all companies approach this issue with the same sensitivity. Their study identifies major logistics practices, examines the extent to which these companies use logistics as a strategic tool, and develops recommendations for the future of logistics strategic planning. A structured questionnaire was used to collect data from important Greek companies. Major findings suggest that the majority of these companies use logistics as a strategic tool at a high or intermediary level.

The paper, '*Comparison of supply chain replenishment strategies in a non-capacitated distribution system*', by Suwanruji and Enns considers inventory replenishment in a stochastic, non-capacitated, multi-echelon distribution system. Simulation is used to model Distribution Requirements Planning (DRP), reorder point and Kanban replenishment strategies. Additional experimental factors include demand seasonality, lot sizes, demand uncertainty and transit time uncertainty. Trade-off curves between inventory and delivery performance are generated. Statistical techniques, including ANOVA and regression, are then used to determine the relative dominance of the replenishment strategies by comparing the areas under the trade-off curves. Their results show the methodology developed for analysis of the results works well in identifying both main and interaction effects. DRP performance is found to be the most robust, followed by reorder point and Kanban systems, respectively.

Kara and Kayis in their paper, '*Competing on capabilities – An analysis of supply chain flexibility in Australian manufacturing industry*' argues that flexibility is a competitive weapon to cope with ever increasing and changing customer requirements and global trading to better manage uncertainties which may result in several risks in the manufacturing world. For these requirements to be fulfilled, they suggest that flexibility should be built in to the total supply chain of acquisition, processing and distribution stages. The main focus of their study is the investigation of the extent of supply chain management practices that have been adopted in the Australian manufacturing industry based on an industrial survey covering 88 manufacturers. In this paper, they formulate possible relationships between several manufacturing parameters that may involve different flexibility elements in nine cases, in order to assess weaknesses and strengths in Australian manufacturing industries. Several statistical analysis techniques are used to identify relationships as well as impediments to supply chain competitiveness.

This special issue is the result of many collaborating parties, we gratefully acknowledge the assistance provided by the Chief Editor of Inderscience, the Editor of the *International Journal of Risk Assessment and Management* and the referees who reviewed the manuscripts for this special issue.