Editorial Preface

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We are overwhelmed by the response to IJEIS. This response reflects the importance of the subject of enterprise information systems in global market and enterprise environments. We have some exciting special issues forthcoming in 2006. The first two issues will feature: (i) information and knowledge based approaches to improving performance in organizations, and (ii) hard and soft modeling tools and approaches to data and information management in real life projects and systems. IJEIS encourages researchers and practitioners to share their new ideas and results in enterprise information systems design and implementation, and also share relevant technical issues related to the development of such systems.

This issue of IJEIS contains five articles dealing with an approach to evaluating ERP software within the acquisition process, uncertainty in ERP-controlled manufacturing systems, a review on IT business value research, methodologies for evaluating investment in electronic data interchange, and an ERP implementation model. An overview of the papers follows.

The first paper, A Three-Dimensional Approach in Evaluating ERP Software within the Acquisition Process is authored by Verville, Bernadas and Halingten. This paper is based on an extensive study of the evaluation process of the acquisition of an ERP software of four organizations. Three distinct process types and activities were found: vendor’s evaluation, functional evaluation, and technical evaluation. This paper provides a perspective on evaluation and sets it apart as modality for action, whose intent is to investigate and uncover by means of specific defined evaluative activities all issues pertinent to ERP software that an organization can use in its decision to acquire a solution that will meet its needs.

The use of ERP is becoming increasingly prevalent in many modern manufacturing enterprises. However, knowledge of their performance when perturbed by several significant uncertainties simultaneously is not as widespread as it should have been. Koh, Gunasekaran, Saad and Arunachalam authored Uncertainty in ERP-Controlled Manufacturing Systems. The paper presents a developmental and experimental work on modeling uncertainty within an ERP multi-product, multi-level dependent demand manufacturing planning and scheduling system in a simulation model developed using ARENA/SIMAN. To enumerate how uncertainty af-
ffects the performance of an ERP-controlled manufacturing system, the percentages of Finished Products Delivered Late and Parts Delivered Late (PDL) are measured. Sensitivity analysis shows that PDL gives a more accurate effect. Simulations results are analyzed using Analysis of Variance, which identifies four uncertainties namely late delivery from suppliers, machine breakdowns, unexpected/urgent changes to machine assignments and customer design changes significantly affect PDL. Some uncertainties are found significantly interactive in two and three-way. They produce either knock-on and/or compound effects, a factor not generally recognized as a criterion for decision-making.

Although corporations in the world, especially those in the United States, have spent generously on information technology (IT) and information systems (IS) in recent decades, empirical studies have yielded disappointingly inconsistent findings on the impact of IT investments on firm performance, and the phenomenon of the IT productivity paradox lingers on to this day. A review by Law and Ngai of literature on this subject is covered in their paper, *IT Business Value Research: A Critical Review and Research Agenda*. It points out several possible reasons underlying inconsistencies, including data and methodological problems and limitations of research models. Consequently, they proposed a process-oriented research framework to mitigate the shortcomings of prior studies. This framework incorporates improvements in business process as an independent construct in parallel to the capabilities of IT and enterprise systems. Competitive capabilities are included as an intermediate construct to conceptualize the linkage between the independent constructs and the dependent construct of organizational performance. Theories and empirical evidence are drawn from associated management disciplines such as operations management and from a resources-based view of the firm to illustrate and explain that investment in IT and business processes will eventually contribute to organizational performance through the creation and enhancement of competitive capabilities. Finally, the theoretical and managerial implications of this research framework are highlighted.

Reluctance of organizations to invest in electronic data interchange (EDI, Internet-based EDI, and XML/EDI) is largely due to their inability to assess the return on these investments. In *Methodologies for Evaluating Investment in Electronic Data Interchange*, Turong identifies prescriptive and evaluative methodologies for analyzing investment in EDI: non-financial methods, purely financial methods and financial and strategic consideration methods. The author also shows how computer simulation can be used as a tool for assessing EDI. Evaluating the benefits resulting from EDI implementation was illustrated through the well-known Beer Game. The analysis and review identify difficulties involved in assessing the benefits of EDI in supply chains.

*AcceleratedSAP* is a methodology developed for cost-effective SAP R/3 installation. Numerous project managers have adopted *AcceleratedSAP* for SAP implementation in a range of industries around the world. The Capability Maturity Model (CMM) is, similarly, a software model that improves software processes in software organizations so that software projects run successfully and deliver quality products. *AcceleratedSAP* and CMM were developed independently with completely different objectives but share two important characteristics: good engineering and good management practices. Given the high failure rates in software projects, organizations have adopted well-established software models, such as *AcceleratedSAP* and CMM. The paper, *Capability Maturity Model and SAP: Toward a Universal ERP Implementation Model* is
authored Lui and Chan. It describes how AcceleratedSAP and CMM can be aligned in terms of software project management practices. By combining their unique features, ERP managers can easily adopt CMM for ERP installation so that the advantages that can be realized through CMM KPAs (Key process Areas) and can be exploited for business process reengineering.

The editor-in-chief, associate editors, and the editorial board members invite potential authors and guest editors to forward their papers and special issue proposals in the areas of ERP systems for consideration. For more information, please visit www.idea-group.com/ijeis.

Angappa Gunasekaran is a professor of operations 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 a 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 a journal. He has published about 160 articles in journals, 60 articles in conference proceedings and two edited books. In addition, he has organized 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.