Preface

Globally, trends and technologies not only within the knowledge society, but also within the facets of everyday life, are evolving exponentially. Much of this change and development has been accelerated by the implementation and advancement of electronic commerce. Considering the complexities of current software research and adaptation, electronic commerce has progressed to the forefront of creating tomorrow's solutions for today's challenges. Business process models, business-to-business commerce, social capital, mobile commerce and electronic banking, to name a few, pose the answer to future progress in the field of information science and technology and offer novel models for building effective systems that not only effect researchers and academicians but spread to the core of people's every day lives.

Numerous researchers and academicians have developed a variety of techniques, methodologies, and measurement tools that have allowed them to develop, deliver and at the same time evaluate the effectiveness of several areas of electronic commerce throughout previous and past years. The explosion of these technologies and methodologies have created an abundance of new, state-of-art literature related to all aspects of this expanding discipline, allowing researchers and practicing educators to learn about the latest discoveries in the discipline of electronic commerce.

Due to rapid, ever-present and emerging technological changes, it is a constant challenge for researchers and experts in this discipline to stay abreast of the far-reaching effects of this pervasive field, and to be able to cultivate and deliver more innovative methodologies and techniques utilizing contemporary technological innovation. In order to provide the most comprehensive, in-depth, and recent coverage of all issues related to electronic commerce, as well as to offer a single reference source on all conceptual, methodological, technical and managerial issues, as well as the opportunities, future challenges and emerging trends related to this field, Information Science Reference is pleased to offer a four-volume reference collection on this swiftly growing discipline, in order to empower students, researchers, academicians, and practitioners with a comprehensive understanding of the most critical areas within the field of e-commerce.

Entitled *Electronic Commerce: Concepts, Methodologies, Tools, and Applications*, this collection is organized in eight distinct sections, providing the most wide-ranging coverage of topics such as: (1) Fundamental Concepts and Theories; (2) Development and Design Methodologies; (3) Tools and Technologies; (4) Utilization and Application; (5) Organizational and Social Implications; (6) Managerial Impact; (7) Critical Issues; and (8) Emerging Trends. The following provides a summary of what is covered in each section of this multi-volume reference collection:

Section 1, **Fundamental Concepts and Theories**, serves as a foundation for this extensive reference tool by addressing crucial theories essential to the understanding of e-commerce. Chapters such as, "History of E-Commerce" by Yan Tian and Concetta Stewart as well as "International E-Commerce: Language, Cultural, Legal and Infrastructure Issues, Challenges and Solutions" by Magdi N. Kamel provide an excellent framework in which to position electronic commerce within the field of information

science and technology. Pierre F. Tiako and Irénée N. Tiako's "An Overview of E-Commerce Security and Critical Issues for Developing Countries" offers excellent insight into the critical incorporation of security into the different assets of electronic commerce, while chapters such as, "Evolution of Trust in Business-to-Business E-Commerce" by Pauline Ratnasingam address some of the basic, yet principle stumbling blocks of this field. With over 20 chapters comprising this foundational section, the reader can learn and chose from a compendium of expert research on the elemental theories underscoring the electronic commerce discipline.

Section 2, **Development and Design Methodologies**, provides in-depth coverage of conceptual architecture frameworks to provide the reader with a comprehensive understanding of the emerging technological developments within the field of electronic commerce. "Electronic Business Models Design for Public-Private Partnerships" by Euripidis Loukis and Elena Tavlaki, offers research fundamentals imperative to the understanding of the design of business models within electronic commerce. From broad examinations to specific discussions on electronic commerce, such as Euripidis Loukis and Elena Tavlaki's "Electronic Business Models Design for Public-Private Partnerships," the research found within this section spans the discipline while offering detailed, specific discussions. From basic designs to abstract development, chapters such as "XML Schema Integration and E-Commerce" by Kalpdrum Passi, Louise Lane, Sanjay Madria, and Mukesh Mohania, and "Constructing a Globalized E-Commerce Site" by Tom S. Chan serve to expand the reaches of development and design technologies within the electronic commerce community. This section includes more than 25 contributions from researchers throughout the world on the topic of electronic commerce within the information science and technology field.

Section 3, **Tools and Technologies**, presents an extensive coverage of various tools and technologies available in the field of electronic commerce that practitioners and academicians alike can utilize to develop different techniques. Chapters, such as Hui Siu Cheng and A. C. M. Fong's, "Software Agent Technology for Supporting Ad Hoc Virtual Enterprises" discuss Semantic Web support for customers, whereas chapters like, "RFID in the Retail Supply Chain" by Claudia Loebbecke explore radio-frequency identification in the retail supply chain and at the point of sale. It is through these rigorously researched chapters that the reader is provided with countless examples of the up-and-coming tools and technologies emerging from electronic commerce. With more than 20 chapters, this section offers a broad treatment of some of the many tools and technologies within the electronic commerce and IT community.

Section 4, **Utilization and Application**, discusses a variety of applications and opportunities available that can be considered by practitioners in developing viable and effective programs and processes. This section includes over 25 chapters, such as "Using Mobile Devices for Electronic Commerce" by Raul Fernandes Herbster, Hyggo Almeida, and Angelo Perkusich, which present an architecture for mobile commerce. Additional chapters such as Genie N. L. Stowers' "Applications of E-Commerce in Government" distinguish between interactive transactions and e-commerce transactions in e-government. Also examined in this section are various vulnerabilities in Web services, followed by state-of-the-art views on countermeasures for attacks on those services, as discussed in "Web Services Security in E-Business: Attacks and Countermeasures," by Wei-Chuen Yau and G. S. V. Radha Krishna Rao. Contributions included in this section provide excellent coverage of today's information technology community and how research into electronic commerce is impacting the social fabric of our present-day global village.

Section 5, **Organizational and Social Implications**, includes a wide range of research pertaining to the social and organizational impact of electronic commerce technologies around the world. Introducing this section is John Sagi, Elias Carayannis, Subhasish Dasgupta, and Gary Thomas' chapter entitled, "Globalization and E-Commerce: A Cross-Cultural Investigation of User Attitudes," in which business students from the U.S., Greece, and England express opinions on the important issues of national control, privacy cost, property rights, and consumer preferences as related to electronic commerce. Additional

chapters included in this section, such as "Customer Perspective of CRM Systems: A Focus Group Study" by Shan L. Pan, look at customer relationship management systems from the perspective of the customer through the conduct of a focus group discussion. Also investigating a concern within the field of electronic commerce is Benoit Jeanson and John Ingham's, "Consumer Trust in E-Commerce," which discusses the lack of trust toward different elements of electronic commerce which has been recognized as one of the main causes of the collapse of a large number of dot-com companies. With more than 30 chapters, the discussions in this section offer research on the integration of electronic commerce and access for everyone.

Section 6, **Managerial Impact**, presents contemporary coverage of the social implications of electronic commerce, more specifically related to the corporate and managerial utilization of electronic commerce technologies and applications, and how these technologies can be facilitated within organizations. Core ideas such as training and continuing education of human resources in modern organizations are discussed through these chapters. In "The Role of Managerial Attitudes in the Adoption of Technological Innovations: An Application to B2C E-Commerce" by March L. To and Eric W. T. Ngai, the authors posit a conceptual model to show how managers evaluate internal (relative advantage and compatibility of adopting an innovation) and external (competitive pressure and partner conflict) determinants that affect the intention to adopt technological innovations in electronic commerce. Equally as crucial, chapters, such as "Management Considerations for B2B Online Exchanges" by Norm Archer, discuss how low-cost Internet commercialization has led to much more widespread adoption of inter-organizational information systems. Also in this section is a chapter by Purva Kansal and Keshni Anand Arora titled, "Corporate Strategies in a Digital World: Supply Chain Management and Customer Relationship Management-Development and Integration-Focus." This chapter focuses on finding a solution to deal with Internet empowered customers and to learn how to apply technologies demanded in the new digital economy. It highlights the synergistic advantage of linking supply chain management with customer relationship management into a tightly knit network using technology that might augment the development of this emerging field.

Section 7, **Critical Issues**, contains over 20 chapters addressing issues such as online customer retention, the decision-making process in B2C electronic commerce, Web services, electronic commerce in SMEs, mobile commerce, and taxation issues to name a few. Within the chapters, the reader is presented with an in-depth analysis of the most current and relevant issues within this growing field of study. Mohamed Khalifa, Moez Limayem, and Vanessa Liu's "A Contingency Theory for Online Customer Retention: The Role of Online Shopping Habit" develops, operationalizes and empirically tests a model that explains online consumer retention as measured by repurchase, while "Personalization of Web Services: Concepts, Challenges, and Solutions" by Zakaria Maamar, Soraya Kouadri Mostéfaoui, Qusay H. Mahmoud, Ghita Kouadri Mostéfaoui, and Djamal Benslimane, presents a context-based approach for personalizing Web services so that user preferences are accommodated during the performance of those services. Crucial topics are addressed such as that presented in Steve New's chapter, "Innovation and B2B E-Commerce: Explaining What Did Not Happen" which discusses the divergence between the expected and realized degrees of innovation in business to business electronic commerce. "Personalization of Web Services: Concepts, Challenges, and Solutions" by Zakaria Maamar, Soraya Kouadri Mostéfaoui, Qusay H. Mahmoud, Ghita Kouadri Mostéfaoui, and Djamal Benslimane rounds out this section by presenting a context-based approach for personalizing Web services so that user preferences are accommodated during the performance of Web services.

The concluding section of this authoritative reference tool, **Emerging Trends**, highlights research potential within the field of electronic commerce, while exploring uncharted areas of study for the advancement of the discipline. Introducing this section is a chapter entitled, "Future of Small Busi-

ness E-Commerce," by Simpson Poon, which sets the stage for future research directions and topical suggestions for continued debate. Providing an alternative view of electronic commerce is the chapter, "The Virtual Agency as a New Force in the Promotions Industry," by R. Zachary Finney and Angeline Grace Close. This chapter distinguishes the virtual agency from traditional agencies and explains why this is an important development for electronic commerce and the advertising/promotion field. Another debate which currently finds itself at the forefront of research within this field is presented by Luiz Antonio Joia's research, "The Impact of RFID Technology on a Firm's Customer Capital: A Prospective Analysis in the Retailing Industry" which analyzes the potential of RFID technology with respect to the relationship between retailers and their clients, in order to understand how this technology is capable of increasing a firm's customer capital, in-line with intellectual capital taxonomy.

Although the primary organization of the contents in this multi-volume set is based on its eight sections, offering a progression of coverage of the important concepts, methodologies, technologies, applications, social issues, and emerging trends, the reader can also identify specific contents by utilizing the extensive indexing system listed at the end of each volume. Furthermore to ensure that the scholar, researcher and educator have access to the entire contents of this multi volume set as well as additional coverage that could not be include in the print version of this publication, the publisher will provide unlimited multi-user electronic access to the online aggregated database of this collection for the life of the edition, free of charge when a library purchases a print copy. This aggregated database provides far more contents than what can be included in the print version in addition to continual updates. This unlimited access, coupled with the continuous updates to the database ensures that the most current research is accessible knowledge seekers.

Electronic commerce, as a discipline, has witnessed fundamental changes during the past two decades, allowing information seekers around the globe to have access to information which two decades ago, was inaccessible. In addition to this transformation, many traditional organizations and business enterprises have taken advantage of the technologies offered by the development of electronic commerce in order to expand and augment their existing programs and practices. This has allowed practitioners and researchers to serve their customers, employees and stakeholders more effectively and efficiently in the modern virtual world. With continued technological innovations in information and communication technology and with on-going discovery and research into newer and more innovative techniques and applications, the electronic commerce discipline will continue to witness an explosion of information within this rapidly growing field.

The diverse and comprehensive coverage of electronic commerce in this four-volume authoritative publication will contribute to a better understanding of all topics, research, and discoveries in this developing, significant field of study. Furthermore, the contributions included in this multi-volume collection series will be instrumental in the expansion of the body of knowledge in this enormous field, resulting in a greater understanding of the fundamentals while fueling the research initiatives in emerging fields. We at Information Science Reference, along with the editor of this collection, and the publisher hope that this multi-volume collection will become instrumental in the expansion of the discipline and will promote the continued growth of electronic commerce.