Editorial

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Biographical notes: Dr. Felix Chan received his BSc degree with First Class Honour in Mechanical Engineering from Brighton Polytechnic (now University), UK, and obtained his PhD in Manufacturing Engineering from the Imperial College of Science and Technology, University of London, UK. He was a Research Fellow for two years in the Department of Design, Manufacture and Engineering Management, University of Strathclyde, UK. Prior to joining The University of Hong Kong in 1996, Dr. Chan was a Senior Lecturer at the School of Manufacturing and Mechanical Engineering, University of South Australia. Dr Chan is currently an Associate Professor in the Department of Industrial and Manufacturing Systems Engineering, The University of Hong Kong. His current research interests are logistics and supply chain management, distribution coordination, systems modelling and simulation, supplier selection. To date, he has published three book chapters, over 120 refereed international journal papers and 160 peer-reviewed international conference papers. He is a senior member of the Society of Manufacturing Engineers, and a chartered member of the Chartered Institute of Logistics and Transport in Hong Kong.

As industries worldwide face a new era of intensive global competition, manufacturers have been exploring innovative strategies to achieve and sustain their competitive advantages. Supply Chain Management (SCM), one such strategy, has gained tremendous attention from both researchers and practitioners since the last decade since it is held that well-designed supply chain systems not only can substantially improve efficiency and product quality, but also fully enhance customer satisfaction and profitability. Numerous papers, articles, and reports that address SCM-related topics have been published, but there is still a lack of integration between performance measurement methods and practical requirements for supply chains.

Performance measurement is a vital task in SCM because it can help to monitor the progress of materials and information flow, identify weak areas in the supply chain network, enhance workers' motivation, and strengthen accountability of managers. The methodologies of business performance measurement have been evolving for decades; numerous theories and models of measurement systems, ranging from design to implementation, have been proposed. However, the vast majority of performance measurement models have concentrated on single business organisations or on partial performance areas, for example the uni-dimensional measures. So far, a commonly accepted performance measurement method for supply chains is hardly available.

This special issue on 'Logistics and supply chain performance measurement' aims to present recent developments and applications concerning performance measurement in the logistics and supply chain networks. The papers selected for this issue comprise a cross-section of topics that reflect a variety of perspectives and disciplinary backgrounds. The topics cover review of performance measurement systems for SCM; performance benchmarking system; performance of virtual enterprises; development of integrated logistics information system; study of SCM for networked manufacturing systems; and knowledge management in SCM. I believe the six papers presented in this special issue adequately reflect these topics.

The first paper, by Chan *et al*., criticises the lack of integration between Performance Measurement Systems (PMSs) and practical requirements for supply chains. This paper sets out to discuss and review recent developments in PMSs, particularly those related to SCM, and suggests further research directions in supply chain PMSs.

The following paper, by Lau *et al.* presents a challenge in SCM, which relates to the performance benchmarking system that supports supplier selection. This paper attempts to propose a generic model for supplier selection. It focuses on the methodology to benchmark the potential suppliers and to compare performance measures based on a number of relevant criteria. The proposed system embraces the concepts of artificial neural network and genetic algorithm that is incorporated to provide essential support in decision making. To validate the feasibility of the proposed system, this paper uses existing AI tools that have been developed for selecting and benchmarking suppliers for manufacturing firms.

The third paper, by Mo *et al*., presents a study on the logistics and performance of a 'virtual enterprise' based on an actual business case. The virtual enterprise consists of Tenix Defence, Saab Systems, and the Australian Commonwealth designed to service ANZAC class frigates throughout their product lifetime. It is a dedicated supply chain framework that coordinates the service team members across company boundaries. A two-stage study demonstrated that significant changes have to be made within the supply chain operations, to adapt the system to differences stemming from the practices in the individual companies. This paper describes the study of the actual processes that occurred in the execution of the virtual enterprise, the techniques that were employed to identify the information and work flow in the supply chain as well as among the stakeholders.

The fourth paper, by Choy *et al.*, emphasises the development of integrated logistics information system for third party logistics (3PL) facilitators. In this paper, a comprehensive logistics information management platform called Integrated Logistics Information Management System (ILIMS) is described to suit their needs. It aims to efficiently integrate internal and external logistics' operations and information flow, providing 3PL facilitators a uniform and systematic means of doing business. The platform also provides an effective channel for 3PL facilitators to communicate with different trading partners without geographical restriction; this is done at a low operating cost and minimum paperwork. A case study of a local 3PL facilitator is discussed to demonstrate the application of ILIMS. By using this generic system, small- and medium-sized 3PL facilitators can enhance their daily operations, and measure not only their performance but also that of their suppliers, resulting in a performance improvement during the overall order fulfillment process.

The fifth paper, by Zhang *et al*., presents a study on the component-based framework of supply chain management for networked manufacturing system. The main aim is to provide a platform for implementing integration and coordination between enterprises in a supply chain. The multi-layer framework includes a database server layer, component server layer, kernel component layer and user interface layer. The component-based framework can be implemented with technology for components, interfaces and services as available in Web Service. Detailed function components are also designed. Component-based SCM could be a dynamic three-dimensional configuration sorted by enterprise type, manufacture type and product type.

The final paper in this special issue, by Wadhwa *et al*., proposes a Knowledge Management (KM)-based simulator to facilitate e-learning for SMEs. The dynamic KM-driven supply chain holds future competitive potential for improving business performance in industries. Dynamic supply chains can dynamically change their structure and chain partners; hence, are more complex to deal with, especially for the SMEs. This paper presents the application of a web-based simulator model that is based on Decision Knowledge Sharing (DKS) for improved business performance in supply chains. Its application across dynamic SCM networks reflects the benefits of integrating distributed local knowledge. The authors suggest that the demonstrated DKS models can help to promote collaborative knowledge sharing for business performance improvements amongst the SMEs. This paper presents one such web-based SCM simulator where different levels of knowledge may be shared for business performance benefits.

I find great pleasure to announce that this special issue has attracted great attention and responses from researchers in the area of SCM. In particular, these papers constitute state-of-the-art, research-based contributions in the field of Logistics and Supply Chain Performance Measurement. I sincerely hope you find the papers as useful and interesting as I did. I look forward to seeing another technological breakthrough in this area in the near future.