

Preface

Since the early 1990s, the world has observed a technological revolution of similar magnitude to the industrial revolution of the early 20th century. This modern revolution has provided organizations and societies worldwide with an innovative medium of communication entirely new to humankind. Researchers made the discovery that through the use of integrated computer-based telecommunication networks, information of all types and forms could be disseminated throughout the world, utilizing existing computer and communication technologies. As a result, to supplement the telephone, fax, and mail, a new medium of communication was born and is known today as the Internet.

This phenomena actually grew out of a project known as ARPANET, funded by the U.S. Department of Defense. The primary objective of this project was to study how researchers could share research data in the case of nuclear attack. The project was later transferred to the National Science Foundation (NSF) and became known as the “Internet,” initially to be used by university scholars and researchers. Subsequently, the invention of the Internet led itself to the World Wide Web (WWW), fueled by the technological advancement of computer and communication technologies combining to create a new set of technologies, better known today as Web-enabled technologies or e-technologies.

During the early days of the WWW, this medium was primarily utilized by both public and private organizations to disseminate information about the organizations’ products, services, and news. As a result, organizations of all types and sizes worldwide began establishing their presence on the WWW by having their own Web sites filled with all kinds of information about their organizations. Consequently, many organizations began expanding their presence on the WWW by developing new technologies and applications to allow customers and suppliers to conduct business transactions. They discovered that through the use of this technology, customers could do business with the organization electronically, and this led to the birth of “electronic commerce,” sometimes known as “e-commerce” or the abbreviated term of “EC.” Then came the establishment of a new breed of e-commerce-based businesses, such as Amazon.com and eBay.com, as part of the more than one trillion dollars-a-year industry worldwide.

The innovations achieved through the use of EC during the early days of Web-enabled technologies led to the discovery of “electronic government,” otherwise known as “e-government” or “eGov,” where governmental organizations began using these technologies to develop various applications to serve and govern their constituencies in a fashion that was not possible a decade earlier. Today, e-government applications have allowed many government-based agencies around the globe to reach and serve their citizens in a much more timely, efficient and less costly manner.

As telecommunication technologies further advanced, they introduced new mobile technologies, also known as wireless technologies, for the need of individuals and organizations to conduct electronic transactions and communications through the use of Web-enabled technologies known as “mobile commerce,” “m-commerce,” or “MC.” In recent years, consumers and organizations have benefited from many of the features of m-commerce technologies through numerous applications, such as conducting financial transactions, supply chain operations, advertising, portal access points, information and news services, entertainment and games, and education and training. As individuals and organizations become more mobile and virtual, it is expected that the number of m-commerce-related applications will increase significantly.

In less than two decades, Web-enabled technologies have provided organizations all over the world with tremendous new and innovative opportunities to expand their business horizons in ways that, until a decade ago, were unimaginable. Incredible cost savings have come from conducting operations electronically. Furthermore, these technologies have paved the way for the development of many other indirect applications and uses, such as the creation of virtual communities and enterprises, e-collaboration, distance learning, Web portals, and Web services. In addition, however, Web-enabled technologies have not been free of criticism and problematic issues, ranging from security, privacy, fraud, digital divide, cyber crime and terrorisms, and system incompatibilities.

To better understand the components, applications, and managerial and organizational issues of e-technologies for students, faculty, researchers, managers, public administrators and policy makers, editing an encyclopedia became an important and necessary goal. Therefore, the primary objective of the *Encyclopedia of E-Commerce, E-Government, and M-Commerce* is to provide the most inclusive and up-to-date coverage of e-technologies by compiling quality contributions that highlight current concepts, trends, challenges, applications, and experiences related to e-commerce, e-government, and mobile commerce technologies.

To provide the most comprehensive, in-depth, and up-to-date coverage of issues, technologies, and applications of e-commerce, e-government, and m-commerce, the many essential and important topics and aspects of these technologies were selected for this encyclopedia project, including: E-Collaboration Technologies and Applications, E-Commerce Technologies and Applications, E-Commerce Management and Social Issues, E-Government Technologies and Applications, E-Government Management and Social Issues, E-Healthcare Technologies and Applications, E-learning Technologies and Applications, E-Technologies Security and Privacy, Mobile Commerce Technologies and Applications, Mobile Commerce Management and Social Issues, Virtual Communities and Enterprises, Web Portals and Services.

To present applied research and coverage, submissions for this encyclopedia were grouped into three categories:

- **Concepts, Trends, and Challenges:** Entries under this category deal with the fundamental and emerging concepts related to e-commerce, e-government, and mobile commerce. Entries in this category provide coverage of current and emerging trends, challenges, problems, and solutions related to these technologies. Furthermore, the entries in this category include 7-10 technical and managerial key terms with full definitions.
- **Applications of E-Technologies:** Entries under this category describe different applications of e-commerce, e-government, and mobile commerce in business or organizational settings. These entries describe how different e-technology-based applications have been developed in support of different business or organizational functions or activities.
- **Dot-Com Experiences:** Entries under this category illustrate various dot-com businesses that either failed or succeeded. These entries describe how the dot-com entity started (history), what kind of services/products it offered (purpose), how it was directed (management), how it failed/succeeded (failure/success factor), and what lessons may be learned from these experiences.

Researchers from all over the world were invited to submit proposals describing their proposed coverage and the contribution of such coverage to the overall theme of the *Encyclopedia of E-Commerce, E-Government, and Mobile Commerce*. All proposals were carefully reviewed by the editor-in-chief in light of their suitability, researchers' knowledge on the proposed topic, and the quality of the submitted proposal. Authors of accepted proposals were notified regarding the acceptance of their proposals and were provided with a copy of the "Manuscript Organization and Submission Guidelines" for the authors to use in preparing their full submissions. Upon the receipt of full entry submissions, each submission was forwarded to at least three expert, external reviewers for a double-blind, peer review. In many cases, the review process was repeated for those manuscripts that were recommended for revision by reviewers. Only submissions with strong and favorable reviews were chosen as entries for the *Encyclopedia of E-Commerce, E-Government, and Mobile Commerce*.

Subsequently, the two-volume *Encyclopedia of E-Commerce, E-Government, and Mobile Commerce* includes more than 200 entries highlighting current concepts, applications, technologies, opportunities, issues, challenges, solutions, and future trends. More than 1,400 technical and managerial key terms with 5-50-word definitions compliment these entries and provide the readers of this comprehensive reference publication with the basic definition and description of these key terms. Furthermore, a total of more than 475 tables and figures contribute to the comprehensiveness of this publication. In addition, this two-volume encyclopedia offers a thorough reference section with over 4,400 additional research sources for the further investigations of scholars, researchers, educators, students, managers, and administrators.

To provide the best entry organization to assist readers in navigating and identifying entries in this publication, this two-volume encyclopedia is organized by listing all entries in alphabetical order by title throughout the publication, and by including the entries' titles and authors' names and affiliations in a regular "Table of Contents" in the beginning of each volume. All entries are also organized under their prospective topic area category in a second "Table of Contents by Topic," allowing readers to identify entries related to their research areas and interests. In addition, the first page of each entry consists of a labels describing the submission category. Furthermore, the first comprehensive and easy-to-navigate index of this encyclopedia assists readers in locating full descriptions and definitions of all technical and

managerial terms included, and the second comprehensive index helps readers in identifying any key terms as identified by the authors.

To compliment the print version of the *Encyclopedia of E-Commerce, E-Government, and Mobile Commerce*, this publication will also be available in an online version with very easy-to-use search capabilities. As with all reference titles of Idea Group Reference, a complimentary unlimited access to the online version of this publication is provided to libraries that purchase a copy of the print version. However, for those libraries that are not interested in purchasing the print version, online subscriptions are available for a reduced price. Access to the online version will allow students, faculty, researchers, corporate managers, and public administrators to also have access to recently added entries to the first edition of this encyclopedia, allowing users to keep up with the latest coverage of emerging technologies and issues related to the coverage of this encyclopedia.

The world has witnessed fundamental change in the way people worldwide communicate with each other and share information. Alexander Graham Bell's invention of the telephone introduced a completely new means for people to communicate with each other. However, the introduction of the Internet, followed by subsequent, innovative e-technologies, has brought a completely new kind of revolution in the areas of communication and information dissemination. E-commerce, e-government, and mobile commerce technologies, in addition to a wide range of applications, have allowed the world to convert into electronic virtual communities where members may communicate, share information and knowledge, do business, obtain services, and conduct educational programs and even religious activities in ways totally unthinkable several years ago. Many researchers claim that e-technology innovations the world currently witnesses are just the beginning of a far more expansive digital revolution ahead of us, and that future generations will be the beneficiaries of these emerging technologies. It is my heartfelt hope that this encyclopedia, with its comprehensive coverage of e-technologies, will assist scholars, researchers, educators, students, managers, and administrators in learning about the current status of these technologies and also facilitate the discovery of future innovative technologies.

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