

## Preface

The last few years have seen a phenomenal growth and dramatic changes in the field of e-business technologies and practices. Business organizations have begun to explore the use of emerging technologies such as grid computing, mobile computing, Web services, and Web 2.0. While these new technologies have opened an array of new market and business opportunities, many organizations face numerous technical, managerial, and organizational challenges and still lack reference sources for the e-business development and management. As e-business evolution continues with the emerging technologies and business models, an in-depth understanding of e-business models, services, and consumer behavior proves more valuable than ever before for the successful e-business development and management. *E-Business Models, Services, and Communication (Advances in E-Business Research, Vol. 2)* provides researchers, professionals, and educators with the newest research on e-business trends, technologies, and practices. Forty-six noted researchers from 14 countries have conferred their expertise to this publication. The book consists of eighteen chapters and is divided into five segments: Section I discusses various e-business models and organizations; Section II addresses e-business strategies; Section III evaluates Web services; Section IV investigates online consumer behavior; and Section IV discusses online intermediaries.

**Section I: E-Business Models and Organizations** consists of four chapters. Chapter I, *Markets, Hierarchies, and the Evolving Nature of Interorganizational Cooperation* by Wonyoung Lee, Praveen Aggarwal, Hyonkil Shin, Taihoon Cha, and Seunghan Kim, proposes a framework to account for a recent shift in IS integration and presents a typology for classifying interorganizational systems based on the segregation of IS and relational integration. The resulting 2x2 matrix provides a fuller array of interorganizational relationships that are emerging in the post-Internet era. This study verifies the typology in case studies of four large firms. The study also found evidence that a single organization can engage in different hierarchical relationships with different vendors.

Chapter II, *Implementing E-Business Models in the Public Services: Challenges, Constraints, and Successful Elements* by Francesca Andreescu, draws on qualitative, longitudinal research carried out between 2001 and 2005 in Britain's National Mapping Agency to reveal the processes of strategic and organisational transformation engendered by e-business in an organisation evolving from the classical, bureaucratic, and centralised "public sector model" toward a new organisational form through embracing e-business as a corporate philosophy. This study also explores the key components of the new e-business model implemented by the organisation and the contextual factors that impacted on the effectiveness of e-strategy implementation in order to draw a list of best practices for the implementation of e-business in a public sector context.

Chapter III, *Ambient E-Service: Applications and Embracing Model* by Yuan-Chu Hwang and Soe-Tsyr Yuan, presents an ambient e-service framework that characterizes ambient e-service with three dimensions, followed by several exemplars of ambient e-service applications. In this chapter, the notion

of ambient e-service is so defined as to identify a new scope of mobile e-service, which address dynamic collective efforts between mobile users (enabled by mobile peer-to-peer technology), dynamic interactions with ambient environments (envisioned by location-based service), the moment of value (empowered by wireless technologies), and low cost service provision. The notable features of ambient e-services are the exhilarated linkage based on social context and significantly rapid growth of connections. The ambient e-service embracing model (ASEM) is also proposed to address the integrated consideration of trust, reputation, and privacy required for fostering the growth of ambient e-service.

Chapter IV, *Superior Customer Value and Network Size in Markets Characterized by Network Effects* by Fan-Chen Tseng, Ching-I Teng, and David M. Chiang, models customer perceived value, presents ways to improve the value, and discusses the relationship between customer's perceived value and network size. This study showed that firms can adopt two approaches: increasing customer value and reducing customer costs to delivering superior customer value. This study provides significant insights to firms regarding how to improve customer perceived value.

**Section II: E-Business Strategies** consists of four chapters. Chapter V, *Pure Play vs. Bricks-and-Clicks: A Study of Their Benefits and Practices* by Youlong Zhuang and Albert L. Lederer, compares Pure Play and Bricks-and-Clicks, two major retailing models, in terms of the e-commerce benefits achieved and information systems management practices used to achieve them. The study found Pure Play retailers apply benchmarking to reap their benefits while Bricks-and-Clicks retailers use process redesign and planning to reap theirs. Pure play retailers are better able to utilize benchmarking to realize market expansion and customer service benefits. On the other hand, Bricks-and-Clicks retailers are better able to utilize process redesign to realize inventory management and cost reduction benefits.

Chapter VI, *Engaging SMEs in E-Business: Insights from an Empirical Study* by Mark Xu, Ravni Rohatgi, and Yanqing Duan, reviews various e-business adoption models and the influential factors affecting the adoption in SMEs. This study empirically examined the adoption level of e-business in a specific industry in the UK, and identified the driving forces and the barriers that push SME up or down the adoption ladder. The current level of adoption is driven by both internal and external factors, including operational benefits, industry common practice, and peer pressure. External forces such as a lack of push from suppliers and customers and a lack of strategic vision of using advanced e-business technology for competitive advantages have determinant effects on the level and scale of e-adoption in SME sector.

Chapter VII, *China and India: E-Business in the Developing World* by Peter Raven, Xiaoqing Huang, and Ben Kim, examines China and India in an attempt to understand their approaches to developing e-business. Each has taken a different path to utilizing the Internet for business. These approaches are based on a number of factors, including government initiatives and focus, infrastructure building, experience and understanding of business operations, and culture, among others. Both countries are poised for rapidly increasing e-business. However, they have huge problems of poverty and inequality between urban and rural connectivity that must be resolved to take advantage of e-business.

Chapter VIII, *Trust and Environment in Inter-Organisational E-Commerce Collaboration* by Amanda Diggles and Carol Pollard, explores inter-organisational collaboration in business-to-business e-commerce with seven informants from four Australian organisations in Tasmania. Using a qualitative case study approach, this research confirmed trust was an important prerequisite for the establishment and development of both electronic and traditional inter-organisational relationships. Collaborative relations such as communication and repeated interactions facilitated the development of trading partner trust. Other factors included trading partner size, reputation and length of pre-existing relationship. Perceived benefits of trading partner trust included general business efficiencies, business growth, faster payment,

increased information sharing and confidence, improved business relations, delivery and reliability. The results enhance organisational awareness of similarities and differences between traditional and electronic inter-organisational trading relationships, and contribute to the growing body of knowledge on trust in inter-organisational relationships.

**Section III: Web Services** consists of five chapters. Chapter IX *Incorporating Web Services into E-Business Systems: An SME Perspective* by Ranjit Bose and Vijayan Sugumaran, investigates the existing deployment barriers from the perspectives of the three Web services (WS) stakeholders, namely the service providers, service consumers, and the WS standards organizations and presents a challenges framework that organizes and interrelates these barriers in an easily understandable manner to help study further the factors that impact the deployment and use of WS within e-business. Using the framework, this study analyzes WS incorporation challenges for small and medium-sized enterprises (SMEs) since they are a vital engine driving the world economy, and are realizing significant benefits from adoption and implementation of Internet-based business solutions. WS-based e-business system applications promise to do even more for them.

Chapter X, *Modelling in Clinical Practice with Web Services and BPEL* by Iain Morrison, Bryn Lewis, and Sony Nugrahanto, briefly describes an approach to clinical information and service modelling. This approach uses tools and techniques gaining increasing acceptance in the e-commerce domain, which shares many of the technical and interoperability problems present in e-Health. The use of BPEL supports services that are provided by both humans and computers. This allows great flexibility in service delivery and deployment, which has been demonstrated in the MCPOP asthma workflow demonstration.

Chapter XI, *Assessing the Potential Impact of Web Services on Business Processes* by Jan-Hendrik Sewing, Michael Rosemann, Marlon Dumas, and Marcello La Rosa, presents a methodology for assessing the suitability of business processes for Web service adoption, both from a strategic and from a technical perspective. It is shown that, by enriching business process models with appropriate metadata, analysts are able to identify which Web services are most relevant for the automation of business processes. The methodology can also be used to assess the impact of new Web services on existing business processes. The application of the methodology is described using a procurement scenario.

Chapter XII, *Web Service Orchestration and Choreography: Enabling Business Processes on the Web* by Florian Daniel and Barbara Pernici, introduces the reader to a relevant aspect of modern, distributed systems in the context of the service-oriented architecture (SOA) (i.e., the distributed execution of composite applications or business processes). This research clarifies the difference between orchestration and choreography, the two main techniques for the definition of service-based collaborations, discusses their most representative approaches, and binds such approaches to a concrete protocol stack. The study provides insight into some advanced service composition problems and, finally, provides our outlook over future trends in the service composition area.

Chapter XIII, *Metering and Accounting for Service-Oriented Computing* by Arun Kumar and Vikas Agarwal, and Neeran Karnik, presents an architecture for enabling usage metering in service-oriented systems. The success of Service-oriented architectures such as Web Services depends upon availability of supporting functions such as security, systems management, service level agreements, etc. Metering and accounting for service usage is one such important management component that is essential for successful deployments in commercial environments. This chapter starts by defining taxonomy of services from the perspective of usage metering, charging, and business models. The study discusses how service usage can be measured, aggregated, and communicated in a uniform way. Finally, it reports on a prototype design and implementation.

**Section IV: Online Consumer Behavior** consists of three chapters. Chapter XIV, *Effects of Web-Based Customer Relationship Management on Customer Satisfaction: A Structural Equation Modeling Analysis* by Wen-Jang Jih, Su-Fang Lee, Yuan-Cheng Tsai, and Shyh-Rong Fang, seeks to shed some light on how the customer perception of companies' e-CRM practices affects customer satisfaction with these practices. Web-based Internet features are becoming a standard platform for companies to implement their customer relationship management initiatives. Referred to as e-CRM in most professional literature, this practice is still in the infancy stage of its life cycle in terms of our level of understanding. A structural equation modeling analysis with the primary data collected in Taiwan reveals that online customers' perception of e-CRM practices positively impacts customers' Website satisfaction through their perception of the Website's customer orientation.

Chapter XV, *The Formation of Online Trust* by Anol Bhattacharjee, presents three processes (relational, calculative, and institutional) by which consumers form trust in online firms and describes how these processes change over time as they gain experience with online firms. These processes are tested using empirical data from a field survey of online banking users. The results indicate that relational, calculative, and institutional beliefs are indeed significant drivers of trust. However, calculative and institutional beliefs have stronger initial effects than relational beliefs for new consumers of online firms. The effect of calculative belief on trust decreases with time, while that of relational beliefs increases and that of institutional beliefs remains relatively unchanged. Research and practical implications of these findings are discussed.

Chapter XVI, *The Influence of Familiarity and Security on Decision Making Processes in E-Commerce: The Role of User Experience* by Fahim Akhter and Wendy Hui, analyzes the role of trust antecedents such as security and familiarity when they are used collectively to do online transactions. Trust, in general, is an important factor in conducting e-transaction, which revolve around uncertainty and ambiguity. The fuzzy logic approach provides a means for coping with this uncertainty and vagueness that are present in e-commerce. Therefore, in this study, the fuzzy logic approach is been deployed to develop scales to measure the effects of users' familiarity and perception of security in an online business-to-consumer (B2C) context. This research provides guidelines to vendors on how they could ascertain the trust level of their business and ways of mitigate the negative impact on the trust level.

**Section V: Online Intermediaries** consists of two chapters. Chapter XVII, *The Roles of Online Intermediaries in Collective Memory-Supported Electronic Negotiation* by Nongkran Lertpittayapoom and Souren Paul, highlights the use of an online intermediary as an effective location from which collective memory support can be offered. Electronic negotiation has become an alternative to face-to-face negotiation. The rise of Web sites such as electronic marketplaces or electronic brokerages also fueled the popularity of electronic negotiation. The current forms of negotiation support systems (NSS) used to support many electronic negotiations offer very little support for historical negotiation data. In order to address this issue, the idea of a collective memory support in negotiations has been proposed in recent years. This study proposes that an intermediary based collective memory support will increase confidence in negotiation, reduce overall negotiation time, and strengthen trust between negotiators.

Chapter XVIII, *Morethailand.com: Online Travel Intermediary* by Pongsak Hoontrakul and Sunil Sahadev, showcases "morethailand.com," an e-intermediary in the tourism industry. Based out of Thailand, the firm is in the process of finding a niche for itself through innovative online and offline marketing strategies with the constraint of limited resources. This case study attempts to focus on the e-business challenges in the travel and tourism sector especially in a developing country like Thailand. It specifically highlights the clash between the traditional and modern form of intermediaries in the travel and tourism sector and how it is bound to evolve in the future. A comparison between different approaches to search engine marketing offers an interesting perspective to the literature pertaining to on line e-commerce. An economic view on the case is also presented.

A large number of e-business applications have been successfully implemented in many organizations as productivity tools and strategic weapons. Coupled with the hyper-competitive global business environment, the rapid emergence of new e-business standards and technologies has accelerated the pace of organizational changes to an unprecedented level. The pervasive use of e-business applications and their inevitable effect on organizations present numerous challenges as well as opportunities for academics and practitioners. *E-Business Models, Services, and Communication (Advances in E-Business Research, Vol. 2)* is a unique collection of the latest research associated with the emerging e-business technologies and applications. As leading experts in the e-business area, the contributors did an excellent job of providing our readers with timely, critical, and thought-provoking knowledge. We expect this book to shed new insights for researchers, educators, and practitioners to better understand the important issues and future trends of e-business research and technologies. I would like to express my gratitude to the authors and reviewers for their invaluable contribution and collaboration. Finally, I sincerely thank Ms. Meg Stocking, former Assistant Executive Editor, and other members of the IGI Global for their help with this book project.

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