Preface

The constantly changing landscape of Enterprise Resource Planning makes it challenging for experts and practitioners to stay apprized of the field’s most up-to-date research. That is why Business Science Reference is pleased to offer this three-volume reference collection that will empower students, researchers, and academicians with a strong understanding of critical issues within Enterprise Resource Planning by providing both broad and detailed perspectives on cutting-edge theories and developments in the field. This collection is designed to act as a single reference source on conceptual, methodological, technical, and organizational issues, as well as provide insight into emerging trends and future opportunities within the discipline.

*Enterprise Resource Planning: Concepts, Methodologies, Tools, and Applications* is organized into six distinct sections that provide comprehensive coverage of important topics. The sections are (1) Fundamental Concepts and Theories, (2) Development and Design Methodologies, (3) Utilization and Application, (4) Organizational and Social Implications, (5) Managerial Impact, and (6) Emerging Trends. The following paragraphs provide a summary of what readers may expect from this invaluable reference tool.

Section 1, “Fundamental Concepts and Theories”, introduces readers to some of the primary fields within Enterprise Resource Planning. The section begins with chapters on general considerations in ERP, including *Critical Success Factors in Enterprise Resource Planning Implementation* by Behrouz Zarei and Mina Naeli and *Measuring Utilization of ERP Systems Usage in SMEs* by Hedman Jonas and Johansson Björn, followed by investigations of open source ERP (*Key Aspects of Free and Open Source Enterprise Resource Planning Systems* by Rogerio Atem de Carvalho and Björn Johansson), workflow management (*Workflow Management Systems in Distributed Environments* by Spyridon V. Gogouvitis, Kleopatra G. Konstanteli, Dimosthenis Kyriazis, Gregory Katsaros, Tommaso Cucinotta, and Michael Boniface), and customer relationship management (*CRM for Academic Institution and Universities* by Viral Nagori), among others. These topics in particular, only a cross-section of the diverse range of applications in Enterprise Resource Planning systems, will be covered in depth throughout this three-volume reference, with later sections building on the foundations developed by these introductory chapters.

Section 2, “Development and Design Methodologies”, expands upon the contents of Section 1 by exploring particular methods of utilizing diverse organizational strategies in new and existing Enterprise Resource Planning systems. The first chapter in this section, *Customer Relationship Management (CRM) Implementation Intensity and Performance* by Bryan Soh Yuen Liew, T. Ramayah, and Jasmine Yeap Ai Leen, provides a transition from the first section through the topic of Customer Relationship Management, describing how CRM strategies can be used to maintain competitive advantage in web-hosting companies. The central chapters in this section subsequently focus on information systems and
services, the software applications that make modern Enterprise Resource Planning possible. Of note are the chapters "Evolutionary Architecting of Embedded and Enterprise Software and Systems" by Jakob Axelsson and "Architecture for Integration and Migration of Information Systems by Using SOA Services across Heterogeneous System Boundaries" by Lars Frank and Rasmus Ulslve Pedersen, both of which describe information management techniques for businesses small and large. The section concludes with a chapter on project management in online education, an application of ERP covered in Section 3.

Section 3, “Utilization and Application”, covers some of the myriad ways that Enterprise Resource Planning technologies can be applied to business, education, and governmental organizations. The first half of this section deals with the management of enterprise systems in online learning and higher education. "Adaptive Learning Cycle to Improve the Competence-Building for Enterprise Systems in Higher Education" by Dirk Peters, Liane Haak, and Jorge Marx Gómez describes the importance of integrating ERP systems in institutions of higher education, and Mediha Tezcan analyzes considerations for implementing such systems in "Cost Estimation in E-Learning Design Project Management". The remaining case studies in this section analyze the application of ERP systems in a diverse range of business environments, including John Douglas Thomson’s investigation of "E-Government Management Practice" and an exploration of the green economy in "Using ICT to Overcome Constraints in the Agriculture Value Chain" by Siegfried Kofi Debrah and Isaac Kwadwo Asare. The diversity of topics in this section effectively illustrates the versatility of Enterprise Resource Planning applications.

Section 4, “Organizational and Social Implications”, focuses on the impact of Enterprise Resource Planning implementation on businesses and organizations across various disciplines. Of particular note are the chapters on information security, such as "Security Management Issues for Open Source ERP in the NGN Environment" by Mirjana D. Stojanovic, Vladanka S. Acimovic-Raspopovic, and Slavica Bostjancic Rakas, and "Information Security Threats in ERP Enabled E-Governance" by Geetanjali Sahi and Sushila Madan. Modern ERP systems are inextricably linked with information technologies, making the security of electronic records a critical concern for managers. Similarly, internet media are an important part of CRM for successful business enterprises. In "Web 2.0 and Project Management", Antonio Carlos de Oliveira Barroso and Jair Anunciação de Azevedo discuss this principle in relation to crowdsourcing and knowledge management in successful business projects. The final chapter in this section, "Evaluating the Success of ERP Systems’ Implementation" by Ricardo Almeida and Miguel Nuno de Oliveira Teixeira bridges information security concerns with proper ERP management, providing an effective transition into the topics covered by the penultimate section.

Section 5, “Managerial Impact”, assesses strategies, techniques, and applications in one of Enterprise Resource Planning’s most impactful functional areas: project management. The first chapter, "Project Management Practices and Project Manager Traits as a Key to Successful Information Systems Implementation" by Evon M.O. Abu-Taieh, Jeihan M. Abu-Taieh, and Alia Abu-Taieh, effectively introduces the focus of this section with a discussion of best practices for project managers and leaders. "Green IT Project Management" by Nathalie Bachour and "On Predicting the Results of Applying Workflow Management in a Healthcare Context" by Bob Chermin, Ingmar Frey, Hajo Reijers, and Harm Smeets further this introduction with a discussion of workflow and project management practices in specialized contexts. A later chapter, "Managing Organizational Change" by Martin L. Bariff, explores one of the most pivotal benefits of ERP systems: assisting managers in effectively directing their organizations in adapting to market changes for greater prosperity and competitive advantage, a primary focus of this multi-volume reference’s final section.
Section 6, “Emerging Trends”, extrapolates future developments in the field of Enterprise Resource Planning from the research and information presented in the previous five sections. The chapters in this section cover innovative approaches to project management in particular, with Training of Avatar Moderator in Sliding Mode Control Environment for Virtual Project Management by Vardan Mkrttchian and Galina Stephanova and Serious Games Applied to Project Management Teaching by André Raabe, Eliana Santos, Lauriana Paludo, and Fabiane Benitti being notable examples. The movement of technologies from the physical to electronic domains is a crucial consideration in any modern business, which is why this extensive reference concludes with two seminal chapters on e-commerce—The Role of Emerging Technologies in Developing and Sustaining Diverse Suppliers in Competitive Markets by Alvin J. Williams and A Framework for Enabling Dynamic E-Business Strategies via new Enterprise Paradigms and ERP Solutions by Yi Wan, Ben Clegg, and Prasanta Kumar Dey—necessary reading for managers serious about keeping pace with the ever-changing business environment in a complex digital world.

As a comprehensive collection of research on current findings related to the development of interdisciplinary technologies, Enterprise Resource Planning: Concepts, Methodologies, Tools, and Applications provides researchers, administrators, and all audiences with a complete understanding of the latest advances, applications, and concepts in Enterprise Resource Planning. Although the primary organization of the contents in this multi-volume work is based on its six sections, offering a progression of coverage on the important concepts, methodologies, applications, social issues, administrative considerations, and emerging trends, the reader can also identify specific content by utilizing the extensive indexing system found at the end of each volume. Given the vast number of issues concerning usage, successes and failures, policies, strategies, and applications of Enterprise Resource Planning in countries around the world, Enterprise Resource Planning: Concepts, Methodologies, Tools, and Applications addresses the demand for a resource that encompasses the most pertinent research on the technologies being employed to globally bolster the knowledge and implementation of Enterprise Resource Planning.