Preface

"We are on the verge of a revolution that is just as profound as the change in the economy that came with the industrial revolution. Soon electronic networks will allow people to transcend the barriers of time and distance and take advantage of global markets and business opportunities not even imaginable today, opening up a new world of economic possibility and progress."

——Vice President Albert Gore, Jr.

Commerce is the buying and selling of goods and services or the transfer of money in the course of business transactions between sellers and buyers. Taking a broad perspective, electronic commerce (e-commerce) may be seen as the process of conducting commercial transactions using any electronic communication technology to achieve an organizational goal. In such a sense, e-commerce is not totally new and dates back to the days when interaction between buyers and sellers began to occur over the telephone and later via fax. Today e-commerce includes electronic data interchange (EDI), EFTPOS, electronic banking, digital cash transactions and other forms of electronic payment via a closed network or over the Internet.

In recent years, with the emergence of the Internet as a public network infrastructure from its origins as a solely military and academic network, research into and development of electronic commerce technologies have been boosted significantly. World Wide Web based transactions have opened up immense possibilities and electronic commerce is gaining in popularity. "Making purchases" has emerged as the fastest-growing online activity as e-commerce becomes central to the Internet consumer's experience, according to a study released on November 11 1999 at a media briefing by America Online Inc and Roper Starch Worldwide, one of the nation's largest marketing research and consulting firms. According to the 1999 study "Internet Economy Indicators," by the University of Texas' Center for Research in Electronic Commerce, the U.S. Internet economy was worth US$301.4 billion in 1998. International Data Corporation has estimated that the Internet commerce market will exceed $425 billion by 2002, with business-to-business sales accounting for more than 75 percent of those revenues. Consumer sales will exceed US$108 billion by 2003, according to Forrester Research Inc. A recent Pricewaterhouse Coopers survey of Global 1000 companies found that 85 percent see e-business as an investment priority over the next three years. E-commerce has been a catalyst for change as some existing brick-and-mortar companies seek to find the right strategy and structure for their online operations, including buyouts (e.g., Homebid.com), integration (e.g., Prudential California realty), partnerships (e.g., PetSmart), or subsidiaries (e.g., MagazineOutlet.com). Traditional intermediary functions are being replaced, new products and services are appearing, markets are developing worldwide and new relationships are being created between

business and consumers. Against this background the need for understanding the opportunities and challenges in e-commerce cannot be overstressed.

Although the Internet provides many opportunities for companies that can leverage the key drivers of business success; that is, information, collaboration, agility and velocity, it also poses tremendous challenges in terms of a lack of comprehensive e-business strategies, rapid and radical transformation of traditional business models, learning curve issues, privacy and security of information, among others. This book is designed to help its readers get a better grip on the opportunities and challenges in e-commerce as it affects business theory and practice in the new millennium.

The opportunities offered and the issues that arise are immense and it is not possible to encompass them all within the scope of a single book. Relevant issues include telecommunications infrastructure and information technology, content of business information, technical standards, a Uniform Commercial Code for electronic commerce, intellectual property protection, privacy, information security, electronic payments, consumer confidence, automated secure transactions and a lot more. This book contains 24 chapters that introduce many of these issues and discuss approaches and technologies to take advantage of the numerous opportunities that exist. The chapters can be categorized into the following very interrelated sections:

* Electronic commerce opportunities, policies and case studies
* EDI applications
* Internet-based electronic commerce and payment systems
* Agents applications for automated transactions
* Attacks on security and legal aspects of electronic commerce

The book will be useful to policy makers, business professionals, academics and students. We expect that the promising opportunities illustrated by the case studies and the technical solutions described in the book will help to expand the horizons of e-commerce and disseminate knowledge to both business and the technical community.

This book could not have been written and published without the help and support of many people, and we would like to acknowledge a few who have been instrumental in bringing it to fruition. We are grateful to our parents who by their unconditional love have steered us to this point and to our wives, sons and daughters who have steadfastly supported us throughout this project. We also take this opportunity to express our sincere gratitude to each of the chapter authors who contributed their ideas and expertise, and also to our Senior Editor Dr. Mehdi Khosrowpour, Managing Editor Ms. Jan Travers and Ms. Amanda Stauffer for their hard work in producing this book. Thanks are also due to many colleagues who have contributed invaluable ideas by thoroughly reviewing the chapters.

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