
Editorial

A. Noorul Haq*

Department of Production Engineering,
National Institute of Technology,
Tiruchirappalli – 620 015, Tamilnadu, India
E-mail: anhaq@nitt.edu
*Corresponding author

Ivan K.W. Lai

Faculty of Management and Administration,
Macau University of Science and Technology,
Avenida Wai Long, Taipa, Macao, China
E-mail: kwlai@must.edu.mo

Biographical notes: A. Noorul Haq obtained his PhD in Manufacturing Management from the Indian Institute of Technology Delhi in 1991. He is currently working as a Professor at the National Institute of Technology, Tiruchirappalli, India. His current research interest includes logistics and supply chain management, operations management, vehicle routing, scheduling and non-traditional optimisation techniques. He has published more than 75 papers in the referred international and national journals and more than 150 papers in the international and national conference proceedings. He is the Editor-in-Chief for the *International Journal of Materials, Manufacturing and Optimisation*.

Ivan K.W. Lai is an Assistant Professor in the Faculty of Management and Administration at the Macau University of Science and Technology. He obtained his MBA (1992) from the University of Strathclyde and PhD (2003) in Business and Management from the University of South Australia. He has over 20 years of industrial experience in the logistics and supply chain management. He has published many papers on the topics of ERP, IOS and SCM. His current research focuses on internet-based IOS, extended enterprise, ERP implementation, supply chain risk management and action research in enterprise information systems.

Supply chain management (SCM) is the management of a network of interconnected businesses involved in the ultimate provision of product and service packages required by end customers. It encompasses the planning and management of all activities involved in sourcing, procurement, conversion and logistics management. It also includes the crucial components of coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers and customers. A *supply chain* is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers. Supply chains exist in both service and manufacturing organisations, although the complexity of the chain

may vary greatly from industry to industry and firm to firm. In the new millennium, the structure of supply chain is undergoing rapid transformation due to market pressures which demands higher quality and lower prices. This has led to the emergence of new paradigms in the area of SCM like collaborative relationship, logistics, outsourcing, information sharing, life cycle engineering, vehicle routing, reverse and green SCM. Keeping this in mind, this special issue seeks to highlight the research and practices on 'Advanced and innovative supply chain optimisation'.

We are very pleased to select six articles for this special issue, written by researchers and practitioners of supply chain optimisation from different parts of the world. We provide a brief overview of the papers that appear in this issue.

The first paper by Grewal, Rogers and Enns compares the reorder point and Kanban replenishment strategies and evaluates their performance under the optimal decision variable settings for each strategy. The authors developed a discrete-event simulation model to minimise the average total inventory subject to a specified minimum customer service level.

The second paper by Ashoka Varthanan, Murugan and Mohan Kumar generates an aggregate production-distribution plan for a manufacturing industry producing same family of products in different localities. The authors proposed an integer non-linear programming model and used memetic algorithm, a hybrid form of genetic algorithm and LINGO 8.0 for solving the model.

The third paper by Parthiban, Mathiyalagan, Punniyamoorthy and Dominic presents ELECTRE as a multi-criteria decision making tool for the selection of best suppliers.

In the fourth paper, Lobo compares shippers' overall satisfaction scores across their organisational characteristics such as types of company ownership, annual turnover and outward freight volume and the author provides managerial implications for operators of container shipping lines.

The fifth paper by Yang, Heragu and Evans proposes an integrated production, inventory and distribution optimisation model to minimise the total costs and the model is solved using a combination of Benders decomposition and a genetic algorithm and finally results are compared with LINGO results.

In the sixth paper, Roy and Cordery investigates the methods of improving the competitiveness of the wine production in the three most important regions of New Zealand through the application of operations and SCM tools and techniques

This special issue is beneficial to anyone who is interested in the subjects of supply chain optimisation. We hope you will find these scholarly works very interesting and useful. We hope you will enjoy reading the articles in this special issue as much as we have putting it together.

Acknowledgements

The guest editors would like to take this opportunity to thank all the authors for the time and effort they spent in writing their papers. Furthermore, the authors would like to express their heartfelt gratitude to the referees who reviewed the papers and made valuable comments for improving the quality of the manuscripts. Finally, the authors would like to gratefully acknowledge the trust and support provided by Professor Lenny S.C. Koh and Dr. Bruce C.T. Ho, in collating this special issue on 'Advanced and innovative supply chain optimisation'.