Preface

Governments of many countries in both the developed and developing world are in the process of using new ICT opportunities offered particularly by the Internet for providing integrated delivery of services to citizens. Currently, services concerning payment of bills, information about government services, applications forms, identity and other record authentication and entries into governmental records are delivered on e-government platforms. However, they still need to address services requiring cross-referencing, discretion, evaluation and judgment. To deal with the delivery of such complex services, user's acceptance of e-government systems is one of the major issues facing governments. Since the inception of the concept in the late 1990's many developed as well as developing countries have faced problems in implementing e-government. In particular, the diffusion of new digital services have been slow in many cases as the users have shown a reluctance to adopt the new web based systems due to several behavioural and system security related issues (Sahu and Gupta, 2007[1]). Successful e-government also requires cultural and attitudinal change of the society as a whole. It will be quite naïve to consider that without existence of a strong culture of participatory governance both within the government and among the citizens, or the lack of a legal framework for freedom of information, implementation of e-government would suddenly make the system of governance open and, transparent or encourage the citizens to participate in governance (Shetty, 2003[2]). Therefore, greater accessibility and higher usage leading to e-government success would greatly depend on these factors.

E-government implementation is generally aimed to get rid of many problems of existing democratic structures in public services such as delay in processes, uncertainty, lack of transparency, and corruption to a great extent. However, existing literature suggest that failure rate of e-government project implementation is also very high. This means that there are likely to be various types of inhibitors and facilitators of digital democracy and electronic government implementation. In order to encourage and facilitate e-government implementation, it is important to document real-life cases of success and failure from various parts of the globe; this will provide a significant contribution to e-government knowledge and benefit e-government researchers, students and practitioners. The overall mission of this book is to present a comprehensive knowledge on e-government related issues (such as success and failure) for identifying inhibitors and facilitators of digital democracy. To achieve the overall mission, the book fulfils the following objectives:

- To presents different types of frameworks for guiding egovernment development and implementation;
- To highlight the inhibitors and facilitators of e-government implementation;
- To explore the effect of e-governance on rural development and digital divide;
- To describe useful technologies and cases on implementation of online services;
- To explore the extent of published literature on the issues related with e-government; and

- To present the views of practitioners involved in the development and implementation of electronic government.

In line with these objectives the book contains five sections to provide, address, and explore five areas related with electronic government and associated issues. Two core focuses (i.e. inhibitors and facilitators) of the book are explicitly and implicitly grounded within chapters included in all five sections. The 16 chapters which are included within this book have been organised into the following five sections: *Frameworks for E-Government Development and Implementation* (3 Chapters); *E-Governance, Digital Divide and Rural Development* (4 Chapters); *E-Governance and Online Services* (4 Chapters); *E-Government Research* (1 Chapter) and *E-Government Practice* (4 Chapters). All 16 chapters included in the various sections are briefly described below.

Bharat Maheshwari, Vinod Kumar, Uma Kumar, and Vedmani Sharan in **Chapter I** present a framework for e-government portal development. Electronic government (e-government) portals are considered one of the most popular conduits for offering government services online. Successful e-government portal development projects have been lauded in several academic and practitioner papers. These projects have concentrated on integrating government agencies by working to break the traditional silo-based view of the government and providing seamless integrated online services to citizens. However, the rate of adoption for e-government portals by citizens has been much lower than expected. A major reason identified in the literature for this is a lack of understanding of managerial considerations that affect portal development and subsequent adoption. In this chapter, authors present a framework of managerial considerations for the development of e-government portals. The framework builds upon available literature in the field of e-government and public administration. It consists of eight key front-office and back-office considerations that contribute to successful development of an e-government portal. It provides an excellent platform for future research on e-government portals. The framework can also be extended to managers as a useful tool for ascertaining the effectiveness of their government portal development.

Chapter II authored by Petter Gottschalk attempts to address e-government interoperability issues and presents a frameworks for aligned development. The chapter begins by arguing the view that mobilization of electronic information across government organizations has the potential of modernizing and transforming information exchanges. The current information exchanges are, however, often inefficient and error-prone, causing interoperability problems for electronic government. Then, based on a literature review, this chapter presents some of the many frameworks for aligned development to improve e-government interoperability.

Md. Mahfuz Ashraf, Jo Hanisch, and Paul Swatman presented an explorative study of dynamic influences on ICT-led developmental impact at community level in **Chapter III**. Authors begin this chapter with views and arguments that while there is hope that ICT interventions will lead to socio-economic development in developing countries, there is a dearth of research concerning ICT-led impact studies aiming to identify either potential or actual development at the community (individual/family/group) level in rural areas. This chapter then presents an exploratory and interpretive study that investigates the human development perspective at the centre of the research. Authors present data gathered from a village in rural Bangladesh where an ICT intervention; namely Gonokendra (multi-purpose community access centre), has been incepted. From a thematic analysis of the data, issues such as access to technology/information; skills building; income opportunity; health/legal awareness; and gender implications, have emerged. This chapter concludes that development at the community level is a dynamic process emerging from the complex social interaction of actors' (for eg individual, family/group and society) interests. This chapter uncovers that the interactions are further influenced by other dominant forces, including social constraints over individuals or family interests and decision making.

In **Chapter IV**, Marc Holzer and Aroon Manoharan examined the association of the global digital divide with societal divide. The chapter is based on a study of global municipal web portals conducted through a collaboration between the E-Governance Institute at Rutgers-Newark, USA and the Global e-Policy e-Government Institute at Sungkyunkwan University in Seoul, South Korea. The joint study ranked municipalities worldwide based on their scores in five e-governance categories of security and privacy, usability, content, services and citizen participation. Crucial trends in the development of the municipal web portal indicate a growing digital divide between cities belonging to the OECD and non-OECD nations. This chapter attempts to understand the correlates of this divide, by exploring the association of this digital divide to other divides - social, political, economic and literacy divides among nations, particularly those between OECD and non-OECD nations.

Chapter V, coauthored by Charru Malhotra, V.M. Chariar, and L.K. Das, attempts to explore the role of community knowledge systems for making information and communication technologies more meaningful for governance in rural areas. In this chapter the authors acknowledge the positive role played by ICT enabled e-government as means of attaining good governance, but question the sustainability of majority of rural ICT interventions in the light of disparaging results in developing countries. The study of literature attributes this negligible success rate to several factors including neglect of traditional indigenous knowledge in the projects designed for rural masses. Authors of this study propose that by defining a proper framework and by use of proper methodologies, community knowledge systems (CKS) of a rural region, when incorporated in an e-governance initiative can assist various actors and processes of governance to attain good governance. Projects based on the proposed CKS based G2C2G framework are assumed to be more sustainable and effective for ushering development in the rural areas. Implementation of such projects would however require synergetic efforts between the government functionaries, aid agencies, non-profit organizations and the rural citizens. The prime hypothesis is that the assimilation, improvisation and dissemination of the traditional community knowledge systems using ICT initiatives for rural governance, would help to liberate local ingenuity to catalyse sustainable rural development

Chapter VI, coauthored by Sandeep Kaur and N. Mathiyalagan, examines the impact of e-government implementation on poverty reduction in rural India. Authors share the views that ICTs in general and e-governance in particular offer tremendous opportunities for improving demand-driven transparent and accountable service delivery targeting the underprivileged. The objective of this chapter is to examine the effects of e-government implementation in the context of widespread poverty in India through an extensive secondary data analysis on selected pro-poor initiatives in reducing poverty and improving rural livelihoods. Analysis also includes various contexts in which these ICT based interventions operate. Specific recommendations are made to involve the socially excluded groups in the design, implementation and access to e-government services. The chapter draws conclusions that governments should design appropriate public policies in implementing socially inclusive e-government strategies in the emerging information society.

Subhajit Choudhury and Sudhir Kumar in **Chapter VII** introduce ICT and its importance with respect to digital divide. Digital divides is the connotation of three terms global divide, social divide, democratic divide. Further, it discusses the role of United Nations and United Nation's Millennium Development Goals for bridging digital divide amongst the under developed and developing nations. It also relates e-democracy with citizen empowerment. Some projects related to e-governance in developing society in India, Nepal and Bangladesh are discussed. The chapter also suggests that Library and Information Centres have been given utmost priority in these countries to maintain the e-governance projects so that these projects can be better maintained with proper information and become more citizen-centric.

Siddhartha Ghosh then describes application of natural language processing (NLP) techniques in e-governance in **Chapter VIII**. The author argues that effective and efficient e-governments deploy ICT systems to deliver services through multiple channels that are accessible, fast, secure, reliable, seamless, and coherent. The chapter outlines that in order to implement better government-to-government (G2G), government-to-business (G2B), government-to-enterprise (G2E) and government-to-citizen (G2C) services, a good governance should not only utilize ICT, but it also has to be serious about implementing natural language processing (NLP) Techniques to reach up to the masses and make e-governance successful. This chapter shows the need of applying NLP technologies in the field of e-governance and also tries to focus on the issues, which can be resolved very easily with the help of these modern technologies. It also shows the advantages of applying NLP in e-governance.

Chapter IX authored by Anand Agrawal empirically assesses e-governance online-service quality (EGOSQ). A primary goal of e-governance is providing online-services to citizens over the internet (web portals) to facilitate government to citizen (G2C) and citizen to government (C2G) interactions and transactions. This chapter provides a perspective on the users' perceptions of the attributes which determine e-governance online-service quality. The research based approach is used to first develop the discussion on the needs of quality "e-governance online services" (EGOS) and then a research study is used to demonstrate development of measurement instrumentation to measure online service quality from the users' perspective. The author suggests that the presented method and the instrument can be adopted in any country/state with minor contextual modifications.

Chapter X authored by Sundresan Perumal presents a model to understand e-governance better and at the same time to help avoid possible problems during the period of transition from traditional government to e-government. Towards introducing the new model, the authors also identify a few unique cases of e-government. As the heat of the business to consumer e-commerce (B2C) sector grows, public services are entering the frame whereby government-to-business (G2B) and government to citizen (G2C) services are becoming popular at local, regional, national, or even supranational level, albeit at a comparatively slower rate. Further, the concept of the traditional government model is a more conservative entity, slower to change into new initiatives, than operators in the commercial field.

Shafi Al-Shafi and Vishanth Weerakkody in **Chapter XI** examines the adoption of free wireless internet parks (iPark) by Qatari citizens as means of accessing electronic services from public parks. The Qatari government has launched free wireless internet parks concept under their national electronic government (e-government) initiative with a view of providing free internet access for all citizens while enjoying the outdoors. By offering free wireless internet access, the Qatari government hopes to increase accessibility of e-government services and encourage their citizens to actively participate in the global information society with a view of bridging the digital divide. The adoption and diffusion of iPark services will depend on user acceptance and availability of wireless technology. This chapter examines an extended technology acceptance model (TAM) that proposes individual differences and technology complexity to determine perceived usefulness and perceived ease of the iPark initiative by using a survey based study. The chapter provides a discussion on the key findings, research implications, limitations, and future directions for the iPark initiative in Qatar.

Yogesh K. Dwivedi is attempted to provide readers an exhaustive list of references focused upon electronic government related issues in **Chapter XII**. The chapter also presents information on a series of variables which were extracted after conducting a Bibliometric analysis of 1037 articles on various aspects of electronic government research, published in 19 peer reviewed journals between 1986 and 2008. Author believe that results of this research may have implications for authors/researchers, journal and book editors, reviewers and universities.

C.S.R. Prabhu presents electronic government development and initiatives in India from the practitioner's eyes in **Chapter XIII** which is briefly described here. The National E-Governance Plan (NeGP) proposes citizen service delivery up to the village level through various channels including village kiosks. The citizen services to be delivered are going to be web services (as against the present simply web enabled services) based on the service oriented architecture paradigm. These Web services expect adequate networking and computing resources for effective and efficient service delivery. Grid computing is the new computing paradigm. According to Gartner, computing (scientific, business and e-governance based) will be completely transformed in this decade by using grid enabled web services to integrate across the Internet to share not only information and application but also computing power. The latest grid computing standard open Grid services architecture (OGSA) integrates the power of the grid with that of the web services–both stateless and stateful, based on service oriented architecture (SOA). This chapter outlines how, by leveraging the power of grid computing India is moving towards an e-governance grid. Towards this objective, existing computing networks such as NICNET with all its SAN data centres connected with each other and also the other state owned Data Centres and state wide area networks (SWANs) are required to be connected with each other to ultimately form the e-governance grid of India (e-GGI). The chapter narrates how, once this is achieved, the web services which offer citizens services will be effectively supported by the powerful resources of this e-GGI, ensuring nonstop, fast and efficient delivery, with all the due backup, mirroring and recovery features in place. The authors argue that consequently Web services repositories can be successfully operationalised at the district, state and national levels on the e-governance grid of India, thereby delivering citizen services across the country. An architectural framework for citizen services delivery is also proposed based on e-GGI.

Swamy Tribhuvananda H.V. and Gopakumar K. presents a case on one of the e-government initiative in India in **Chapter XIV**. ICTs are increasingly being recognized by the people across the globe as essential tools of development–tools that can empower them, enhance skills and increase productivity. Technology, science and other aspects of affluence have widened the gulf between rich and poor. On the other hand, they have also brought the world closer, in terms of connectivity. This has resulted in stupendous growth in terms of information exchange, business, education, agriculture, infotainment, inventions and better contact between places and people. The concept that the authors present within this chapter represents this very dream of brining villages, towns and cities closer, in more ways than tying them by technology. This chapter mainly reviews the conceptual frame work of e-halli in an Indian context.

In the pen-ultimate chapter, **Chapter XV**, Moaman Al-Busaidy and Vishanth Weerakkody aims to examine e-government activities in the Sultanate of Oman and to identify factors that are currently impeding e-government development and implementation. While issues such as lack of legal frameworks, strategy, project plans, usability issues and information quality are identified in the published literature as impeding e-government progress in Oman, this chapter suggests that factors such as Web accessibility and integration of various government agencies also pose a major challenge for e-government implementation in Oman.

Finally, **Chapter XVI** examines the 'publicness' of the telecentres in the framework of public sphere as defined by Habermas. The paper uses telecentres as representative of 'technology mediated public space' created by ICTs and Internet and examines two approaches to the Telecentre movement, analysing whether Telecentres can meet the requirements of the rational-critical discussions and if and what factors influence the extension of the public sphere. The chapter concludes that while the telecentres create opportunities to improve communication and reconnect citizens to the State, offering greater access to information and support for group based discussion, they are likely to support only incremental modifications to the democratic system because the current use of information communication technologies (ICTs) concentrates primarily on information provision, and not linkages that improve the quality of democratic discourse.

Considering the richness and depth of the content illustrated by the brief description presented above, we firmly believe that this book will be an excellent resource for readers/audiences who wish to learn more on how to encourage the successful development and adoption of electronic government and its exploitations for improving various democratic processes particularly in the context of rural development and empowerment. The chapters included in this book are also useful for readers who are interested in learning about how various research approaches and methods fit with different theories. The target audience for the Handbook includes policy makers, academics/researchers and students.

We sincerely hope that this book will provide a positive contribution to the area of information systems in general and electronic government specifically. In order to make further research progress and improvement in the understanding of this area, we would like to welcome feedback and comments about this book from readers. Comments and constructive suggestions can be sent to the Editors of IGI Global at the address provided at the beginning of the book.

Sincerely,

Ganesh P. Sahu
Yogesh K. Dwivedi
Vishanth Weerakkody

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ENDNOTES

[1]   Sahu, G. P. and Gupta, M. P. (2007), Users' Acceptance of E-Government: A study of Indian Central Excise, *International Journal of E-Government Research*, 3(3), pp 1- 23
[2]   Shetty, K.A.V. (2003), Why most e-Government projects fail. Business Line, *Internet Edition*, November 15,2003, Retrieved May 10, 2005 from http://www.blonnet.com /2003/11/ 15/stories/2003111500050800