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## Editorial

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**Biographical notes:** Dr S.C.L. Koh, BEng (Hons), PhD, MIEE, MCMI, MIOM, is Deputy Director of MBA in EcoBusiness and Lecturer in Quantitative Methods and Management at the University of Sheffield, Management School, UK. Her research interests are in the areas of production planning and control (particularly in MRP, MRPII and ERP), uncertainty management, modern operations management, logistics and supply chain management, e-business, e-organisations and sustainable manufacturing. She has published widely in various international and national academic journals and conferences. She is 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. Angappa Gunasekaran is Professor of Management in the Charlton College of Business at the University of Massachusetts (North Dartmouth, USA). Previously, he has held academic positions in Canada, India, Finland, Australia and Great Britain. He has BE and ME from the University of Madras and a PhD from the Indian Institute of Technology. He teaches and conducts research in operations management and information systems. He serves on the Editorial Board of 20 journals and edits journals. He has published about 170 articles in journals, 60 articles in conference proceedings and two edited books. In addition, he has organised several conferences in the emerging areas of operations management and information systems. He has extensive editorial experience that includes the guest editor of many high profile journals. He has received outstanding paper and excellence in teaching awards. His current areas of research include supply chain management, enterprise resource planning, e-commerce, and benchmarking.

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This Special Issue of *International Journal of Business Performance Management (IJBPM)* on 'E-business in the 21st Century Environments' aims to collect recent developments and applications in e-business, and the various methods used to ensure successful implementation and operation of e-business.

The rate of competition between businesses in a 21st century environment has been accelerated by the effects of the use of Information and Communication Technology (ICT). Increasing practices of e-transactions and e-processing within and between enterprises in the supply network are reported. With the network support of the internet, intranet, and extranet, and with the technology support of e-commerce, Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), and e-business, more businesses are exploiting these network and technology to create competitive advantages.

E-business is an enabler, not a panacea. The success of e-business in enterprises or a supply network is dependent on the facilitation of effective network and technology to support the implementation and operation, and also the change of the business processes in the enterprise. To make a successful transition to e-business and/or to sustain the operation of e-business, enterprises must look at these three elements together. Past research focused independently on the above and little emphasis can be found on the integration of effective network, technology, and changes in business processes for a successful implementation and operation of e-business in 21st century environments.

This Special Issue contains seven papers discussing a range of e-related systems, tools, and models for 21st century environments. A mix of theory building and empirical study papers that have strong relevance to the practical world are available. The normal IJBPM review guidelines were followed. We provide a brief overview of the papers, which appear in this issue.

Chung and Lee, in their paper 'Enterprise information system for customer services excellence', argue that discrete company is no longer the building block of modern economy as the 'networks' are replacing it. They suggest that customer service is a part of the network enterprise and it plays a major role in the supply chain. Customer service managers are expected to process customer queries and offer solutions expeditiously. Enterprise Information System (EIS) caters for managers' needs in timely response and there is an initiative to introduce an EIS in this area. In this research, they present a framework and propose the components of an EIS model, as well as the methodology to identify KM solution and the roll out strategy, using a case study approach.

The paper 'Atomic models of closed-loop supply chain in e-business environment', by Weixin notes that sustainability has become an important issue for companies and countries as we enter the 21st Century. Several nations have mandated stringent laws for 'product take back' after the product's useful life ends, forcing companies to respond with product redesign, changes in packaging, and creative solutions to the problem of product recovery. The driving power for this is also associated with the realisation of the potential value that can be regained from reusing products, parts or materials. With e-commerce expansion, returns-related costs for companies become more prominent, because e-firms have higher return rates than their traditional counterparts. Hence, Yao argues that it is beneficial to form closed-loop supply chain by integrating forward supply chain with reverse supply chain, and analyse it in detail. This paper proposes five different atomic model of closed-loop supply chain, analyses the models using mathematical modelling, and makes comparisons between the atomic models. Such analysis and comparison have resulted in some interesting and practical insights.

Ye and Keesling, in their paper 'E-finance: the CCMP model', suggest a model that extends the e-finance framework from technology perspective and provides a basis for a more comprehensive approach to financial digitisation. The e-finance model is comprised of four components, namely digital wealth creation, digital wealth collection, digital wealth management, and digital wealth protection. The four components constitute the Create-Collect-Manage-Protect (CCMP) model. Extensions of Enterprise Application Integration (EAI) with CORBA (Common Object Request Broker Architecture) and web services are presented to demonstrate the value-added implications of a networked approach to business digitisation. The e-finance model offers a new view to broaden the present understanding of e-finance from the technology perspective and shapes the basis for strategic decision making.

The paper 'The strategic implications of electronic marketplaces: from commercial transactions to interorganisational supply chain activities', by Tran assumes that for several years, online business-to-business relations have played a key part in the way firms organise their business and their relational networks. The main issue has been the emergence of new intermediaries, which reorganise business and management process throughout the value chain. Electronic marketplaces are gradually transforming the organisational structure between firms, but have been seriously affected by a major recession consequent to the collapse of the 'New Economy'. This paper focuses on their impact on industries and provides a conceptual framework that aims to show how they affect the business and coordination process, using the automotive industry as an example.

Chan, Leung, and Chung, in their paper 'A framework of performance modelling for dynamic strategy', propose a framework of performance modelling. The current challenges of developing and implementing Performance Measurement System (PMS) in a typical production and operational environment are reviewed. Their research identifies the future operational environment and discusses its implications for the use of performance measurement system. Then, detailed analysis and discussion on how to integrate PMS with the existing operation in a way that economic benefits can be eventuated are presented. The performance modelling framework suggests the use of enterprise model to support a holistic measurement of performance. The key argument here is that every firm has a different production and operational configuration and their performance is dependent on those of suppliers or networked partners. They note that it is necessary to identify the enterprise model beforehand and use that model as the means to organise specific measurements into support operational decisions. In this way, the performance measurement can be much more relevant to the existing operations.

The paper by Fornasiero and Zangiacomi, 'Setting up e-platforms for collaboration in SME contexts', develops the methodology for setting up and for improving the competitiveness of SMEs' Virtual Enterprises (VEs) through the use of common ICT tools support. The e-MMEDIATE roadmap covers and ensures that each step is held coherently by the partners in order to be sure that the solution is the best possible. Their research shows that there is no common ICT-solution to support VE, but a common roadmap supports the process of improving VE-performance. They argue that even if there appears to be a lot of similarities during the business process modelling of different VEs, a unique set of ICT tools is not relevant because of the environments that exist in each VE. Moreover, even if more than one VE is focused on enhancing project management capability, the chosen solutions are customised for the specific contexts due

to problems of language, proximity of the provider, *etc.* SMEs have a strong process culture, which is necessary to drive their core business. ICT technologies are needed and requested to support the exchange of project and order data. In this project, the choice of ICT tools is done coherently with the sizes and features of the SMEs participating in the VEs. It is concluded that e-business applications are too expensive to be managed by SMEs and for this reason the role of trade associations for empowering the breeding environment is essential. The roadmap is a set of tools and methodologies which can be used also by other VEs of SMEs for implementing and increasing their collaborative environment in an easy way with low cost and user-friendly solutions.

Nikolopoulos, Metaxiotis, and Assimakopoulos, in their paper 'E-forecasting: challenges and opportunities', explore the challenges and opportunities arising from e-forecasting. Especially, two very fertile e-areas for possible application are discussed in detail: e-Government and Forecasting Community Portals. Traditional ways of forecasting have started to move to web-based applications. However, e-forecasting is still in early stages of implementation. Several e-forecasting services are offered from software houses that have implemented new web-enabled components for their packages. Among the many advantages that e-forecasting could bring to company and customer, it is noted that e-forecasting faces the classical disadvantages, such as security factors, user authorisation, speed of delivery, and web programming limitations.

We could not have done this by ourselves and we totally appreciate the efforts and support of all who were involved in making this special issue possible, which includes the authors, referees, chief editor of *Inderscience*, editorial staff of *International Journal of Business Performance Management* and the editor of the journal. The guest editors gratefully acknowledge the assistance provided by the chief editor of *Inderscience*, the editor of the *International Journal of Business Performance Management* and the referees who reviewed the manuscripts for this special issue.