Preface

This book, *Research and Development in E-Business through Service-Oriented Solutions* was rather designed to be a diverse representation of current e-business technologies focusing on various services and solutions, than a standard textbook. The authors and the reviewers of the chapters are field experts with theoretical and practical knowledge on the subjects covered, and they are representing a wide variety of universities and institutions for informatics and communication based on Internet solutions.

This book is composed of two sections. The first section, titled “Technologies and Service-Oriented Solutions,” presents a general overview of e-business by discussing modeling languages, protocols, business intelligence and semantics, as well as business process modeling, security issues, cloud computing related applications, and mobile commerce. The ten chapters in the first section also familiarize the reader with some important trends in e-business, and focus on special research directions and solutions for e-business technologies. The second section, titled “Selected Case Studies,” features six chapters representing various challenges and current application models of e-business in a broad range of activities: the authors present case studies from the hospitality industry in Kenya, discuss investment and outsourcing in Taiwanese hospitals, familiarize the reader with a unique application of e-health by virtual worlds, focus on the retailing of prepared food in Australia, and discuss biometrics technology implementation, Internet banking, and e-filing in Malaysia.

**SECTION 1: TECHNOLOGIES AND SERVICE-ORIENTED SOLUTIONS (CONSISTS OF TEN CHAPTERS)**

Chapter 1, “E-Business Modeling Languages” by Gábor Kovács, Budapest University of Technology and Economics (Hungary), focuses on the underlying concepts of modeling languages rather than the syntax. Introducing the background of the topic through the Service Oriented Architecture, mathematical background and enterprise computing vendors, Kovács then continues to discuss the Business Process Modeling Notation and Business Process Execution language along with other process modeling languages, such as the Unified Modeling Language. Towards the end of the chapter, the future research directions point to important extensions and model transformation.

Chapter 2, “IOTP and Payments Protocols” by Szilárd Jaskó, University of Pannonia (Hungary); Tibor Dulai, University of Pannonia (Hungary) and Katalin Tarnay, University of Pannonia and Budapest University of Technology and Economics (Hungary), discusses the Internet Open Trading Protocol’s structure as well as its message structure. The authors also present security issues related to Electronic Payment Systems before pointing to markup and modeling languages supporting e-business. The main topic addresses IOTP, mobile payment protocols, and other payments protocols.
Chapter 3, “Business Intelligence and Data Mining” by Zsolt T. Kardkovács, U1 Research (Hungary) examines data mining techniques and processes, as well as classification algorithms and clustering. Kardkovács addresses ten common mistakes to reflect on bad practices of various techniques in this field.

Chapter 4, “Decision Trees and Random Forest for Privacy-Preserving Data Mining” by Gábor Szűcs, Budapest University of Technology and Economics (Hungary), discusses methods of privacy-preserving data mining, which aims to develop data mining models without increasing the misuse of the data used to generate those models. The author presents privacy-preserving decision trees, a classification technique and random forest, a combination of tree predictors.

Chapter 5, “Business Semantics Alignment for Business Process Model Integration” by Janina Fen-gel, University of Applied Sciences Darmstadt (Germany), focuses on a novel approach for aligning business process models semantically, in an automated manner. Fengel gives extensive introductory and background information of the topic before addressing semantic analysis for model integration.

Chapter 6, “Service-Oriented Business Process Modeling Today and Tomorrow” by Lai Xu, Bournemouth University (United Kingdom) and Paul de Vrieze, Bournemouth University (United Kingdom), discusses process management technologies, as well as business process related service compositions before reflecting on business process modeling and execution languages, the latter featuring a comparison. In the last section of this chapter, verification tools are also presented.

Chapter 7, “Tracking and Fingerprinting in E-Business: New Storageless Technologies and Countermeasures” by Károly Boda, Budapest University of Technology and Economics (Hungary); Ádám Máté Földes, Budapest University of Technology and Economics (Hungary); Gábor György Gulyás, Budapest University of Technology and Economics (Hungary), and Sándor Imre, Budapest University of Technology and Economics (Hungary), provides a broad survey of tracking-related identification techniques through the main topics of profiling and user privacy, regular techniques of tracking, history stealing and countermeasures and fingerprinting. Before drawing the conclusion of the chapter, the authors feature taxonomy for storageless tracking techniques.

Chapter 8, “A Practical Cloud Services Implementation Framework for E-Businesses” by Ramanathan Venkatraman, National University of Singapore (Singapore); Sitalakshmi Venkatraman, Victorian Institute of Technology (Australia) and Suriya Priya Asaiathambi, National University of Singapore (Singapore), analyses the need for cloud transformation and cloud models before proposing a strategic framework for cloud services in e-business through steps and guidelines for cloud service providers, architects, and even consumers. The authors also present a case example as a real-life successful adoption.

Chapter 9, “Cloud Selection for E-Business: A Parameter Based Solution” by Hemant Kumar Mehta, Devi Ahilya University (India), discusses a parameter based approach for cloud implementation, by presenting the key steps: the selection of the service model, deployment model, and service provider. Mehta also provides a literature survey, and focuses on challenges and issues to aid enterprises of various scales.

Chapter 10, “English Auction Issues in Mobile E-Commerce” by Nandini Sidnal, KLE Society’s Dr. M. S. Sheshgiri College of Engineering and Technology (India) and Sunilkumar S. Manvi, REVA Institute of Technology and Management (India), focuses on the convergence of e-commerce, networks and Internet technologies, referred to as mobile e-commerce or simply m-commerce. The authors cover the characteristics, the framework, and the application of m-commerce before discussing the main topic of this chapter: the English auction system. Sidnal and Manvi present the current issues of this field, and propose an intelligent agent-based framework to overcome the described challenges.
SECTION 2: SELECTED CASE STUDIES (CONSISTS OF 6 CHAPTERS)

Chapter 11, “E-Business Adoption Framework in the Hospitality Industry: The Case of Kenyan Coast” by Kennedy O. Ondimu, Mombasa Polytechnic University College (Kenya), Geoffrey M. Muketha, Masinde Muliro University of Science and Technology (Kenya), and Collins O. Ondago, Jomo Kenyatta University of Agriculture and Technology (Kenya), presents the most important results of a research project taking place in the Republic of Kenya. The authors provide background for the hospitality industry at the Kenyan Coast and other relevant case studies, featuring e-business development and support. The chapter then continues to discuss e-business adoption in Kenya by using a survey-based approach of eleven research questions, carefully evaluating the given answers and drawing a conclusion.

Chapter 12, “E-Business Investment Evaluation and Outsourcing Practices in Australian and Taiwanese Hospitals: A Comparative Study” by Chad Lin, Curtin University (Australia); Geoffrey Jalleh Curtin University (Australia) and Yu-An Huang, National Chi Nan University (Taiwan), examines e-business investment and outsourcing contracts in the hospitals of Australia and Taiwan through present challenges and capabilities. The main focus is on the evaluation of results of a broad survey, by studying key factors and processes such as Information Requirements Determination, organizational IT infrastructure and capabilities, and perceived time pressure.

Chapter 13, “A Review into E-Health Services and Therapies: Potential for Virtual Therapeutic Communities - Supporting People with Severe Personality Disorder” by Alice Good, University of Portsmouth (United Kingdom) and Arunasalam Sambhanthan, University of Portsmouth (United Kingdom), analyses e-health technologies and their impact upon wellbeing. Good and Sambhanthan focuses on the discussion of virtual environments supporting e-health therapy: the treatment of psychosis, neurosis, and PTSD. The authors then explore the potential for utilizing e-health technologies in developing a 3-D virtual therapeutic community for people with mental illness, and uses Borderline Personality Disorder as a case study for this method.

Chapter 14, “Electronic Retailing of Prepared Food in Australia” by Sujana Adapa, University of New England (Australia), discusses drivers, barriers, and contemporary issues in electronic retailing before presenting the case study on Australia’s largest manufacturing industry, the food and beverages sector. Adapa points to the business entity Mitchell’s Quality Foods, which entered the market through the popular Lite n’ Easy vendor.

Chapter 15, “Understanding Security in Consumer Adoption of Internet Banking: Biometrics Technology Implementation in the Malaysian Banking Context” by Normalini M. K., University Science of Malaysia (Malaysia), and T. Ramayah, Universiti Sains Malaysia (Malaysia), discusses the key factors influencing consumer adoption of Internet banking. The authors analyze the Malaysian banking sector through the eyes of the Malaysian Computer Emergency Response Team to identify key security issues. Focusing on the implementation of biometric technology, the authors present discussions, as well as solutions and recommendations in this field.

Chapter 16, “Towards Understanding the Intention to Use and Continuance Usage Intention of E-Filing System in Malaysia: The Moderating Role of Perceived Risk” by Santhanamery Thominathan, Universiti Teknologi MARA Malaysia (Malaysia), and T. Ramayah, Universiti Sains Malaysia (Malaysia), starts by presenting a broad literature review on technology adoption models, the intention to use measure, continuance intention, and perceived risk. Thominathan and Ramayah then focus on the
submission via e-filing since its launch in Malaysia in 2006. The authors discuss challenges and barriers
to e-government continuous adoption and impact of e-government failures through key factors such as
training, development, collaboration, and financial issues.

We recommend *Research and Development in E-Business through Service-Oriented Solutions* for
universities and institutions concerned in both teaching and studying various technologies and processes
related to electronic commerce and business solutions.

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