
Editorial

Milind Kumar Sharma

Department of Production and Industrial Engineering
Faculty of Engineering and Architecture
MBM Engineering College
JNV University
Jodhpur-342011, Rajasthan State, India
E-mail: milindksharma@rediffmail.com

Biographical notes: Milind Kumar Sharma has taught many subjects related to production and industrial engineering and to operations management. Prior to joining the Department of Production and Industrial Engineering at MBM Engineering College, JNV University, Jodhpur in 1998, he served in industry for four years. He has been awarded research projects under the Career Award for Young Teacher Scheme by the All India Council for Technical Education (AICTE) and the University Grants Commission (UGC), New Delhi, India. He is currently interested in researching management information systems, performance measurement, supply chain management and small business development. He is on the editorial board of two international journals and has published research papers in *Production Planning and Control*, *Computers & Industrial Engineering*, *International Journal of Productivity and Quality Management*, *Journal of Manufacturing Technology Management*, *International Journal of Globalisation and Small Business*, *International Journal of Enterprise Network Management* and *Measuring Business Excellence*. He has also reviewed research articles for a number of international journals.

I am pleased to introduce this special issue of the *International Journal of Enterprise Network Management (IJENM)* on 'The role of information systems in Small- and Medium-sized Enterprises (SMEs): the context within developing countries and economies'. The Information System (IS) is one of the earliest fields to utilise IS resources in research, education and practice. Over the years, it has become an integral part of today's business environment and manufacturing. In modern business environments characterised by ever-increasing competition and globalisation, companies have been exploiting innovative technologies and strategies to achieve sustainable competitive advantages. As an effective business philosophy, the IS has gained a significant amount of attention from both academic and practitioner communities in recent years.

The effects of ISs on the globalisation of economic activities have created opportunities as well as threats to the growth of SMEs. SMEs require an appropriate, innovative, effective design and use of IS to serve market needs. While much has been written about the theory and practice of IS generally, not much has been written about it

particularly in relation to SMEs in developing countries. The purpose of this special issue is to provide a forum for the discussion of topics relating to the IS issues, concerns and challenges faced by SMEs in developing countries.

This special issue proposes and fosters a discussion on the various issues of ISs in SMEs. SMEs cover a wide spectrum of industries and play an important role in both developed and developing economies. The adoption of new technologies and management practices by SMEs has been regarded by many academics and practitioners as a fundamental requirement to be competitive in today's business scenario, arguing that greater competitiveness of the SMEs is based on effective and faster day-to-day business performance across and within firms. For this, the management of ISs is a major force in the era of globalisation for SMEs. Studies on the adoption of ISs are relatively recent especially in developing countries. However, research reporting the impact, benefits, barriers, success and failure of ISs in SMEs is scarce. Thus, the objectives of this special issue are to establish an effective channel of communication among SMEs, practitioners, consultants, entrepreneurs, managers, academics, policymakers, government agencies, academic and research institutions and persons concerned with ISs. Another purpose is to collect and present the experiences and findings of an international research community working in this area. It further aims to bring together the current research, development and applications in improving enterprise performance.

This special issue contains seven research articles discussing a wide range of issues dealing with the ISs in SMEs. Each research article makes a unique contribution to the extant literature in the field. A brief overview of the papers that appear in this issue is provided below.

Support from the top management is vital for SMEs implementing any new technology and management plan. The management literature has suggested that the advent of Information Technology (IT) compels enterprises towards its adoption in day-to-day business operations. However, evidence supporting this proposition remains anecdotal. The paper 'Top management support and IT adoption in the Taiwanese small and medium enterprises: a strategic view' by Huang presents qualitative research that investigates top managers' perceptions of a variety of components affecting their intended support for the strategic adoption of IT for SMEs in Taiwan. The results show that the perceived strategic importance of IT-based resources is a key to top managers' decision to adopt IT. Five internal strategic factors are found to be inhibitors of top management support in IT adoption.

After the globalisation of markets, SMEs are under tremendous pressure to integrate themselves with domestic as well as global suppliers and customers to sustain their competitiveness. In this scenario, the availability of the right information at the right time is very essential for serving fast-changing market needs. Viewing this situation, the paper 'Implementation of information technology: evidence from Indian SMEs' by Singh *et al.* presents a logical and well-structured investigation to analyse different issues related to IT implementation in SMEs, such as market pressures, constraints, investment priorities and the application of IT tools in different operations, and their relationship with performance.

The increasing adoption of internet technologies in SMEs has produced remarkable interest in the quantification of the benefits of these technologies. Although a large number of IS performance measures can be found in IS and e-business literatures, what remains unclear in the literature is what measures are appropriate in a particular situation.

The paper 'The e-business performance measurement in SMEs' by Soto-Acosta proposes a framework to help guide both scholars and practitioners in the process of developing and/or selecting performance measures to gauge the effectiveness of specific e-business initiatives in SMEs. The proposed framework focuses on four dimensions: technology, unit of analysis, business process and evaluation of performance.

The paper by Bhagwat *et al.*, 'Opportunities and the spread of information and communication technologies: evidence from the Indian clusters of small- and medium-sized enterprises', examines the opportunities provided by the adoption and implementation of ICT solutions in a particular SME-intensive productive environment, the geographical cluster. First the ICT capabilities and their effects on the value-creating processes characterising a generic supply chain are analysed. Successively, the analysis is contextualised to geographical clusters in order to identify the more appropriate ICTs for clusters of SMEs. Finally, the actual ICT spread within the Indian clusters of SMEs is examined.

The enterprise network is the lifeblood of any SME with more than one site or supply chain partner in this era of globalisation. It enables access to business information and allows profitable and effective communication flows between employees in different enterprise sites. The paper 'Planning, designing and implementing an enterprise network in a developing nation' by Odinma *et al.* discusses the architecture of an enterprise network. It examines the barriers to planning, designing and implementing enterprise networks in developing nations. Successively, it also compares services between a typical city in a developing nation and one in an advanced nation and offers some valuable insights and recommendations for creating an enabling environment for the improvement of SMEs.

There are many negative effects that result from using ICTs. Some information related to IT indicates that this might be because of deliberate behaviours by the users or the differences in technological frames of reference of ICTs of two communication sides. These alternative perspectives are examined in the context of an exploratory investigation of an enterprise by Lin and Lin in their paper, 'The negative effects of using information and communication technology in a Taiwanese enterprise'. This paper examines several research questions in an exploratory and questionnaire-based investigation of instant messaging use in an enterprise where some negative effects are observed. The findings of the paper suggest that employees can adopt many measures to avoid negative effects and that both communication sides need to understand each other's technological frames of reference for using instant messaging. The occurrence of conflicts can thus be avoided from the viewpoints of these technological frames of reference.

Argyropoulou *et al.*, in their paper 'Performance drivers of ERP systems in small- and medium-sized enterprises', develop a novel framework for measuring the impact of ERP implementations in SMEs. This framework is based on the concept that success is achieved only when the organisation is capable of better performing every operation embedded within the ERP system, and when the integrated information platform can contribute to overall performance enhancements. The study focuses on key performance measures, which are linked to a previously developed model (the 'six-imperative' framework) and are relevant to the ERP implementation. The framework provides a holistic view of the performance drivers of ERP systems in SMEs and can be suggested for other industrial sectors as well.

Acknowledgements

I am most grateful to all the distinguished reviewers, who are renowned for their research and expertise in the field of information systems and operations management, for agreeing to act as reviewers and for their efforts towards timely submission of the review reports for this special issue. I would like to thank Professor Siau Ching Lenny Koh, Editor, *International Journal of Enterprise and Network Management (IJENM)*, for her excellent professional support and cooperation throughout the development of this special issue. My special thanks go to Dr. Rajat Bhagwat, Associate Professor, JNV University, Jodhpur, Rajasthan State, India for his valuable guidance and suggestions from time to time. My sincere thanks go to all the authors of this special issue for their contributions to realise this launch. Their responsiveness allowed this special issue to launch on time.