

Preface

The contemporary state of rapid information technology (IT) development has led to the formation of a global village that has swiftly transformed business, trade and industry. It has impacted business management processes in health care delivery, data mining management in industry, and created business information systems as strategic tools to manage businesses. Information technology has led to the development of sophisticated supply chain models, and the evolution of comprehensive business information systems. Overall, the business models have changed from a traditional hierarchical control to more customers oriented via e-business models with a network of information systems.

This handbook explores the need of business information management in different contexts and sectors of businesses. The competitive environment dictates intense rivalry among the participants in the market. Similar value propositions and products coupled with broad range of choices available to the customer both in terms of delivery and product differentiation has made business information systems and its management as one of the key drivers for business success and sustainable competitive advantage.

The Handbook on Business Information Systems is divided into six major parts dealing with different aspects of information management systems in various business scenarios. A total of 37 chapters cover the vast field of business information systems, focusing particularly on developing information systems to capture and integrate information technology together with the people and their businesses. A brief introduction of each part is summarized below.

Part I of the book, *Health Care Information Systems*, consists of four chapters that focus on providing global leadership for the optimal use of health care IT. It provides knowledge about the best use of information systems for the betterment of health care services. These chapters deal with healthcare supply chain information systems, the role of CIO in the development of healthcare information systems and information systems in handling patients' complaints. Part II, *Business Process Information Systems*, composed of nine chapters, extends the previous theory in the area of process development by recognizing that improvements in intra-organizational information systems need to be complemented by corresponding improvements in inter-organizational processes. The chapters cover topics such as modeling and analysis of business processes, reengineering business processes, implications of culture on logistics and information systems, performance measures in information systems, socio-management systems, knowledge management systems, and risk management in ERP.

With eight chapters, Part III deals with *Industrial Data and Management Systems* and captures the main challenges faced by the industry, such as the changes in the operations paradigm of manufacturing and service organizations. These chapters are comprehensive in terms of covering significant topics in business information systems including information systems in sustainability, strategies for enhancing innovation culture, decision support system for line balancing, innovation in logistics using RFID, implications of RFID, implications of information systems on operational efficiency, interactive technology for strategic planning and key performance indicators in information systems evaluation. Next, Part IV *Strategic Business Information Systems* with five chapters discusses the use of information technology in small industries and analysis of digital business ecosystems. The following are the important topics considered by these chapters: applications of IT/IS in small companies, relationships between information systems, business, marketing and CRM, transfer for business information systems, digital business ecosystem analysis and information contents of accounting numbers.

Part V with five chapters on *Information Systems in Supply Chain Management* deals with different challenges and opportunities in the field and discusses supply chain performance along with applications of various technologies. These chapters provide an excellent overview of the implications of supply chain enabling technologies, supply chain management, managing supply chain performance in SMEs, information systems in service learning, and RFID applications in supply chain. Finally, Part VI, *Evaluation of Business Information Systems*, discusses the adoption of systems development methodologies and the security pattern of the business systems along with useful mathematical models. This part has six chapters dealing with tools for decision-making in IT/IS, application of quantitative models in information management, measurement challenges in IT/IS, object-oriented meta-computing, B2B architecture using web-services technology, and the role of computer simulation in supply chain management.

An edited book of this nature can provide useful conceptual frameworks, managerial challenges including strategies and tactics, technologies, and practical knowledge and applications to a variety of audiences including academics, research students and practitioners interested in the management of business information systems.

The editors are most grateful to the authors who have chapters in this handbook and have gone through several cycles of revisions and for their continued cooperation in finalizing the chapters. We are thankful to the excellent reviews of over 100 reviewers who have read chapters and helped to improve their quality. The authors are deeply indebted to the editorial team of the publisher for their highly constructive comments that have greatly enhanced the quality of this work. Without their timely support and insightful editorial changes, this handbook would not have been completed. We are especially grateful to Ms. Shalini, the in-house editor for her prompt responses and co-ordination throughout the compiling of this manuscript.

Also, we are thankful to the publisher, who has been a great source of a inspiration in completing this book project in a timely manner. Finally, our heartfelt thanks go to our families, for their patience and support over the last two years.

Angappa Gunasekaran
University of Massachusetts — Dartmouth, USA

Maqsood Sandhu
University of Oulu, Finland and UAE University, UAE