Editorial Preface

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Biographical notes: S. Parthasarathy has published research papers in refereed international journals and conferences. He has authored several chapters in edited books of IGI, USA. He is the Chief Editor for the edited book on EIS published in 2010. His textbook on ERP was published by The New Age International Publishers, India in 2007. He is the Principal Investigator for the research project on ERP funded by the UGC, India. He is a Reviewer for refereed international journals from Taylor & Francis and IEEE. His research interests are ERP and software engineering.

Maya Daneva is an Assistant Professor in the Information Systems Department, University of Twente, The Netherlands. She leads a company-university research programme on requirements engineering and architecture design for large enterprise systems projects. Prior to this, she was a Business Process Analyst in the Architecture Group of TELUS Corporation in Toronto, Canada's second largest telecommunication company, where she consulted on ERP requirements processes, architecture reuse and sizing methods for SAP projects. She also was a Researcher at the University of Saarbruecken, Germany, involved in improving process modelling methods for SAP. She authored more than 70 research and experience papers.

Welcome to the special issue on Enterprise resource planning (ERP) and IT infrastructures: a managerial and technical perspective!

The goal of this special issue of the *International Journal of Business Information Systems* (*IJBIS*) is to inform our readers on recent research studies aimed at bridging the gap between two perspectives that have been applied in relative isolation by scholars and practitioners that published research on ERP. Most of the current research addresses managerial, social, and organisational issues during ERP implementation and use. Less emphasis is being given to the technical challenges and issues during the ERP implementation itself. This issue focuses on the challenges and opportunities during the ERP implementation including both project management and technical perspective. In

line with the mission of *IJBIS*, which is to promote current research on enterprise systems and to provide a discussion forum among leading researchers and practitioners worldwide, this special issue attempts to leverage the contributions from each perspective and thus, help advance the state-of-the-art research and practice in the ERP field. Specifically, the papers included in this issue address:

1   the information technology infrastructures for ERP and its related technologies

2   the technical requirements and software engineering solutions for the ERP implementation.

This special issue of *IJBIS* contains five articles that examine a variety of ERP design, development and implementation challenges and solutions.

'Determinants of software quality in COTS products: an exploratory study' by K. Sankaran, G. Kannabiran and P.D.D. Dominic presents a case study in a leading midsize Indian software firm that provides COTS (ERP) consulting and software services globally to some large well-known companies, specifically in the context of COTS (ERP) environment. The authors explore the key organisational and socio-technical factors that impact the ERP software quality. This study reveals that requirements uncertainty, process maturity, level of communication and control, knowledge transfer and integration, presence of trained personnel and infrastructure facilities have significant impact on achieving product quality

'A decision algorithm for ERP systems alignment' by Sarra Mamoghli, Virginie Goepp and Valérie Botta-Genoulaz proposes a decision algorithm that enables companies to reason about their options when choosing the business processes to be automated by means of a selected ERP system. The paper describes the various situations of alignment and misalignment between the processes desired by the company and those embedded in the ERP solution. Each situation is mapped against a set of typical decisions that an ERP adopter would face in that situation. The algorithm that the authors put forward is to help companies identify and evaluate all possible situations that a company might go through during alignment and/or misalignment.

'A framework for engineering change management in enterprise resource planning using service-oriented architecture' by Krishna R. Reddi and Young B. Moon approaches specific communication and collaboration problems in the implementation of inter-organisational ERP systems. It proposes a service oriented architecture (SOA) based framework to identify, plan and evaluate engineering change management (ECM) actions across a supply chain. The solution approach is demonstrated in a case of a collaborative network of businesses in product development.

'Integrating business process modelling and ERP role engineering' by Nikolaos A. Panayiotou, Sotiris P. Gayialis and Nikolaos E. Evangelopoulos complements bottom-up and top-down strategies to design an approach for ERP system roles implementation. The approach is integrated into the architecture of integrated information systems (ARIS) modelling methods that support the creation of the roles and their updates and improvements on regular basis. The application of the proposed approach is demonstrated in a case study of ERP role engineering in a medium industrial company in Greece.

'ERP system implementation costs and selection factors of an implementation approach' by Bjorn Johansson, Frantisek Sudzina and Mike Newman investigates the

relationships between those factors that influence the selection of ERP implementation approach and the companies' ability to stay within budget when implementing ERPs.

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