Preface

E-government (EG) is the use of technology to enhance the access to and delivery of government services to benefit citizens, businesses, and employees. An EG system can also be seen as a powerful approach for government administrative reformation. The concept of EG originated in the early 1990s in the USA. Since that time, EG has been quickly adopted in many countries. The United Nations now recommends that member countries provide all ministry information on their own Web pages on the World Wide Web. Currently, the majority of countries are using or on the way to using the Internet to provide at least some access to government information, posted on government websites. E-government includes services ranging from static information to interactive and transaction oriented services that vary from country to country and among government levels (municipal, state, and national) within countries.

The EG concept can be viewed from technological, economic, organizational, socio-cultural, and political perspectives. Its aims are to provide information to citizens, to reduce government cost, to make government service delivery systems more efficient and participative, and to ensure transparency and accountability; ultimately, it should lead to citizen-centric government. Many developed countries, as well as developing countries, are determined to reform public service management and to reengineer government services by adopting EG. But the visions, strategies, initiatives, and final targets for EG in different countries are not necessarily the same. Subtle differences are noticeable in the implications of the visions and the final targets that governments set for its adoption. For some countries, the implementation of EG is only or primarily a technological manifestation. Some countries extend these views to include marketing and economic perspectives with their implementation strategies of EG. Other countries add management and organizational aspects to the strategic perspectives already mentioned. Finally, some countries target the achievement of a political agenda and good governance, in addition to other aspects, as the ultimate goal of EG. Because different countries adopt EG from many different perspectives, the overall structure, service patterns, technological association, interoperability, architecture, and service maturity of EG also follow different paths.

Throughout the world, governments are realizing the potential of placing traditional government services online. All the essential functions of a government – legislative, judicial, and executive – may use EG as a way to provide information, reduce the cost of rendering services, improve internal management, enhance efficiency of service delivery, and promote the processes of democratic governance. Corporate sectors can also benefit from the application of e-governance, which is profoundly evident in the reformation of the worldwide financial sector.

Because of the expansion and increasing reliance on government websites, researchers and practitioners are equally concerned with the issues of understanding and managing EG. However, although
EG offers promise to modern government systems, it also poses considerable challenges to government and public administrations, private sectors, and individuals in building trust, confidence, and security. Consideration of these EG issues is essential for management in planning to implement, adopt, sustain, expand, diffuse, and gain competitive advantage while making the capital investments required for effective EG systems.

Keeping in mind its global impact, cohesiveness in setting the missions and objectives of EG systems is an important managerial issue. There are a number of factors that have significant implications for progressive and successful development in setting the course of EG, and identifying and establishing the explicit missions and objectives that are needed for transforming the traditional government information structure into the electronic version. These factors include reaching unanimous consensus on EG development; determining the state of readiness through policy making; addressing key issues; strategizing leadership, boundaries, structures, and activities; deciding on technology infrastructure; and defining governance structures and policies. Identifying clear objectives for implementing EG is important in order to capitalize on the full opportunities that lie behind the EG system so that the many different stakeholders maintain an interest in adopting EG systems within the globalization context.

This book, “Electronic Government Service Maturity and Development: Cultural, Organizational and Technological Perspectives,” explores and conceptualizes paradigms of the strategic development of EG and its implementation and adoption process. This is addressed theoretically, but with many practical illustrations. In addition, the book provides insight into financial reformation through e-governance and describes corporate EG, with a focus on Internet banking and trading. As an extension of EG, this book also provides an outlook on m-government development. Other related technological, cultural, and organizational aspects of the successful development and proliferation of EG are also discussed.

The book is organized to provide academicians, researchers, practitioners, and policy makers with the necessary background information to assist in setting strategic vision, mission, and goals for EG in both developed and developing countries. It examines and identifies the major stakeholders of EG and reveals the stages of growth or service maturity levels. Many countries are striving to develop interoperable EG through horizontal and vertical information integration to ensure a seamless flow of service and information through a one stop Web interface or portal. This book elaborates on interoperable concepts with many practical implications. Although m-government is a closely related sub-set of EG, it still differs in terms of certain technological, cultural, social, and organizational perspectives that impact its implementation and proliferation. This book attempts to postulate m-government development concepts that reflect practical relevance. On another very fundamental topic, it sheds light on the paradigms and functional discourses of e-governance in financial markets. Basically, financial sector reformation can benefit significantly from successful implementation strategies of e-governance. An appealing corporate EG system is delineated by exploring Internet banking and online trading. Finally, the book discusses some potential issues like technological and software integration into EG development, user adoption criteria, and the substantial impact of security and privacy on this virtual interface.

The book contains four main sections. The first section has three chapters that discuss the background and general concepts related to EG development and its ancillary components, association of stakeholders, sequential service maturity, and stages of growth to facilitate further proliferation of this new wave of government service systems. In addition, the implementation of EG is demonstrated with the differentiated vision, mission, and objectives of case studies from several countries. The second section, also divided into three chapters, explains the related concepts and frameworks of EG development, focusing particularly on standardization and synchronization of tasks of different departments through
interoperable service systems. As the latest extension of EG, this section also presents a directional view of m-government development. The third section includes four chapters that identify how implementation of e-governance systems can help redefine and streamline the financial sector. Internet banking and online trading facilities reflect an extended view of corporate EG in the banking sector. The fourth and final section has three chapters that shed light on certain implementation issues of EG. Implementation and successful adoption of EG from the developer and the users’ side must address potential issues such as technology choice, users’ cultural, social, and behavioral perspectives, and eternal privacy and security issues for the virtual environment. A brief description of each section, chapter, and section is provided below.

SECTION ONE

Many governments are enthusiastic about adopting E-government at one or more of the local, regional, and national levels. Before moving ahead with EG, it is vitally important to develop a strategy that sets explicit vision, mission, and objectives. The first section focuses on the components, stakeholders, and service maturity of EG development as a global phenomenon. Then it sequentially explores and analyzes through case studies strategic vision, mission, and objectives of EG of different countries. For authors, researchers, practitioners, and policy makers, this section synthesizes literature that helps EG to focus on country affairs. Conceptually this section presents a general view of implementing EG. This section has three chapters that address these issues.

The first chapter conceptualizes the fundamental development of EG. It explains the components, stakeholders, and development stages of EG through gradual service maturity. EG is an alternative and/or parallel channel to regular brick and mortar government offices. The delivery system that is driven by information and communication technology (ICT) offers government services to its different stakeholders in a more comprehensive, efficient, and effective way than is possible through physical government offices. At different stages of EG development and growth, the functions, patterns, and capacities of offered services are distinctively different. As such, the association of technology is also different at these different stages.

The second chapter discusses the overarching strategic management of EG that has been initiated by several countries. Developed countries have initiated EG primarily for national, regional, and local governments during the last decade of the twentieth century. Developing countries tend to start their adoption of ICT with the reformation of public administration, although at the same time they align their mission to develop efficient government sectors that can satisfy citizens from multiple perspectives. Different countries develop their initiatives from different visions and attempt to achieve different ends, although their means are very similar. This chapter addresses and analyzes the strategies and objectives for EG of different countries. It also delineates subtle differences in their approaches to achieve the implementation and proliferation of EG.

The third chapter is an extension of the case studies presented in the second chapter on mission, vision, objectives, and strategies of EG initiatives that been adopted and implemented by different developed and developing countries at the local, regional, or national levels. This chapter first presents initiatives in developing EG. Then it describes well documented empirical instruments that reveal EG development capability in the country-context. From the practitioner’s point of view, these instruments will provide the ability to measure government capability and to develop a capability index or parameters for different
countries who are preparing to develop EG at any level of government. Finally, this chapter illustrates studies of EG initiatives in several countries, providing a consolidated research reference basis for the future endeavors of EG researchers.

SECTION TWO

The second section explains the most appealing target of EG, i.e., interoperable service systems, and illustrates the capability of EG by describing projects that have been implemented. Countries which adopted EG long ago such as Canada, USA, UK, Singapore, Malaysia, South Korea, Sweden, Denmark, and Australia are striving to develop standardized service systems that focus on providing citizen agency-based service from single Web portals. Interoperability, which can be achieved through synchronization and standardization of services among the work of different departments is the ultimate strategic goal of diffusing EG. This section also focuses on new directions and substantial extensions of EG through mobile EG or m-government, which can support real time information. These issues are covered in three chapters.

Chapter four examines different aspects of interoperability of EG. Data integration and interoperability among government departments are critical research issues in EG. The chapter focuses on these two issues by highlighting the problems posed, concerns, challenges, and the ways of addressing them. Examples are given to illustrate the benefits of achieving integration and interoperability. In the Introduction section, a list of projects to integrate government services at the national, state, and local levels is given, along with a number of examples of one-stop Web portals. Concerns and challenges for “personal information integration” are articulated in this chapter.

The potential to use the Internet to enhance government operations has been recognized throughout the world. A number of regional initiatives promoted by the government of India have brought e-services within the reach of millions of Indians. The fifth chapter makes a contribution to the literature by documenting the preparedness and digitization of services in Indian cities. Since India is a leading country in the world in adopting and diffusing ICT, Indian EG service and digital preparedness has significant implications for other countries in setting their interoperable EG service agendas. This chapter presents an analysis of the impact and sustainability of two EG schemes. It concludes that since there is no integration and interoperability between government departments, there is only sub-optimal utilization of the established infrastructure at present in the Indian EG service system.

The emergence of mobile technologies has not only revolutionized business procedures, but it has also resulted in transformation and reengineering of public service adoption mechanisms in more traditional EG systems. The sixth chapter delineates the development of mobile EG or m-government with illustrations of the scope of services that are offered or that could be offered through m-government. Its central significance is in real time information, which can be realized through hand held mobile devices like wireless phones. This chapter identifies the development of the fundamental capabilities needed to adapt and manage ICT to successfully implement citizen-focused m-government systems.
SECTION THREE

Section three is designed to impart specific knowledge about the reformation process of the financial capital market through the strategic implementation of e-governance. Through the application of specific knowledge of EG and with the inclusion of the impact of ICT, capital market reformation and stock exchange digitization can create enhanced opportunities. This section addresses different issues of capital markets with a particular emphasis on stock exchange decimalization, and it conceptualizes how e-governance systems can reshape and develop future optimization of financial market performance. Although ICT has been generally adopted in the banking sector to facilitate personal and corporate online banking, EG offers potential for the successful adoption of traditional EG in the banking sector. This section is organized into four chapters to conceptualize the adoption and implementation of an electronic governing framework to streamline future endeavors of financial capital markets.

Drawing inferences from the electronic governing adoption framework, or e-governance, in the capital markets, chapter seven describes the potential implications of e-governance in shaping the performance of future capital market functions. Prime stakeholders of the capital market, such as investors, creditors, and agencies like stock exchanges and securities commissions, require information that allow for the assessment of stewardship and resource allocation. The dissemination of that information is now available electronically. Financial capital markets increasingly require more effective governance, and much of that governance is disclosed and managed through an electronic medium. This chapter presents efficient, interactive, and transparent e-governance systems for the continuous evolution and service-centric reformation of the capital market. It also encapsulates the stages of adoption and proliferation of XBRL (eXtensible Business Reporting Language), a part of the evolution of e-governance.

Chapter eight gives a fundamental and conceptual paradigm for the adoption of EG by corporate financial institutions. The ICTs utilized by governments are often adapted from the corporate environment and subsequently used by governments to improve transparency and responsiveness. This chapter examines the use of ICTs as a medium to enhance governance in capital markets, focusing in particular on the Canadian capital market. Parallels are drawn between e-governance issues faced by governments and capital markets. Like national, regional, and local governments, the next frontier in e-governance is toward more stakeholder engagement, which may be possible through more sophisticated technological applications. The financial market is the prime corporate sector which has enhanced its services through the substantial adoption and widespread implementation of e-governance structures. Chapter eight broadly conceptualizes this phenomenon, particularly focusing on Canadian financial regulatory system optimization through digitization.

Fuelled by technological innovation, the New York Stock Exchange (NYSE) moved from fractional to decimal pricing. This was a revolutionary change which initiated a conversion of traditional quoting methods to decimalization. Chapter nine examines the impact of changing the smallest tick size from $1/16 to $0.01 in four areas, including market quality, trading behavior, the comparison between NYSE and NASDAQ, and evidence from other markets and securities. This chapter also summarizes evidence on trading behavior.

Chapter ten explores online banking and trading through virtual media, a widely diffused and accepted issue of corporate online function. During the last decade, Internet banking and online trading, supported by corporate EG, have been adopted in most countries and represent a popular format for banking service offerings to both individuals and corporations. Internationally, banks have also recognized the potential of Internet banking and have found that it is necessary to reconcile customer lifestyles and
Web based activity preferences with their business models. This chapter analyzes different features of online banking and trading, and their potential significance in shaping future financial market reformation and performance.

SECTION FOUR

Section four deals with the applied side of EG implementation, by identifying some application issues of EG initiatives. In particular, it investigates the anatomy of the technology interface and Open Source Software in the light of EG development. Technological, cultural, behavioral, organizational, and political aspects of EG adoption by its prime stakeholders are analyzed, and the growing importance of security and privacy issues for the implementation of EG are discussed in this section. This section has three chapters to deal with these topical issues.

Chapter eleven provides insights into the application of open source software for technological interfaces of EG. Across the world, almost all governments are implementing EG projects powered by ICT and trying to capture the benefits of dynamic, effective, and efficient public service systems. The most important advantage of adopting open source software for this purpose is that it helps to reduce a government’s Information Technology (IT) expenditures, may encourage local software development, and it thereby promotes EG. This chapter investigates opportunities offered by open source software in EG. It also discusses the characteristics of open source software developers and their motivation to volunteer by contributing to open source software projects. The advantages and issues associated with open source software are described, along with the possibilities, scope, and significance of the adoption of open source software in EG.

Chapter twelve presents a fundamental and conceptual framework for the adoption criteria of EG, grounded in the perceptions of demand-side stakeholders, i.e. the end users or citizens. Citizens’ adoption criteria of EG are tailored to their perceptions of different EG aspects, such as its security, user friendliness, relative advantage, reliability, et cetera. Basically, the adoption criteria of citizens have several interactive characteristics that include social, cultural, technological, organizational, and behavioral perspectives. Chapter twelve investigates the impact of security, trust, and legislative perceptions on citizen willingness to adopt virtual government services and information. Through an extensive empirical study and in-depth statistical analysis, this chapter reveals factors which can either drive or resist the adoption process.

Chapter thirteen addresses the most researched issues of ICT dominated projects in EG, which are security and privacy concerns for EG acceptance. It is unambiguously acknowledged that the transformation process of public sector requires vast investments in new technologies across the Web. In order to provide added value services to citizens, the governments around the world must build an infrastructure that ensures secure access to the Internet. Additionally, the adoption process of e-services is highly related to perceived security and perceived privacy. The chapter presents an overview of the security and privacy issues faced within EG initiatives. The purpose of the chapter is to provide guidance for administrators and IT professionals on this topic, and it reveals the necessity of investing in best practices for security and privacy technologies.

In summary, this book covers various and currently relevant issues of EG that concern the development, implementation, adoption, resistance, application, and performance of real EG projects. The editors hope that this will be a valuable contribution to the area of EG capability development in many
different countries, with a specific focus on setting strategic achievement, offering interoperable government service systems, reforming the financial sector, and resolving ICT application issues in public service management.

However, in order to continue designing capable EG and m-government service systems in the public sector, and corporate e-governance in different private sectors to meet citizens’ expectations from the 21st century public administration and private entities and facilitate development of effective and efficient services from both public and private sectors, we earnestly welcome constructive feedback and suggestions about this book. Feedback from academics, researchers, practitioners, and policy makers, based on their experience with actual EG initiatives in different countries in both the public and private sectors, is particularly welcome. Comments and constructive suggestions can be sent to us in care of IGI Publications Inc. at the address provided in this book’s flyleaf.

Mahmud Akhter Shareef  
McMaster University, Canada

Norm Archer  
McMaster University, Canada

Shantanu Dutta  
University of Ontario Institute of Technology, Canada