

ICT Enabled Municipal Government Innovation: Comparative study of E-government in
Tampa, Florida and South Delhi, India.

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Of

Master of City Planning

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Abstract:

This study explores adoption of e-government in two municipal governments of Tampa, Florida, US., and South Delhi, India. The study examined various e-government projects in two municipalities and explored views, and attitudes of policy makers and civic officials for these projects. Main questions were about e-government's benefits to public sector and the success rate. Marketing of e-government projects and also supply v/s demand driven approach to e-government was explored.

CHAPTER 1

INTRODUCTION

This chapter presents an introduction to and overview of the study. The chapter begins with an introduction, followed by the framework of the study and the literature on traditional and emerging eGov channels for urbanites. The chapter concludes with the organization of the remainder of the study.

Introduction

The development of information and communication technologies (ICTs) (e.g., telephone, facsimile, videoconference) and the emergence of the revolutionary technology of the Internet have enabled societies to become information rich. The Internet, in particular, has generated different channels of communication and information, and telematics has opened up the possibility for universal access to information (Graham & Marvin, 1997). The impact of ICTs is so great that today's society is called the information society or viewed as a society in the information age.

Computer technology and computer networks have propelled the economy into what has been called the "new economy," one driven by information and technology. In this new economy, individuals have access to information above and beyond what is provided by the traditional media of television, radio, and newspapers. The Internet and the World Wide Web (WWW) have brought a new form of information broadcasting, which has the capacity for capturing, storing, and retrieving information at one's convenience. The Internet also has become the converging source of traditional media. Because this technology has a global reach, it also has initiated a new kind of business

environment known as e-commerce. Last but not least, government administration has become technologically savvy and is able to reap the benefits of the Internet.

This immense generation and diffusion of information has motivated many nations to consider this technology as a facilitator of its economic, social, and administrative development. Citizens are being enriched with information, a new economy is being formed, and on-line public services are being distributed. This is mainly powered by the Internet. Governments have quickly recognized the promise of the Internet in terms of their administration and efficient distribution of public services. “The availability of technology has made it possible for the government to take steps in the direction of being electronically enabled” (eGov, 2005, p. 6).

The traditional work style of government offices is being transformed with the help of technology. This paradigm change is justified by the fact that governments are facing more urban challenges due to increasing population growth, especially in metropolitan areas of the developing world, traffic congestion, and increased competition from the private sector. The traditional systems of bureaucratic and top-down decision making are now inadequate to cope with urban problems. Hence, technology has become a helping hand for governments to make cities more inclusive, encourage public participation, and empower societies.

There also has been increased diffusion of education and awareness, which has empowered citizens to demand better services from their governments. Globalization is another major factor that has forced governments to harness information technologies to keep pace with rest of the world. Local governments have adopted technology for transformation of administrative systems, which are faster and citizen-centric.

This study is an effort to understand the use of ICT enabled government, known as e-government (eGov), at municipality level. For better administration and distribution of public services, various municipalities are adopting eGov. The intent of this study is to first understand what eGov is. Relevant questions include: Why is it topical today? What are the payoffs of this new kind of urban governance? How citizens are responding to eGov? What are the values and attitudes of policy makers and civic officials in regard to eGov? What kind of budget is designated for these eGov projects? How is eGov assisting residents of low-income neighborhoods? Is eGov demand-driven or supply-driven? This study presents many pressing issues of eGov and has practical utility because it is a comparative study of two different economies, the US and India. Both countries are diverse in their economies and governments, but are equally dedicated.

City planning as a discipline cannot stay out of touch of this new kind of urban governance. Managing cities by embracing technologies at local government levels has become a key strategy in the developed, as well as the developing, world. The world is adopting eGov at a rapid rate, and it is time that city planning starts investigating this new type of urban governance.

eGov helps city planners to engage citizens with planners, planning commissioners, and other public officials (Cowley & Manta, 2004). The traditional form of reception of information via paper files is being transformed by posting the information online. Citizens benefit from this because information is now accessible, independent of a fixed location (government offices) or restricted periods of time (office hours). The communicative capabilities of email and chat rooms have provided a source for citizens to connect with their elected representatives.

ePlanning is a parallel concept emerging with eGov and has become part and parcel of urban planning departments. ePlanning and eGov correspond with each other in the sense that they both have similar goals. Both embrace ICT for smoother distribution of services and increasing public participation in decision-making.

Framework of the Study

This study starts with the traditional method of reviewing the relevant literature. The focus of the study is eGov, specifically why and how in the two different economies of the US and India, with a focus on local governments. The municipalities of Tampa, Florida in the US and South Delhi in India are the two local governments that serve as case studies.

The main objective of this study is to understand how the functions of urban governance are being facilitated by eGov. The definition of governance followed in this study is taken from Kettle, 2002 who defines it as a way of describing the links between government and its broader environment, political, social, administrative.

After presenting the relevant issues of eGov, its relationship to the urban sector, and its pattern of evolution in two nations, two local governments (Tampa and South Delhi) are investigated in terms of their eGov initiatives. A survey was administered to various policy makers, officials, and citizens (only in South Delhi) to understand their attitudes and initiatives, and the accessibility of eGov services.

Here it becomes necessary to state that eGov and ePlanning are not studied separately in this work. Various planning departments are using ICTs such as websites to disseminate information and allow citizens to participate in planning processes online. The author's experience with two local governments is that the officials in the planning

departments have embraced ICTs under the umbrella of eGov, but not ePlanning, and there is no specific distinction made between eGov and ePlanning in this study. The reason for this is that both have the same premise, i.e., to increase public participation for better distribution of public services and to increase the efficiency of administrative processes. Additionally, it should be noted that the physical implications (physical form of city) of emerging technological interventions is beyond the scope of this study.

Objectives of the Study

This study is guided by three objectives. The first objective is to explore the adoption of eGov in two local governments, one in a developed country (Tampa, FL, US) and the other in a developing country (South Delhi, India). The second is to understand the collaboration of various stakeholders for eGov planning. The third is to identify benefits of eGov experienced by policy makers and civic officials.

It is important to begin this understanding of eGov by illustrating the traditional and emerging eGov channels for urbanites and why urbanites are using these channels. eGov is not only the use of Internet; it is the use of any form of ICTs. In today's world, the Internet has become a boon for public sector, but previously telephone "worked the same magic."

Traditional and Emerging eGov Channels for Urbanites

On March 10, 1876, the telephone was born when Alexander Graham Bell called to his assistant, "Mr. Watson! Come here! I want you!" (<http://www.npr.org/templates/story/story.php?storyId=3602515>). This revolutionary technology changed the world of communications. Many new technologies were built on the basis of this invention, which connected the whole world.

Only two decades ago, telecommunications were virtually synonymous with one service—the basic telephone or Plain Old Telephone Service (POTS) (Marvin & Graham, 1997). Telephone services were often seen to be a quasi-public good, in which a single, universal network was necessary due to the vast costs of developing a network through all parts of the nation state and the need for less affluent users and areas to gain access to the telephone. The telephone was adopted rapidly in the public sector. Casson (1910) stated, “Public officials, even in the United States, have been slow to change from the old-fashioned and more dignified use of written documents and uniformed messengers, but in the last ten years there has been a sweeping revolution in this respect. Government by telephone!” (p. 201).

Hence, citizens had access to this ICT equipment, i.e., telephone, to get information on public services. More generally, as telephones became integrated into the economic and social fabric of society, they provided an important boost to the elaboration of the mass production and mass consumption system, based on individual households who were able to act at a distance in “real time” by communicating with each other and a wide range of service providers, *even government* (Marvin & Graham, 1997).

Since the late 1970s, the world of telecommunications has engaged in continuous experimentation and implementation of new equipment that facilitates a better and faster flow of information to its users. The previously separate areas of telecommunications, computing, and media technologies began to converge around a core group of digitized technologies for the same purpose (these converged technologies are collectively called telematics). These digital telecommunications are more capable, more accurate, more flexible, and often less costly than analogue telecommunications. As a result of

envisioning these benefits, there has been explosion of technologies that have facilitated more rapid capturing, storing, and retrieving of information. Below is a timeline (Graham & Marvin, 1997) of the various forms of technology that helped urbanites to access public services at an increasing faster rate. Citizens used these to access services and government used them to increase their efficiency.

- 1847 – 1877 Telegraphy
- 1877 – 1929 Telephony
- 1930 – 1959 Telex, Photo, Facsimile
- 1960 – 1974 Color Television, Mobile Telephony, Paging,
- 1975 – 1983 Low and medium speed data, photo, paging
- 1984 – 1999 High-speed data, Videotex, Teletex, Videoconference, Internet
- 2000 – Broadband, electronic mail, telenewspapers, speech facsimile, telephone conference, mobile video telephony, mobile data.

The revolutionary technology of the Internet and email enables urbanites to access information and services of the public sector in a rapid manner. The information, communications, and transactional capabilities of telematics are being harnessed for better distribution of urban public services. Info-kiosks, videotext terminals, automatic teller machines, and smart cards are increasingly being used by urbanites to access public services. Citizens are using these electronic media for day-to-day correspondence/information requests, communication, and transactions with the government.

Discussion groups, blogs, and now podcasting have become useful tools to post one's opinion, grievances, appreciation, demands, and democratic voice. It is worth

mentioning a story of a woman in the Arab world who used a blog to have her voice heard in regard to the mistreatment she received from a municipal official (T.V. channel - C-span 2, March). Homepages/blogs are becoming parallel media for citizens to express their democratic rights. This is a big achievement of this technology. Many citizens have used websites to bring corruption out into the open. Tehalka.com of India is one great example of this. This website features video streams of corruption cases in the public sector. Below is a list of the reasons, developed by the researcher from the literature, that urbanites are using eGov services.

1. Citizens can access integrated whole-of-government services across the three tiers of government (federal, state, and local).

2. Services can be accessed in a "24/7" mode in an online environment (even on weekends). Previously, although some government business could be conducted via phone, other business required a trip to a government office. Such commuting can become taxing if citizen is from a remote area. As such, government services via the Internet can be quite convenient.

3. Job search websites are a good example how using the Internet can provide a better quality service, at the convenience of the user, at a lower cost.

4. Urbanites can get involved in government decision-making processes, for example, by voting online for various policy issues. Grievance report facilities provided on websites are used extensively by urbanites.

Hence, starting with the use of the telephone for accessing public services (mainly getting information about public services), urbanites have been offered various kinds of telecommunication tools to get closer to government and participate actively in

democracy. It should be noted, however, that eGov participatory tools are still in their infancy and there are many challenges that have to be overcome.

Organization of the Remainder of the Study

This chapter has laid down foundation for this study, with a brief description of eGov's increasing importance in urban governance and the various ICT channels available for urbanites to conveniently interact with the government.

Chapter 2 looks into the various issues related to eGov and the urban sector. The chapter starts with definitional issues of eGov and then presents the importance of eGov in today's urban growth. The chapter continues with theoretical reasons behind eGov in the discipline of urban planning, eGov's contribution to society, environment, and government, and eGov channels for citizen participation in urban planning processes.

Chapter 3 presents the evolution of eGov in both the US and India and illustrates the political as well as bureaucratic environment which fostered the adoption of eGov in the public sector. A comparison of the evolutionary path in both countries is also provided.

Chapter 4 provides some examples of eGov projects in US and India as a means to show how eGov is put into practical use. Two projects from each country are used as examples. Chapter 5 presents the results of the field study in Tampa and Delhi. Chapter 6 concludes the study, with a comparison of eGov growth in both countries. The chapter ends with recommendations for further research.

CHAPTER 2
ISSUES, IMPORTANCE, PLANNING THEORY, AND
CONTRIBUTIONS OF eGOV

This chapter presents the relevant issues and importance of eGov. The chapter begins with definitional issues of eGov, followed by the importance of eGov in worldwide urban growth, planning theory of eGov, eGov's contribution to society, the environment, and the government and eGov channels for citizen participation in city planning processes. The chapter concludes with a summary and overview of Chapter 3.

Definitional Issues of eGov

eGov has a variety of definitions, is multi-faceted, and is currently in a fluid state. "Given the diversity of concepts of eGov around the world, creating a workable definition of eGov is becoming very difficult" (Roy, 2003, p. 3). A metaphor for defining eGov is found in the story of the elephant that was described by blindfolded men; each perceived a different part of the elephant as something else, rather than as different parts of one animal. Nevertheless, it is justifiable to have varying degrees of defining criteria of eGov because it is a concept that is still maturing and evolving. "At present, *electronic government*, or e-government, is a largely amorphous concept of varying meaning for different people" (Scifert & Relyea, 2004, p. 8).

eGov is a concept that has been widely accepted around the world, but with different levels of applicability. Goals for eGov websites are as diverse as the governments that create them (Jaeger, 2003). Some define eGov as installing info-kiosks where citizens can access public services online. Others define it as the storing of government agencies' data in electronic format for better administration of the public

sector. Still others define it as a revolutionary concept that makes government processes more transparent because information is available online, rather than hidden in files or collecting dust in the corner of an office.

One commonality found in more definitions of eGov is the presence of electronic media, especially the Internet. The objectives of using the technology might be different, but main theme is to increase the speed of bureaucracy, keep citizens informed, and reduce the waiting period and related corruption in accessing public services.

The dependency of government on technology was realized in 1971 in the US when a report of the Commission on the Year 2000 of the American Academy of Arts and Sciences stated:

By the year 2000, despite the growth in the size and complexity of federal programs, the technological improvement of the computer, closed-circuit TV, facsimile transmission, and so on, will make it possible for the federal bureaucracy to carry out its functions much more efficiently and effectively than it can today, with no increase in total manpower (Capron, p. 307).

Accepting the fact that eGov is multi-faceted, it becomes essential to illustrate various definitions of eGov with some background for each definition.

The simplest definition is by Heeks (1997), who defines eGov as the ICT-enabled route to achieving good governance. The simplicity of this definition raises various questions such as, what is good governance? Although not being an explanatory definition, it does indicate there are issues in government that could be rectified by adopting ICT.

eGov was defined in the US E-Government Act of 2002 as:

the use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to (a) enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities; or (b) bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation” (116 Stat. 2899, at 2902 – as cited in Scifert & Relyea).

This definition describes the current understanding of eGov within the federal government (<http://www.whitehouse.gov/omb/egov/>).

The Government of India, although very aggressive in adopting eGov, has not spent time in defining the concept at the government level. The center of eGov, the Department of Information Technology, Government of India, loosely defines eGov as a methodology involving the use of Information Technology (IT) in improving transparency, providing information speedily to all citizens, improving administrative efficiency, and improving public services such as transportation, power, health, water, security, and municipal services.

India has embraced eGov due to its high faith in IT (www.mit.gov.in). The mindset of India is very much in favor of adopting hard sciences to facilitate economic development. The recent success of India’s private sector in becoming one of the top IT hubs propelled the fast adoption of IT in government. This definition implies that IT will revitalize the government and its services and enable government to become a catalyst for

economic development. In addition, citizens would have access to information and public services without the hassle of “red tape.”

Academia has started publishing various academic journals and books to capture the definition and role of eGov. Wyld (2004) presented the three essential elements of a definition of eGov, which are participants, purposes, and processes. Participants are the users of eGov. They are categorized into the three groups of citizens, businesses, and government. The architecture of eGov application is designed depending on the needs of these user groups. When there are different groups, their purposes are also categorized, in terms of communication, information dissemination/gathering, payment/fee collection, and permission seeking/granting.

The mechanism through which the participants in eGov carry out their purpose in an online environment is the “processes,” the defining characteristic of which is the presence of electronic media to carry out the purposes of various participants. Bringing the participants, purposes, and processes together, eGov is, according to Wyld (2004) “the use of electronic processes by citizens, businesses, and the government to communicate, to disseminate and gather information, to facilitate payments, and to carry out permitting in an online environment” (p. 20).

The American Planning Association (APA), an organization which is an “outspoken advocate of planning” (www.planning.org), has recently started a column on eGov. Slowly but surely, urban planning is using eGov technology to facilitate citizen participation in planning processes and allowing citizens to interact with government online for planning related permits. The APA Planning Advisory Service (PAS) recently published a document called E-Government (Cowley & Conroy, 2004). Authors of this

document define eGov as the government's use of the Internet, as well as other forms of technology for enhanced information and service delivery to citizens.

In this study, Wyld's (2004) definition of eGov has been adopted. Wyld defined eGov as the use of electronic processes by citizens, businesses, and the government to communicate, to disseminate and gather information, to facilitate payments, and to carry out permitting in an online environment. This definition describes the nature of users, the level of usability, and the type of medium (electronic) used for these services. It is a complete definition that works well with this study.

The empirical part of this study, which included a data gathering trip to Tampa and Delhi, revealed the utility of Wyld's (2004) definition, in terms of the use of the electronic processes, mainly the Internet, used by the citizens. Although this study did not consider business groups in detail, interviews with policy makers and civic officials highlighted the benefits these communities are enjoying due to eGov services. It should be noted that citizens of Tampa were not directly interviewed, as will be detailed later. However, Delhi citizens were interviewed and their impressions of the accessibility and use of eGov were included in the study. Finally, government is the most prominent part of this study, and government officials were interviewed. The usability features described in the definition relate to the benefits illustrated in this study. An additional issue, the digital divide and India's struggle to cross the divide, is also covered in this study.

Importance of eGov In Worldwide Urban Growth

The functioning and economic development of cities have changed since the time that cities were shaped by their positions "within single, urban hierarchies oriented

towards nation states” (Graham & Marvin, 1997, p. 124). The global economy and deindustrialization are transforming the way urban economies work. Now cities are shaping their economies based on consumer services. Financial services, media, education, advertising, leisure, and retail are all dependent on production, distribution, and processing of information. A major shift from manufacturing towards producer services, consumer services, and knowledge-based services is remaking the economic constitution of cities (Graham & Marvin, 1997).

There is a concomitant change in economic composition of cities around the world. Cities are now known as “invisible cities,” “information cities,” “wired cities,” “knowledge-based cities,” “virtual cities,” and “electronic cities.” Globalization has been encouraged by the Internet, which operates 24 hours a day, 7 days a week (“24/7”). This means that ideas and innovation can occur around the clock. In this new environment, it is important for government to develop mechanisms to encourage the private sector, as well as public sector research organizations, to be innovative and able to deploy knowledge.

eGov has fast become part and parcel of urban governance due to its capacity to ensure better flow of information at different levels of administration and to its constituencies. With increasing decentralization occurring at local governments around the world, adoption of electronic data systems enables officials to carry out their duties efficiently (Laterasse & Pauchard, 1995, as cited in Graham & Marvin, 1997). Moreover, as the cities around the world are entering into a knowledge economy, the pressure on local governments to entertain businesses’ and citizens’ needs is increasing. With globalization, businesses and citizens need faster services from the public sector and

faster responses to their requests, grievances, and appeals to compete in world market. eGov has helped governments meet these new demands.

The growing importance of city-regions as centers of economic growth in the knowledge economy has come to the forefront of economic development and competitiveness strategies across the world (<http://www.prisma-eu.net>). This has put enormous pressure on urban governance due to population growth and migration, changes in the industrial structure, employment growth, and globalization. City-regions attract highly skilled jobs, financial investments, and national and international migrants with special skills. This places increased demands on public services and the infrastructure. eGov provides the ability to meet these increasing needs. eGov is driving government process innovation (GPI) and has facilitated the creation of new products, processes, and services. “All sectors of governance from transport, health, tourism, environment, administration, citizens, businesses etc could benefit from eGov services” (<http://www.prisma-eu.net>).

Geographical information systems (GIS) is another eGov application that is being aggressively used for information dissemination and tracking the rate of physical urban growth. These systems include municipal data banks, computer-aided land surveys and plans, geographical data, and information systems (Laterasse & Pauchard, 1995). Municipal governments are using GIS to provide visual/pictorial presentations of land-uses and master plans to citizens online. These systems are used for creating neighborhood indicators for residents (Interview with a city planner of Tampa, March 28th, 2005).

The urban poor are benefiting from eGov applications by receiving information and services online through info-kiosks or telecenters. The developing world has moved rapidly in adopting telecenter/cyber café strategies to enable the masses to have access to Internet connectivity.

Planning Theory and eGov

The SITAR Model

Hudson (1979) developed the SITAR model, which is comprised of five planning theories characterized by five major planning dimensions. The major dimensions are public interest, human dimension, feasibility, action potential, substantive theory, and self-reflection. The major planning modes/theories in the SITAR model are synoptic planning, incremental planning, transactive planning, advocacy planning, and radical planning. These different theories, in relation to eGov, are described below and are based on work of Larsen (2003), who linked planning theories with ICT use in planning.

Synoptic planning is based on full instrumental rationality when analyzing and making decisions in planning (goal-rational). This planning mode is also called rationalistic planning. The theory builds on a positivistic perspective, in which it is possible to find a “best solution” to all planning issues using modeling and analytic techniques. Feasibility of the process is tested with help of data and analytical tools, and feasibility is the strongest characteristic. eGov has the capability of supporting this planning mode. eGov instruments such as GIS, electronic data systems, chatrooms, email, and web pages improve and support the feasibility dimension of this mode of planning.

Incremental planning, as noted by Lindblom (1959), is “the science of muddling through”. There is no clear means or ends; means and ends are defined and redefined as the planning process goes along. The communication process in this mode of planning is informal, and intuition, experience, rules of thumb, and various techniques known to the individual planner play a role in decision-making. Feasibility is the strongest dimension, and using good data and good analytical skills determine whether the planning process is feasible. eGov can support communicative and analytic dimensions through various eGov applications such as email, chatrooms, information from the Internet, GIS, and electronic data systems.

Transactive planning is based on communicative rationality, and the opinions of citizens have to be part of planning process. In this type of planning, the planner is a facilitator who functions as a center for systematic knowledge and who mediates and communicates information between the actors in planning process. Good relations between citizens and planning; transparency, acceptance, and mutual respect; time for understanding and listening are important components of transactive planning. Human dimension is a strong characteristic of this planning. eGov ,with its capacity to increase communication passages and increasing transparency in the system, is supportive of transactive planning. eGov can facilitate growth and mutual learning between planner and its constituency.

Advocacy planning is rooted in bounded communicative rationality, and the core element is that everyone with interests in planning should have the opportunity to influence it. The planner as facilitator has to be the voice of the weaker section, which has limited or no means of getting involved in the planning process. The advocacy

planner has to speak for and support the community groups, environmental issues, the poor, and the disenfranchised against the established professions. Public interest is the dominating characteristic in this type of planning. eGov has potential in this mode of planning as well due to its strong capacity to increase communication between planner and client. When using eGov as a facilitator in this mode of planning, the digital divide is an issue, but the emergence of community telecenters and info-kiosks allows citizens to interact with their representatives.

Radical planning is an amalgamation of the modes of planning described above and is an ambiguous tradition. Public interest is the dimension that is prominent in this mode of planning, and eGov has been documented to increase public participation in democracy (e-democracy) and open various channels of communication and information. In summary, the analytic and communicative strengths of eGov facilitate most of the key dimensions embedded in above described planning modes.

Although eGov can adapt to above mentioned modes of planning, but, researcher would argue that eGov could be used more specifically under the planning modes of 'transactive' and 'advocacy'. These two modes of planning engages citizens directly and eGov can become a communicative tool to facilitate this engagement.

eGov's Contribution to Society, the Environment,
and the Government

Contribution to Society

Electronic government promises more than fast, accurate transactions and delivery of information services in the government-to-citizen, government-to-business, and government-to-government modes. E-government also contains the

seeds of an even higher value: the greater health and better practice of democracy (McGinnis, 2003, p. 51).

In addition to a strengthened democracy, there are other benefits of eGov. These social benefits include more professional development opportunities obtained through online forums, information sharing, and bulletin boards within professional and trade groups. When interacting with the government, citizens are now able to have the kind of convenience and access that the private sector provides. Governments have recognized the Internet as an effective service delivery channel. It provides access to government information and services anywhere, any time, and for anyone with access to a computer and a telephone line or an info-kiosks/cybercafe.

The Commonwealth Government published its *E-government Benefits Study* (http://www.agimo.gov.au/publications/2003/03/e-govt_benefits_study), which identified the social benefits of eGov. The first benefit is faster turnaround of service delivery. Because agencies are using online services, the staff is not as involved as they are in face-to-face interaction with citizens. This gives staff time to concentrate on other complex issues and, consequently, serious/complex issues of administration receive attention. This makes administration more efficient, and citizens gain timely services and information. Additionally, there is the potential for administrative backlogs to be eradicated. Both the government and citizens benefit from this. People can access information directly from the Internet without having to visit the agency, thus significantly improving service levels.

A second benefit is 24-hour service delivery. People are able to seek information outside of business hours. For example, they can take advantage of the ability to file tax returns outside of regular business hours.

A third benefit is improved ability to find information. For some people, this is the greatest benefit. The ability to find information has enabled them to better understand their government and to find a support program that meets their needs.

A fourth benefit is a wider reach of information to the community. People are demanding increased access to electronically published information, supported by email and electronic transactions. The availability of information and transaction-based capabilities are increasing the reach of government to citizens and business and from the community to government.

A fifth benefit is better communication with rural and remote communities. In past years, people from rural and remote communities were relatively disfranchised with regard to access and were disadvantaged in comparison to their metropolitan counterparts. A broadband infrastructure improves the potential for regional and rural communities to have the same levels of access to information and government transactions, and their service expectations are aligned with the enhanced capability of the technology.

A sixth benefit is "eDemocracy." Citizens are able to voice their opinions on various policy issues through Internet websites. Representatives of the public are able to communicate with their constituencies through email. eGov has opened a range of communication channels between citizens and government.

Contribution to the Environment

eGov applications are being implemented in various municipalities for better management of waste and recycling. Many municipalities are using Internet services to inform citizens how to become environmentally responsible and ensure that they are conforming to laws and regulation (website of the NCT of Delhi, www.delhigovt.nic.in).

Many consulting firms are now providing software to municipalities to better manage environmental issues. eGov is aiming to develop technological solutions to help authorities manage waste and promote recycling, as a means to ensure compliance with government objectives to reduce landfill and dispose of waste in a sustainable manner (<http://www.vantagemc.co.uk/en/1/wrwa.html>).

In regard to the environment, eGov provides a number of benefits, including:

- (a) coordinating the collection of detailed data on waste management;
- (b) improving access to public information on recycling through developing a web-based portal of coordinated information;
- (c) providing new technologies to support waste management and recycling;
- (d) electronically registering and tracing vehicles with a history of pollutant emission;
- (d) enabling citizens can use emails to inform the government of the environmental problems of neighborhood; and
- (e) facilitating environmental protection projects on proposed tree plantation, rate of deforestation through electronic data storage and sharing of data at a regional level.

Web portals can be designed to keep the public better informed, support authorities in providing cleaner streets, reduce complaints, and increase recycling and reducing costs. Information such as how well an area is recycling, recycling points, comprehensive information how to keep communities environmentally safe and, most

importantly, whether a local authority is meeting national targets of environment sustainability laws could be posted on websites.

Contribution to the Government

In the wake of urban economic restructuring and globalization, there is now a remarkable homogeneity in the shift from what David Harvey calls “managerial” service-oriented form of urban governance to new strands of ‘urban entrepreneurialism’ (Harvey, 1989). The emergence of public-private alliances and growth coalitions are becoming necessary to secure the tough competition of individual cities in the global economy. Mayer (1995) stated that governance in the wake of new financial and political shifts is refocusing its roles in social, consumption, and welfare services. In most cities, universal welfare services are being restructured as a “safety net” for those in most desperate need, and voluntary agencies are playing a more significant role. There is new need for privatization of urban services, business-style management methods, and stress on efficiency, rather than social on redistribution and territorial justice (Graham & Marvin, 1997).

eGov is being implemented in many forms for management of urban governance. Governance is leaning towards eGov applications as a means of transparency and accountability in public sector administration. Electronic mail, listservs, and the WWW are becoming key telecommunication tools to deliver information and services. “By the end of the 1990s, Web-based services were already an integral and significant part of new ‘e-government’” (Ho, 2002, p. 434). The management and organization of urban government is, fundamentally, an “information business,” and this led Hepworth (1989) to coin the term “municipal information economy.”

Telecommunications in urban governance acts as a support system for planning and control over service operations, measuring productivity and service quality, innovation in the “street level interface” with local citizens, and better methods of resolving complicated issues (Graham & Marvin, 1997). Ho (2002) explains how use of ICTs in public sector for service delivery became important in the age of explosive growth of Internet usage and rapid development of e-commerce in the private sector. He explains the evolution of eGov as emerging from the traditional model of bureaucracy. The traditional model, also known as the Weberian model of organizations, focuses on internal and managerial concerns and emphasizes departmentalization, specialization, standardization, and routinization of production process (Weber, 1947). Although there are many benefits of this model, such as professional specialization, reduced transaction costs of official communication, and coordination based on departmentalization and routinization, it has been criticized for its rigidity, proceduralism, inefficiency, and incapability to serve the “human client,” who has preferences and feelings (Ho, 2002).

According to Ho (2002), use of ICTs in government system started with a vision to reorient the focus of government operations from an inward-looking approach to an outward-looking one by emphasizing the concerns and needs of end users. He described the model of Osborne and Gaebler (1992, as cited in Ho, 2002), in which the citizen is regarded as a “customer” who becomes the central focus of government public service delivery. The challenge for public officials in the eGov environment is to enable and empower citizens and make them owners of their government. This is possible if the government forms a partnership with citizen and non-profit organizations. Using ICTs in public sector could facilitate this partnership. The governor of Delhi has started an online

partnership between government and citizens, called Bhagidari (www.delhigovt.nic.in), wherein neighborhood associations participate in government processes.

eGov Channels for Citizen Participation in City Planning Processes

Citizen participation in planning processes is highly regarded and considered mandatory. Often cited benefits of participation include increasing the education and awareness levels of the citizenry, civic engagement, government responsiveness, and citizens' commitment to implementation (Arnstein, 1969; Berry, Portney, & Thomson, 1993). The relevant question is how to facilitate increased participation of the public in these processes. Commuting time and household and work responsibilities generally hinder the attending of planning processes. eGov is a potential communicative tool that planners can use to engage the public by allowing them to participate at their convenience.

The focus of eGov has been to transform traditionally face- or file-oriented tasks to a digital realm (Cowley & Conroy, 2004). Cowley and Conroy (2004) describe two forms of online participation opportunities. The first form is "information offerings" through online information for plans, zoning ordinance, GIS, and related issues. The second form is "interaction offerings" through email, applications, e-commerce, listservs, discussion forums, blogs, and podcasts.

Information offerings are a one-way form of participation. Interaction offerings allow receivers of information to become active participants in the process by posing their views using email, discussion forums, and listservs. Information offerings make citizens well informed of planning decisions and processes, and pdf and HTML are used for this purpose. Interaction offerings provide an opportunity to individuals with limited

resources to communicate with councilpersons, planners, and the mayor. The communicative power of Internet, which is time and place independent, makes it a great tool for encouraging public participation. The Internet's unlimited storage potential allows the publishing of any amount of information on this medium.

Summary and Overview of Chapter 3

This chapter has considered the definition of eGov and the influence of eGov on different aspects of urban life. Now it is important to look at eGov in the context of the two countries that are focus of this study. The public sectors of the US and India have adopted eGov for better management of administration and efficient delivery of services to citizens. It is important to consider the evolution of eGov in these two countries to understand its vision and growth, and it is useful to examine the political and bureaucratic environments that influenced administrations to adopt eGov.

CHAPTER 3

EVOLUTION OF eGOV IN THE US AND INDIA

The private sector has been using ICTs (e-commerce) for cost-effective marketing and distribution of goods and services to customers. Likewise, the public sector has started harnessing ICTs for efficient distribution of services and for increasing the number of interaction channels with citizens and businesses (McGregor & Holman, 2004). Charting the evolutionary path of eGov in both the US and India is an important focus of this chapter. The chapter ends with a comparison of the evolutionary path of the two countries.

The US

Before the emergence of the Internet in the late 1980s, the government had been investigating the role of information technology to improve efficiency in internal operations and communication; the focus was not on improving external relationships with citizens. The US government was facing serious problems in regard to the efficient use of information technology for improving the “productivity, economy, efficiency, and effectiveness of agency programs” (Heeks, 1997, p. 234). There were cases of “vendor favoritism, lack of accountability, and ineffective controls” (Heeks, 1997, p. 234), which became expensive for the government. Public Law 89-306, also called the Brooks Act of 1965, was an attempt to take serious steps towards the right use and monitoring of information technology in the US government. This act helped to monitor IT accountability, which meant that agencies were held accountable for the acquisition, use, and disposal of information technology in improving the productivity, economy, efficiency, and effectiveness of agency programs (Heeks, 1997).

The period of 1965 to 1988 was dedicated to the implementation of this act. The period between 1989 and 1992 was spent strengthening supervision and “oversight hand.” The invention of newsgroups and commercial email technology in the mid-1980s and then the extensive use of the World Wide Web in early 1990s opened the doors to the shifting focus of government to its external relations with citizens (Scavo & Chi, 1999). The National Performance Review (NPR; 1993 – as cited in Heeks, 1999) took the first step towards the use of ICT in reinventing government. Clinton Administration’s NPR presented the blueprint for public sector reform and in it ICT played the role of “an engine for change” (Heeks, 1999).

From the 1930s through the 1960s, we built large, top-down, centralized bureaucracies . . . With their rigid preoccupation with standard operating procedure, their vertical chains of command . . . in today’s world of rapid change, lightning-quick information technologies, tough global competition, and demanding customers, large, top-down bureaucracies—public or private—don’t work very well (NPR, 1993 – as cited in Heeks, 1999, p.236).

NPR recommended a significant increase in the purchase of information technology by the General Services Administration (GSA). NPR set goals to cut “red tape,” put customers first, and empower employees to get results. In July 1995, GSA, with congressional support and Clinton Administration direction, gave authority to federal agencies to buy ICT products even beyond the levels suggested by the NPR.

By the time the Information Technology Management Reform Act (ITMRA) was enacted in February 1996, ICT had become an integral part of government. From 1996 on, the use of ICT in government had accelerated. According to Heeks (1997), ITMRA,

consolidated oversight and made the Office of Management and Budget (OMB) the manager of federal IT. A Chief Information Officer post was created in major agencies, and ICT was treated as an investment, rather than as an expense.

The importance of information technology for efficient government performance and service delivery propelled the formation of the Intergovernmental Technology Leadership Consortium in 1997 (McGinnis, 2003). “Its goal is not just to improve government’s service delivery but also to promote economic growth and—like certain other Council programs—to boost citizen participation in governance” (McGinnis, 2003, p. 55).

In October 1998, the Government Paper Elimination Act (GPEA) indicated the Clinton administration’s focus on using comprehensive electronic media for access and services in federal government (Fletcher, 2003). “GPEA was a major legislative endorsement of electronic government” (p. 269). October 2003 was kept as a deadline for federal executive agencies to go online and for individuals and businesses to be able to interact with federal agencies. This initiated the electronic environment at the federal level. Electronic transactions, record keeping, filing, maintenance, submission, and archiving initiated electronic information interactions between the government and the public.

On December 17, 1999, the White House published a document (presidential memorandum) titled “Electronic Government and The Use of Information Technology to Improve Our Society” (McGinnis, 2003). In 2001, the nonprofit Council of Excellence in Government published “E-Government: The Next American Revolution,” a vision of what full electronic government in America could accomplish and a blueprint of how to

get there (McGinnis, 2003). This report had been initiated in 1999, under the direction of then Vice President Al Gore who pushed the National Partnership for Reinventing Government. The Bush Administration took many suggestions from this blueprint, including the decision to create the senior-level position of Associate Director of the Office of Management and Budget for Information Technology and eGov. Another aspect was to make eGov a cornerstone for making government citizen-focused and to make cross-functional government a reality. Overall, eGov had to be an integrated, cross-agency approach to customer service delivery to citizens and businesses.

The E-Government Act of 2001, introduced by Senator Joseph Lieberman, was not successful. An amended version of the report, however, received strong congressional support, and the Senate passed the bill on November 15, 2002

Under the Bush administration a high-level task force was created, which called for designing the strategic actions needed to enable eGov (Fletcher, 2003). The initial eGov agenda was released on February 27, 2002 and was called the “E-Government Strategy” and contains a vision of a government that is citizen-centric, results oriented, and market based in nature. It mandates inter-agency cooperation for integrated data to simplify access to government and to reduce information resource expenses across government agencies (Fletcher, 2003).

President Bush signed the E-Government Act of 2002 on December 17, 2002.

The signing was muffled amidst the drumbeat of war talk with Iraq, and with scant controversy behind its bipartisan passage, it was little more than a blip on the radar screen of the nation’s media. Yet by the simple action of signing the act,

the president had taken a giant step toward launching the federal government into the information age (Datz, 2003, p.1).

This Act:

aim[ed] to enhance the management and promotion of Electronic Government services and processes by establishing a Federal Chief Information Officer within the OMB, and by establishing a broad framework of measures that requires using Internet-based information technology to enhance citizen access to government information and services, and for other purposes” (www.whitehouse.gov).

President Bush firmly believes in eGov, stating, “Implementation of E-Government is important in making Government more responsive and cost-effective” (www.whitehouse.gov). On the occasion of the second anniversary of the 2002 E-Government Act, Clay Johnson III, Deputy Director for Management for OMB stated:

In concert with the four other management agenda goals, E-government is transforming our agencies and producing results by providing improved services . The report released on this occasion of second anniversary identifies improved service delivery, enhanced role of enterprise architecture and future steps to be accomplished as part of the President’s Management Agenda (www.whitehouse.gov).

E-government initiatives at the local level were initially inspired by the advent of the idea of a “one-stop service center” (Ho, 2002). A one-stop service center is an umbrella organization that operates over different functional departments and is intended to provide efficient services to citizens (Ho, 2002). The state of Washington (1996), in its information technology plan, noted that one-stop shopping is a popular model in

private sector for customers and, similarly, a one-stop service center is a model that citizens demand from government for services and information. The emergence of the WWW inspired municipal governments to use the concept of one-stop services on a portal that is cost effective and serves the purpose of service delivery. Today, most of the cities have their official websites, with expanded e-services. Hence the journey of the eGov started with the Brooks Act of 1965 and has become an integral part of the public sector.

India

IT use in India's government goes back to formation of the National Informatics Center (NIC) in 1975. Computers were initially used on a large scale for military data processing during World War II (www.nic.in). "India was one of the first countries to utilize the capability of computers in Education, R&D, Planning and National Development" (www.nic.in). The war with China in 1962 made India realize the importance of a strong electronic base for security and national development. This realization ended with the setting up of the Electronics Committee in 1966 and the belief that computers were considered tools for the development of a "scientific culture" (www.nic.in). In 1970, the Department of Electronics (DOE) and, in 1971, the Information, Planning and Analysis Group (IPAG) of the Electronics Commission (EC) were organized by the government with the objective of doing in-depth research in the field of electronics, including computer technology. These were major steps to make country secure through embracing technology.

EC and DOE, with financial assistance from the United Nations Development Program (UNDP), formed NIC in 1975. The long-term objective of NIC was and still is

“to establish the feasibility of a system for the provision of detailed information to government ministries and agencies to assist them in making decisions relating to the country’s economic and social decisions for development” (www.nic.in). NIC worked towards providing informatics services to the government, managing and operating information systems in government, developing methodologies for designing and implementing national information systems and data management techniques, and helping in data collection and training sessions for users. NIC has worked tirelessly to make government information rich and technology enabled and has developed various informatics programs at national, state, and municipal levels.

NICNET was an initiative by NIC in 1988 to set up a satellite-based computer communication network to reach 550 districts of the country, even before the popularity of Internet technology. This could be considered one of the most important milestones achieved by the government to spread ICTs in India.

The National Association of Software Services Companies (NASSCOM) was formed as a result of increased importance accorded to ICTs to become a viable tool for socioeconomic development of the country. NASSCOM’s vision is to establish India as the 21st century’s software powerhouse and position the country as the global sourcing hub for software and services. One of its seven-fold strategies to achieve its objectives is to form a partnership with the Government of India and State Governments in formulating IT policies and legislation (www.nasscom.com).

Growing ICT support, venture capitalism, and increasing privatization became a catalyst for e-governance projects (Fraunholz & Unnithan, 2002). The Ministry of Information Technology (MIT, now called the Department of Information Technology

[DIT]) was formed in 2000 with a mission to support penetration of ICT, with emphasis on the Internet and computer technologies in governments. The DIT website (<http://egov.mit.gov.in/>) lists the primary activities of the center, which include: (a) showcase best e-government projects and related public policies; (b) conduct programs for creating awareness of e-government among decision makers in the central and state governments; (c) demonstrate the feasibility of e-government through workshops, demonstration programs, and video-/tele-conferencing; (d) help central and state governments in defining and implementing process and policy changes; and (e) enrich the repository of best practices through continuous interaction with subject matter experts from India and abroad.

The years 2001-2002 were a period when eGov became a buzzword as an increasing number of state governments began implementing IT solutions and offering key services online to citizens. Almost all Indian states have an IT policy and strategy in place and are intending to automate government services for the convenience of their citizens. The eGov market (currently around \$200 million in size) is expected to catalyze the domestic software and services market, opening up opportunities for large and small players in areas such as consultancy, infrastructure supply, and development of e-government applications (www.nasscom.com).

A major task force undertaken by the Vajpayee administration in 1998 envisioned the eGov strategy of India. It was called the National Task Force for Information Technology and Software Development, and the strategy was called the Information Technology Action Plan Part III-Long Term National IT Policy, which highlighted the

citizen-IT interface. The main features of this long-term national IT policy were as follows:

1. There should be an emphasis on the creation of a government-wide electronic information infrastructure for simplifying service delivery, reducing duplication, and improving the level and speed of service to public.

2. Electronic commerce technology would be encouraged by establishing a national information infrastructure with investments from the public and private sectors.

3. Computers would have to be made less expensive to increase penetration of ICT in society.

4. There should be an emphasis on government process reengineering to bring transparency in working, reduce constraining controls, increase efficiency and productivity, reduce the cost of public delivery, and increase projects across departments to provide a single point of contact for citizens for delivery of services electronically.

5. There should be an emphasis on setting up information kiosks in public places such as shopping centers, post offices, railway stations, and libraries. Front office terminals of government offices should be set up. These service delivery points would be established by the private sector.

6. The rural sector should be connected by and affordable ICT infrastructure.

7. Extensive user-friendly graphic interfaces in local languages to service semi-literate and illiterate people should be promoted. There would be minimal use of keyboards, and interaction through the clicks of mouse and touchscreens would be emphasized.

8. Utilities billing and payment would be made easier for urban residents by offering an electronic medium for payments. Electricity bills, water bills, property tax payments, and road taxes would be made electronic.

9. In the long run, citizens would have a unique identification card, called the citizen ID card. This card could be used for multiple purposes such as making payments, voting electronically, and as a passport.

In 1999, the Government of India decided to set up the National Institute of Smart Government as a venture between the government, business, and the community. Although India's teledensity is two fixed lines per 100 persons, and is very low on PC ownership due to low purchasing power, the ministry of Information Technology envisions Internet-based information facilitation for the common public by various government agencies through the establishment of 100 million Internet connections and one million information kiosks (i.e., 1-2 connections per village) by 2008. It also plans to promote Indian language content over the Internet, re-engineer government processes leading to governance, and launch a mass campaign on IT awareness.

On November 6, 2003, the Honorable Prime Minister of India approved the National E-Governance Action Plan for implementation during 2003-2007. This long-term plan advocates the growth of eGov within the country (<http://www.mit.gov.in>). "The plan seeks to create the right governance and institutional mechanisms, set up the core infrastructure and policies and implement a number of Mission Mode Projects at the center, state and integrated service levels to create a citizen-centric and business-centric environment for governance" (<http://www.mit.gov.in>).

Comparison Between Evolution of eGov in the US and India

This is first attempt, which is based on observations of the author, to compare the evolution of eGov in the US and India. Comparing the US and India is a bold attempt because the ICTs infrastructure in the countries differ greatly. The challenges that India is facing in implementing eGov are not comparable with the challenges of a developed nation such as the US. India has 18 official languages, a low penetration of computers, and a high illiteracy rate, which complicates the implementation of eGov. Although the US and India share many common objectives of eGov, such as increased participation of citizens in government processes, faster delivery of public services, and reduced “red tape,” there are differences in the approaches undertaken to spread awareness of eGov and increase usability among citizens. As such, the following are limited comparisons made between the evolution of eGov in the two countries

1. Both countries have a background of using ICTs, especially computer technologies, for military data processing. India, in particular, saw the embracing technology is a key strategy for the nation’s security.
2. Although the US enacted the Brooks Act for better management and oversight of technological intervention into its government, India’s formation of the NIC was a long-term strategy to use ICTs for the socioeconomic development of the country.
3. NPR was the first formal step by the US government to involve ICTs in governance and, hence, the concept of eGov was officially accepted as a tool for public sector reform. India, after the formation of the NICNET, officially launched the concept of eGov by reaching spread out and remote sections of India through satellite-enabled

computer technologies. There was not yet the intention to reform the public sector.

Rather, the aim was to reach remote areas of the country via technology.

4. Although the US's main intent for eGov is geared towards e-services (public services via the Internet), India is more focused on citizen empowerment through ICTs. Poverty reduction, spreading life saving and empowering information to the rural sector, and e-commerce information for the urban poor and rural population remains the main focus of eGov. Reducing corruption and red tape and increasing transparency in public sector have always been seen as a high priority in India. The US also sees these benefits, but is not as outspoken in this regard.

5. Cutting transaction costs appears to be one of the main goals of eGov in the US.

6. In India, eGov, along with providing cost-effective public services to citizens, is also providing empowering information to citizens for socioeconomic development.

7. India's IT policy is greatly concerned with making the IT infrastructure stronger so as to provide a good base for eGov and to encourage public-private partnerships. It also appears to be a little more open in looking at how to bring services to citizens via different channels such as info-kiosks and telecenters. The US policy is more concerned with highlighting the internal workings of eGov at the government level and not as focused on bringing these services to sectors where there is a low penetration of computers. There seems to be a tacit understanding that there is no problem in the transmission of these services due to high PC ownership in the US.

8. There appears to be a large distinction between eGov projects for rural and urban sectors in India. No such distinction is apparent in the US.

CHAPTER 4

SELECT eGOV PROJECTS IN THE US AND INDIA

It is important to describe some of the ongoing eGov projects in the US and India to see the application of technology in the public sector. The author has selected two cases of eGov, related to the urban sector, in each of the countries. From the US, two projects, Firstgov.gov and New York 311, were selected. From India, eSeva (e-service), and Egovernments Foundation were selected. The nature of each of these projects is different. Firstgov.gov is a premier portal site of the US federal government and an inter-agency project and New York 311 is a telephone service provided to New York residents to obtain non-emergency information about the government. The 311 service of New York relies high on an electronic database integration across various departments to provide ready information to the residents. This has reduced 911 calls and has increased the efficiency of emergency departments. This service is also an example of an inter-agency project. Both these projects reflect the vision of eGovernment strategy, which focuses on citizen-centric, results oriented, and market-driven government. It also mandates inter-agency cooperation for integrated data to simplify access to government.

eSeva is an integrated public service provided through citizen service centers to urban citizens. This concept has become popular and successful. eGovernments Foundation is a not-for-profit organization based in Bangalore, India, which produces municipal level administration software and distributes it free to municipalities. Both of these projects are based on a policy of providing convenience to citizens in obtaining public services. These services enable citizens to pay their utility bills and property taxes

by going to these service centers. This facility was envisioned as part of the primary activities of the DIT. This chapter looks at each of these cases in depth.

The U.S.

Firstgov.gov

FirstGov.gov is the US federal portal to government information and services. The Clinton administration envisioned it, and it was launched in September 2000. This portal is considered one of the first eGov attempts in U.S. It is considered a model in the federal eGov (Stowers, 2002). It represents a major change in how government interacts with its customer-citizens, businesses, and other governments (Fletcher, 2003). The initial vision of FirstGov.gov was to provide services to citizens 24/7, with a user-friendly entry point to every online service. The vision is described on its website. “FirstGov.gov, the official U.S. gateway to all government information, is the catalyst for a growing electronic government. Our work transcends the traditional boundaries of government and our vision is global—connecting the world to all U.S. government information and services” (www.firstgov.gov). This reflects NPR’s vision of public sector reform, with an emphasis on improving the productivity, economy, efficiency, and effectiveness of agency programs.

President Bush called FirstGov.gov, the “Front Door” to his administration’s e-Government Initiative. As stated on the website, the goal is to “make government more accessible to all Americans” (www.firstgov.gov). A strong benefit of eGov is the enabling of citizens to get service without going to the trouble of understanding which agency they have to interact with, and this feature is highlighted in President Bush’s statement.

FirstGov is a one-stop, easy-to-use web portal to all government online services (reflecting the theory of inter-agency coordination). This means that you can click onto this web site and quickly find and conduct business without a need to know which department or agency provides that particular service. FirstGov helps you cut through governmental red tape to find online services that matter to you (www.firstgov.gov).

He added, “In the past, FirstGov.gov was a site that provided information about the government. Now it is a site that provides solutions for people” (FirstGov.gov).

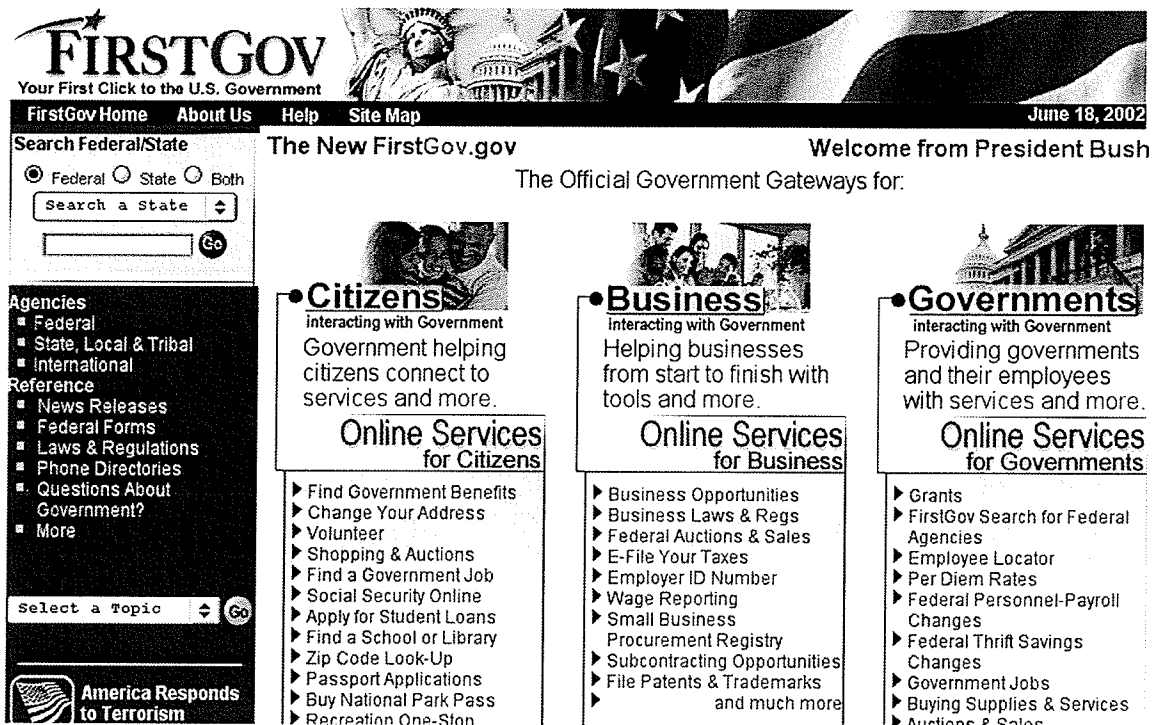


Figure 1. FirstGov.gov

FirstGov.gov, the federal megaportal, deserves special mention in any discussion of excellence in federal eGov (Stowers, 2002). FirstGov.gov became operational as a result of a presidential memorandum asking that access to government information be organized by type of service and not by agency.

Three main features of the website that make it one of the most successful websites in US eGov initiatives is its user-friendly design, cross-agency information provision, and efficient feedback system.

User-friendly design. Figure 1 above shows the ease with which citizens can orient themselves to the website to gain information. The homepage nicely displays services according to questions related to online services for citizens, businesses, and government, separately. Online services for citizens include day-to-day information such as job openings for low-income residents, changes of address, gas prices in local areas, affordable housing, assistance for the homeless, and environment protection. Online services for businesses include getting an export license, laws and regulations, how to develop a business, taxes, state licensing, filing taxes online, online training, and state programs. Online information for government provides information on various government policies for government employees, intergovernmental projects, and grants within the government.

The search icon on the top enables citizens to navigate the website by search words. The sidebar navigation provides information in a more elaborate manner by offering separate information according to agency, level of government (federal, state, or local), frequently asked questions, office location of various departments, toll free numbers by agency, and access to different forms, such as a survey of Building and Zoning Permit Systems.

Inter-agency coordination. President Bush stated, in his welcome letter to Firstgov.gov, that citizens can get access to service without knowing with which agency to deal. This is a powerful statement and the crux of eGov. It is the government's

responsibility to provide services to citizen without their undergoing the frustration of finding the appropriate agency. For example, if someone needs information on homelessness, the person should be allowed to find information by just typing “homelessness” on a federal website. To coordinate this information, all the agencies dealing with homelessness, be it grants, shelter provisions, or empowerment programs, have to come together to share their information in an electronic format (database) and publish it on the site. This is a major benefit of eGov; citizens save time and money when accessing such information.

Firstgov.gov has done good work in this regard. It has provided inter-agency information according to subjects of interest of citizens, businesses, and government. For example, to access information on affordable housing, FirstGov.gov gives information on policies, information by different states, laws, regulations, and programs. Another example is that of the “environment in your community.” This search allows citizens to know the UV index rating in their community. Information about environment facts can be accessed by just providing one’s ZIP code. Clearly, this kind of information could only be presented if various agencies work together to provide information on a single portal.

Feedback system. A feedback system from the citizens about online services is a very strong participatory tool that makes eGov initiatives truly citizen-centric. Electronic mailing is the most popular way to encourage citizens to provide their opinions, grievances, and questions about various services. “Strongly citizen focused, the site has a good comment-to-government section containing direct email links to officials and a customer survey. Users can also customize access to email newsletter on 23 topics”

(Stowers, 2002, p. 21). Further, a committee has been designed by the FirstGov.gov team, called the Citizen Response Team. An icon termed "Email" takes users to a form where they can state an opinion or pose a question by choosing subject, which is provided in a drop-down format. This facility clearly states that the answers will be delivered within two business days and warns the user not to provide any information that is private or security sensitive.

The above description of FirstGov.gov has illustrated how an eGov initiative at the federal level helps citizens to interact with the government and access its information. The description of the website was limited, and there are many more salient features, such as the availability of information in different languages and the same "look and feel" of various websites according to subject, which make it user-friendly.

New_York 311

This is a unique example of an eGov initiative in the US that does not involve a web portal, but instead relies highly on inter-agency collaboration for a shared database to provide information to citizens via phone. 311 is New York City's (NYC) telephone number for government information and non-emergency services. The mission of this service is to:

provide public with quick, easy access to all government services and information while maintaining highest possible level of customer service; to help agencies improve service delivery by allowing them to focus on their core missions and manage their workload efficiently; to provide insight into ways to improve City government through accurate, consistent measurement and analysis of service delivery Citywide (www.nyc.gov).

These missions reflect NPR's vision to cut "red tape," put customers first, and empower employees to get results.

311 is an easy-to-remember phone number to access information about City government services. Live operators answer calls 24/7. Translation services are provided in over 170 languages. State-of-art electronic database of information and services of various departments of city government is the foundation of this service. Inter-agency cooperation provides updated information (www.nyc.gov).

Non New-York City residents also access the system by simply dialing (212) NEW-YORK (www.accenture.com).

Background of the NYC 311. When Michael Bloomberg became the Mayor of New York City, he envisioned an "open government" which would institute a "citizen-service" mindset among the employees of public sector. The vast range of services, scattered over more than 40 call centers and 4,000 entries on 14 pages of the New York City telephone book, surely could make any resident baffled when needing to access required information.

Accenture designed and developed the new 311 Citizen Service Center. A comprehensive repository of information of more than 6,000 aspects of the city government was formed. This became the primary database.

The real value of this service was tested in August 2003, when a major power outage was experienced and 311 received over 150,000 calls in less than two days. "The technical infrastructure was uninterrupted, and because 311 systems are highly configurable, the Accenture team was able to immediately establish a special layer of new call takers to triage the incoming volume" (www.accenture.com).

Day-to-day services, such as potholes after severe winter weather are managed by tracking incoming grievance calls and the data are used for dispatching maintenance crews. The city has saved money by consolidating the data of various call centers. According to Gino Menchini, commissioner of the city's Department of Information Technology and Telecommunication and Chief Information Officer of the city, "We now have access to new data that enables us to make better management decision and allocate our resources more efficiently, which translates into cost saving for the city" (www.accenture.com).

Menchini offers a great example to illustrate the benefit of 311 to reform government operations. He stated in an interview, "You can always tell there is a problem when there is a whole industry that's active just to deal with an agency. That's always a red flag. And there is a whole industry out there that helps people deal with the Department of Buildings" (www.public-cio.com). He further explained how expeditors were making appointments with plan examiners, the people that approve building plans, and were reserving whole sections of their favorite examiner's schedule. This caused other people, who were not paying expeditors, to wait for months even to make an appointment with an examiner.

Now everyone must call 311, which runs on Siebel Systems' customer service software, to schedule a meeting with a plan examiner. When a citizen seeking an appointment with plan examiner calls 311, the call center operator initiates a Google-like search through the 7,000 different city services and brings up a number of items that deal with plan examiners. One of these items is to schedule an appointment with a plan examiner. The operator clicks on that, the scheduling function comes up in software, and

then the operator schedules the next available plan examiner (www.pulic-cio.com). As a result, expeditors can no longer get favoritism and there is 85 % utilization of plan examiners with only a one-day delay for an inspection.

311 is an example of how a telephone service with a backbone of an electronic database can transform how a city's government works. Although New York City has a robust website, with an overall directory of services, the 311 system has provided the citizens with something that was missing before its establishment. Menchini stated that having only a good website did not penetrate the operational model of agencies and change the way they did things. 311, however, institutionalized a change at a "universal level" (www.public-cio.com).

India

eGovernments Foundation

The eGovernments Foundation is a not-for-profit trust based in the southern city of Bangalore, India, whose mission is to provide an eGovernance software system, at no cost, for use in cities and towns all across India. This corresponds with the mission of India's Task Force for Information Technology, which is to provide citizen-IT interface for convenient accessibility of public services. The eGovernments Foundation has developed a family of software products and solutions that enable the efficient working of city level corporations and municipalities and increased efficiency in the delivery of services to citizens.

The eGovernments Foundation is a volunteer-driven organization with volunteers from around the world contributing to building this system. Below is description of the

automated property tax collection system, which has increased efficiency and revenue for the city.

Property tax system. Urban areas contribute 55% of the country's GDP in India, but municipal revenue is a paltry 0.6% of the GDP (Interview with co-founder of eGovernments Foundation, November, 2004). Property tax is the single largest source of revenue in most of the states. The existing system of property tax collection is plagued with corruption and time-consuming paper work. When citizens do not get appropriate services from the government, they have resistance to paying taxes to the government. It is a "Catch 22 situation," in which the government is not able to provide appropriate public services due to a lack of funding (not getting taxes).

The eGovernments Foundation realized the need to revamp the system of property tax collection so that it would eliminate many administrative mismanagement practices. The foundation came up with software that automates the entire property tax collection system and works as an alarm system for the supervisors to trace areas that are lagging behind in property tax collection. This intent to revamp the property tax system of one province of India is a great example of a public-private partnership. Government has given the company full access to data, and there is two-way communication between the software developers of the company and public officials.

eGovern property tax system. The eGovern property tax system is a computer-based system that handles property records and taxation for a city municipal corporation or CMC. This system uses the annual ratable value (ARV) method for property tax calculation and records property tax collected at the Assistant Regional Office (ARO), in

an affiliated bank, or on the field by tax inspectors. Property tax collections can be made in any ARO/Citizen Service Center in the city, regardless of the property's location.

This eGovern property tax system updates the fund-based accounting system (FBAS), a system in which records of property tax collection are secured daily with ward-wise (lowest level of community hierarchy) collections. Collections made at the ARO office or in the field get deposited in the appropriate bank account. The system generates various reports, including bank deposits, chalans (petitions), and reports of collections made daily. It also totals and itemizes property owners' information.

To access the eGovern property tax system, a user is issued a login account. An account consists of a user name and password. Users can enter into their location by using the terminal name icon. This system has role-based access control and assigned roles for account users. The roles are counter cashier (CC), assistant revenue officer (ARO), commissioner, and regional officer (RO).

These roles are used to determine the functions to which the user has access. Each user, based on his or her role, has access to a list of functions. For example, the CC can find properties, issue temporary property IDs, collect property taxes, and generate receipts, bank deposits, and reports. The RO and ARO can enter new property details, cancel a bounced check, cancel a receipt, generate certificates, view property details, and generate user-wise, street-wise, and ward-wise reports and charts. The commissioner has access to functions such finding properties, viewing property details, and generating zone-wise, range-wise, and ward-wise daily collection reports as of the current date.

There are three options available for finding property in the computer system. The first is by putting in the property identification number (PID). If the PID number is

unknown, one can search for the property using the street and property number. There are various layers of zone, range, and ward. Once users reach the ward site, they can put in the ID or street name. The second option is to use property number (municipal number) to find the property. If the property is still not found, one can do a search using the property owner's name or phone number.

After the property is found, the system automatically directs the user to the property tax collection form, to make a payment. Users can chose the correct collection mode—office collection, field collection, or bank collection. The collection amount can be entered (if not paid in full, the balance will automatically be calculated). Figure 2 shows the Property Tax Collection Payment Form. Visible are the PID, address, owner's name, total amount paid, and the balance.

ಆಸ್ತಿ ತೆರಿಗೆ ಸಂಗ್ರಹ-ಶಾಖಾಪತ್ರ			
Property Tax Collection - Payment Form			
Property & Assessee Information			
ಆಸ್ತಿ ಗುರುತಿ ಸಂಖ್ಯೆ/Property ID No	79-1-15	ಆಸ್ತಿ ದಾರರ ಹೆಸರು/Name of Assessee	S.VAZEER KHAN
ಆಸ್ತಿಯ ವಿಳಾಸ /Property Address	15 NARAYANA CHETTY ROAD Bangalore.		
ತೆರಿಗೆ ಸಂಗ್ರಹಣೆ Tax Collection Information			
<input checked="" type="radio"/> Office Collection			
<input type="radio"/> Field Collection		Receipt No.	<input type="text"/>
<input type="radio"/> Bank Collection		Bank Challan No.	<input type="text"/>
Choose			
	ಬೇಡಿಕೆ Demand	ಸಂಗ್ರಹಣೆ Collection	ಉಳಿಕೆ Balance
1) ಬಾಕಿ / Arrears	ಆಸ್ತಿ ತೆರಿಗೆ Property Tax	0.00	
	ಉಪಕರಣ Cess	0.00	
	ಒಟ್ಟು Total	0.00	
2) ದಂಡ(ಬಾಕಿ)/Penalty (Arrears)		0.00	
3) ದಂಡ(ಪ್ರಸ್ತುತ ವರ್ಷ)/Penalty (Current Year)		0.00	
4) Current Year : ೨೦೦೩-೨೦೦೪ 2003-2004	ಆಸ್ತಿ ತೆರಿಗೆ Property Tax	8234.00	
	ಉಪಕರಣ Cess	2799.56	
	ಒಟ್ಟು Total	11033.60	
ಒಟ್ಟು ಒಟ್ಟು Total Amount		11033.60	10117.49
ಶಾಖಾಪತ್ರದ ವಿಧ /Payment Type	ಬಾಕಿ Arrears	<input type="radio"/> ಭಾಗಶಃ Partial <input type="radio"/> ಪೂರ್ಣ ವರ್ಷ Full year <input type="radio"/> None	
	ಪ್ರಸ್ತುತ Current	<input type="radio"/> ಭಾಗಶಃ Partial <input type="radio"/> ಮೊದಲನೇ ವರ್ಷ First Half <input type="radio"/> ಎರಡನೇ ಅರ್ಧ Second Half <input type="radio"/> ಪೂರ್ಣ ವರ್ಷ Full Year	
	<input type="radio"/> ನಗದು Cash		(dd-mm-yyyy)
	<input type="radio"/> ಚೆಕ್ Cheque	ಚೆಕ್ ಸಂಖ್ಯೆ Cheque No	ದಿನಾಂಕ Date
		ಡಿಡಿ ಸಂಖ್ಯೆ DD No.	ದಿನಾಂಕ Date

Figure 2. Property tax collection payment form.

For keeping records of how much of property tax has been collected, CCs and tax inspectors, before depositing the collected property tax at the bank, print the bank deposit report for the amount collected. A detailed break up of what properties were taxed and money was collected also gets generated.

The deputy commissioner (DC) and zonal deputy commissioner (ZDP) have access to this set of reports on amount collected. When the DC and ZDC log into the system, various links appear leading to zone-wise (Figure 3), range-wise (Figure 4), and ward-wise (Figure 5) daily collections. This information is current and is updated twice a day, at 1:00 p.m. and 6:00 p.m.

The screenshot shows a web browser window titled 'Zonewise Collection - Microsoft Internet Explorer'. The address bar shows 'http://localhost:8080/Reports/CollectionReport_zonewise.jsp'. The page content includes the Bangalore Mahanagara Palike logo and name, a 'Powered By eGovern' logo, a 'Welcome user1' message with a 'Log Out' link, and a table titled 'Zonewise Collection Report'. Below the table is a note: 'Note : Click on Zone Name to view the Collection Report for all the Ranges under that Zone'. At the bottom, there is a copyright notice: 'Copyright © 2003 eGovernments Foundation. All Rights Reserved.' The browser status bar at the bottom indicates 'Local intranet'.

Zone No	Zone Name	Current Year Total Collection till date (Rs.)	Today's Collection (Rs.) as on 12-02-2004 1:00 PM
1	EAST	547,650,496	0
2	WEST	356,631,616	0
3	SOUTH	337,022,208	0
Total (Rs.)		1,241,304,320	0

Figure 3. Zone-wise collection report.

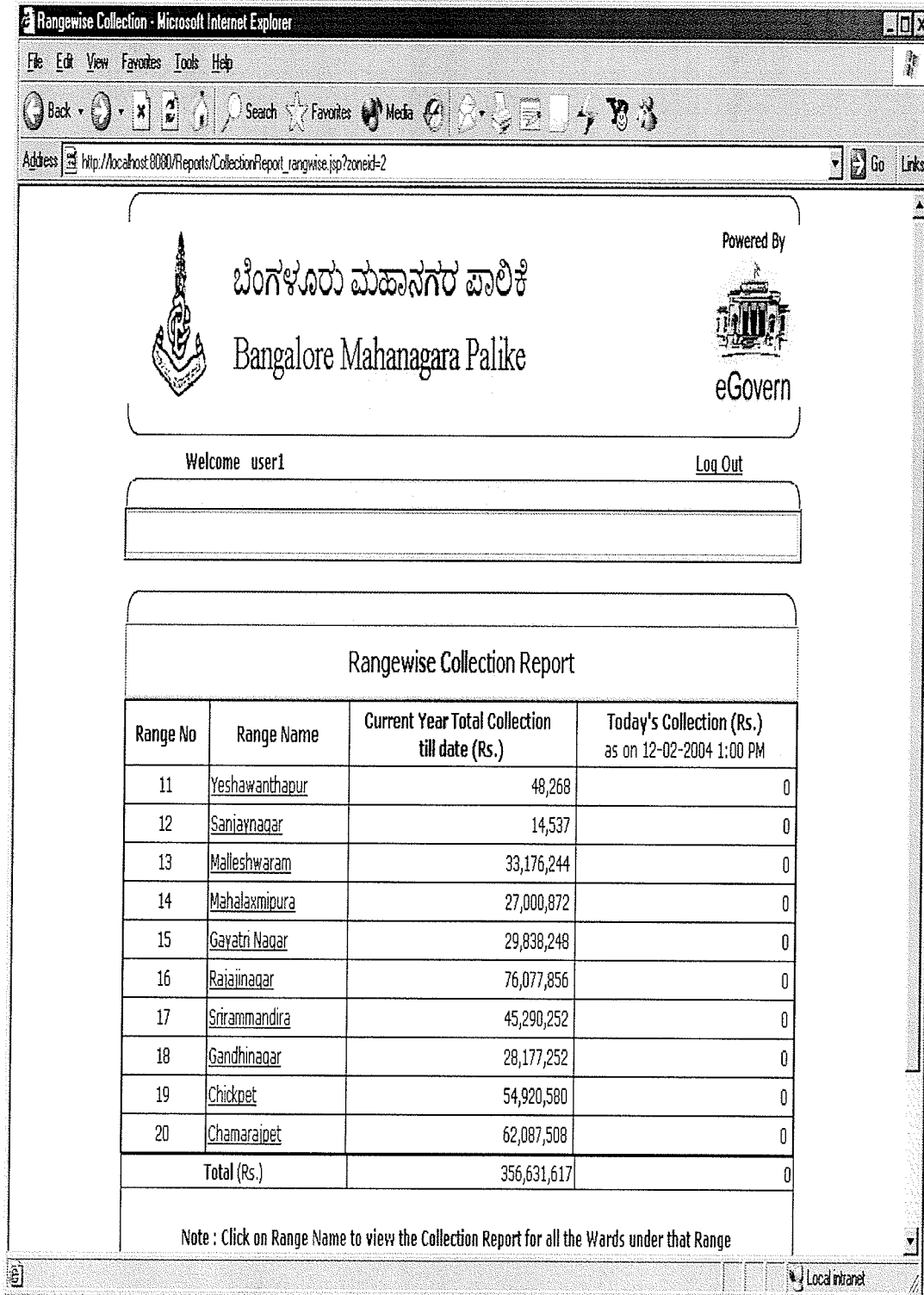


Figure 4. Range-wise collection report.

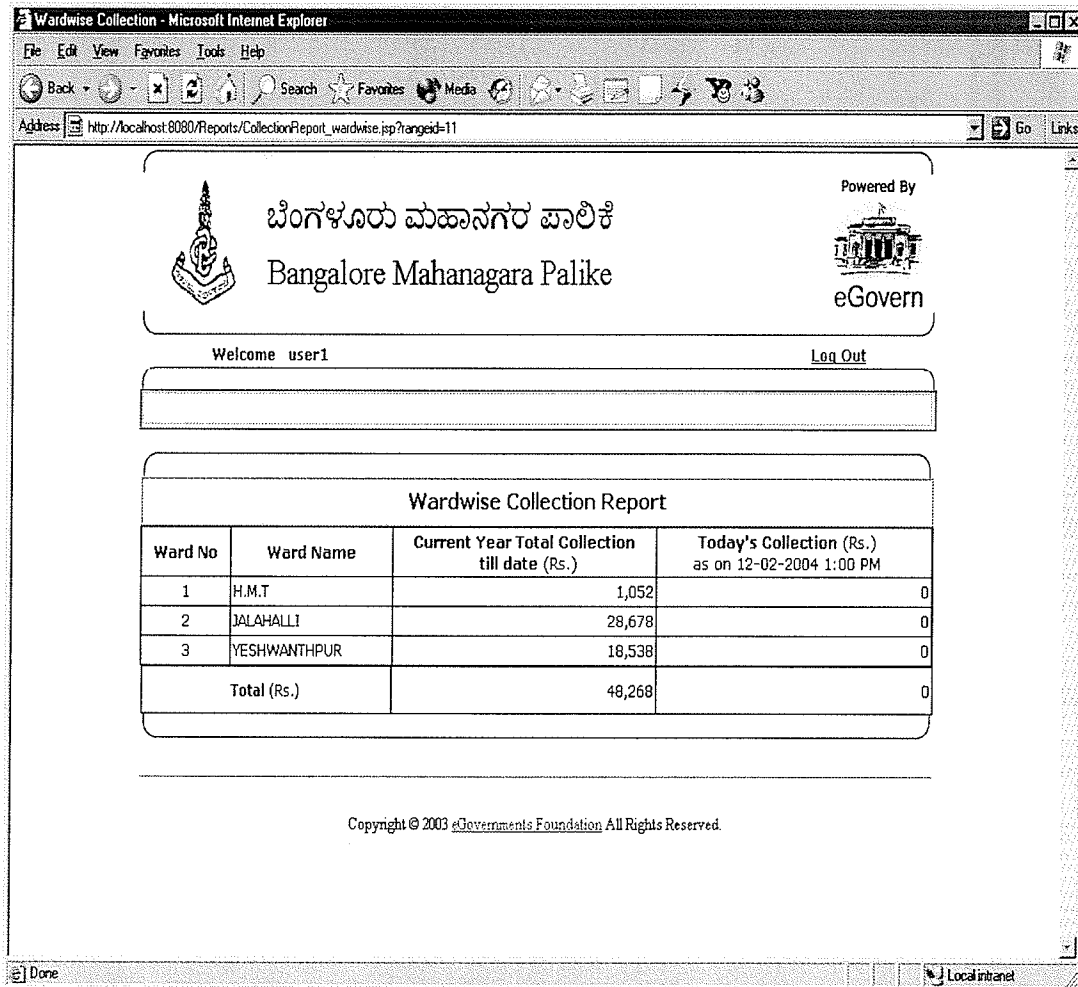


Figure 5. Ward-wise collection report.

The above noted property tax collection system has automated the process and has revamped the tedious and time-consuming traditional way of collecting property taxes. Citizens do not have to wait in long lines or commute to remote areas to pay taxes because they can do so at any citizen center that is equipped with this system. Although this system has just started and government is trying to deploy it quickly in major areas of cities, it is already collecting taxes and helping cities generate money for public services. This system works as a monitoring system for confirming whether taxes are being paid and, if not what, areas are lagging behind.

This automated property tax system has implemented the policy advocated by the Task Force of Information Technology, 1998, which stated that billing/payments would be made easier for the urban residents by offering an electronic medium for payments. Electricity bills, water bills, property tax payments, and road taxes were to be made electronic. The next project presented in this chapter is also part of the policy of the Task Force of Information Technology.

eSeva

eSeva (Seva means service without anticipation of any reward) is probably one of the best known example of eGov in India. It is a one-stop shop for public services via citizen service centers. Many eSeva centers have been established throughout the city of Hyderabad, Andhra Pradesh, where citizens can go to obtain public services. “The initial mission of eSeva is ‘redefining service.’ The mission has later been refined to be ‘the citizen’s right to comfort and convenience’ (Satyanarayana, 2004, p. 250), reflecting the vision of Task Force of Information Technology to being convenient to citizens by

citizen-IT interface.” Satyanarayana, who pioneered the concept of eSeva, presents the objectives of this eGov service as follows:

1. Provide one-stop services through a chain of Integrated Citizens Service Centers.
2. All the counters in all the service centers should provide all the services offered by eSeva. The citizen can walk into any service center and experience the same quality of service.
3. Citizens should not be required to travel more than a kilometer to reach the eSeva center nearest their home.
4. The architecture adopted should be scalable and secure.
5. The service time should be below three minutes per transaction and the total time spent by a citizen, including the time spent on waiting for one’s turn, should be less than 10 minutes.
6. All the services should be available at the centers for 12 hours a day and selected services 24/7 over the Internet.
7. Citizens should not stand in queues.
8. The services that do not involve an inspection or attestation should be offered over the Internet so that citizens can avail them from home or office.
9. The cost of transacting with the government should be reduced.
10. The business model should be such that the operations are sustainable over a long period.
11. The need for the citizens to go to government offices should be minimized over a period of time.

Satyanarayana (2004) stated that most of the objectives were realized during the first two years of operation. The services available via eSeva centers include payment of utility bills, obtaining various certificates, obtaining permits/licenses, reservation of community centers, purchasing bus tickets, obtaining application forms for passport, self-assessment forms for property taxes. India introduced the method of self-assessment of property taxes to make citizens pay property tax that were illegally withheld. Citizens took full advantage of this opportunity to assess their properties themselves and pay their taxes rather than being caught by the government for not paying taxes. The government in return obtained millions of Rupees.

Starting in August 2001, 4,764 transactions were made. By the end of July 2003, the transactions skyrocketed to one million. This was due to increased awareness among the citizens, an increase in services offered, an increase in number of centers, the shutting down of manual centers by the participating departments as the number of eSeva centers increased, and increased customer satisfaction.

There are a few newspaper articles that tell a different story. There were technical glitches experienced at the center, which made citizens wait for hours to pay their telephone bills. The reason given by the Times of India was that the server was busy obtaining transactions from Regional Transportation Authority (<http://timesofindia.indiatimes.com>).

Other than a few stories about technical glitches encountered by the system, the eSeva centers are providing public services to citizens that are saving their time and money, as well as cutting "red tape." An interview with a citizen illustrated how convenient it is to pay bills at citizen service centers. This citizen complemented the

service by saying, "it is an amazing service." Another citizen stated that the time for paying bills has been reduced from hours to minutes. This service reflects the mission of eGov of India, which is to reduce distress in citizens' doing business with the government.

The above noted four projects are a reflection of themes in the historical development of eGov in two countries. The US evolution of eGov focused on inter-agency coordination to provide services to citizens in an efficient manner. Both projects mentioned in the context of the US highlight this theme. Firstgov.gov and New York 311 have embraced the philosophy of inter-agency coordination to provide single-point entry public services to citizens. India has promoted eGov to provide convenience to citizens to be able to obtain public services. India's eGov approach is different from the approach of the US. India has not relied only on WWW-based services. India has installed citizen service centers in the cities to make the lives of citizens easier in terms of accessing services. Along with services through citizen service centers, India also envisions providing services via the WWW for citizens to obtain services at home. eServices via the WWW is still in a "cataloguing" stage, in which only static, not dynamic, information is posted.

CHAPTER 5

INTERNATIONAL COMPARATIVE STUDY OF eGOV:

TAMPA AND DELHI

Until now, this study has presented definitional issues of eGov, the evolution of eGov in two countries, and popular examples of eGov applications in both the US and India. Before the eGov initiatives of Tampa and Delhi are studied and compared, it is important to discuss the reasons for the adoption of eGov in some more detail. This section will highlight these reasons, as presented in a report titled “High Payoff in Electronic Government: Measuring the Return on E-Government Investments” by the Intergovernmental Advisory Board (IAB), US GSA (Government Services Administration, 2003). Although the reasons presented in this report are in the context of the US, they are also useful for studying the case of India.

Reduced Costs of Government Operations/Enhanced Revenue Collection

The private sector has saved money and enhanced revenue by going online for its business. Oracle, Wal-Mart, and other companies have realized large cost savings from web-enabling business processes such as purchasing, human resources, and supply chain management. There are a number of ways that a government can save time and money by going online, including automating processes, which reduces paperwork and the use of supplies, such as envelopes and postage. For example, the cost of processing an e-payment is only two cents, compared to 43 cents for processing a check (Eggers, 2005). The MyFlorida.com search engine reduces the number of calls to the state’s call center, for a savings of \$1.5 million a year (IAB, 2003).

An interview with a Delhi high official responsible for overall eGov project at the municipality level indicated that government recoups most of the IT investment in less than six months. For example, online procurement activities and property tax collection via the Internet become means of revenue enhancing for government.

Economic Development

Conducting business online has become one of the most important features of city web portals. For example, one of the 24 Federal eGov initiatives, Business Compliance One-stop, is an eGov attempt to businesses get easy access to information about laws and regulations and learn how to comply. The Delhi web portal provides a feature that enables contractors can get notices on tenders via email. This has become a very useful feature for builders who are always searching for tenders and find them to be easily accessible via email. Additionally, small businesses save money by conducting online document searches and filing, tax and wage reporting, employee background checks, and renewal of professional fees and licenses and by reducing time, transactions, and office visits (IAB, 2003).

Reduced Redundancy

This is one feature that is still in conceptual form in many developing countries. This feature relies highly on inter-agency coordination for sharing data. This feature is taken as threat of losing power by organizations. Delhi officials indicated that such inter-agency coordination is considered as a threat to the authoritative power of officials. Nevertheless, Delhi is still taking steps to consolidate the information by sharing data to reduce redundancy in government processes. This requires reengineering or changing the way government works, and India has not yet gotten to that stage. The US, however,

understands the value of this feature. “National E-Gov strategies recognize the benefits of achieving economies of scale and reducing the number of duplicative systems . . .

Integration of processes, particularly cross-agency and across governments, enables the simplification of government processes and achievement of significant benefits over the long term” (IAB, 2003, p. 17).

Fostering Democratic Principles

eGov can become a strong participatory tool for citizens to engage in government processes. Most web portals are features a grievance report system, feedback system, or customer service system that enable citizens to send an email to their representatives or to vote for different government policies. India has initiated a government Right to Information Act, wherein citizens have a right to any information pertaining to the government. This act was initiated to promote transparency in government operations by making information freely available and processes visible. For example, citizens can see whether an application has processed by asking for an application status online. This reduces gift taking by officials to expedite the process. In India, an exemplary eGov project, Bhoomi, which is a computerized system of land records, has replaced an exploitative manual system (IAB, 2003).

Reduced Auto-Trips to Government Offices

An interview with Governor of Delhi indicated that Delhi seeks to reduce auto-trips to government offices to conduct businesses. This will ease traffic on the roads and reduce commuting costs. CDA (Community Development Agency), which encompasses the Department of Building, Planning, Environmental Health, and Code Compliance, of Nevada has reported that there has been reduction of 856,721 auto-trips since the eGov

was adopted. This was calculated on the assumption that every three forms downloaded from the website saved one auto-trip to the office (<http://docushare.xerox.com>).

There are various reasons that Tampa and Delhi were chosen as case studies. Initially the researcher wanted to study South Delhi (to be comparable to Tampa). However, because South Delhi is not autonomous in its eGov initiatives, but is dependent on the National Capital Territory (NCT) of Delhi administration, the researcher had to study eGov initiatives at level of NCT of Delhi (Delhi is a state and a city in itself).

This study includes interviews with policy makers and administrators of both cities. The researcher also took tour of a slum area of Delhi to examine the reach of eGov in lowest socioeconomic stratum of the city. Although the researcher had the inclination to do the same in Tampa, lack of support from that city did not allow the researcher sufficient time to do this. Researcher wanted to get some demographic information from the city and city showed no interest in it. Interviews with officials indicated that the city does not have a large digital divide and there is no such underserved group. This left the researcher to assume there are enough channels available for citizens of Tampa to attain eGov services.

Tampa, Florida

The City of Tampa is the largest city in Hillsborough County, Florida. It is the third most populous city in Florida and is located on the west coast, approximately 200 miles northwest of Miami. The population of the city, 303,447, represents approximately one-third of the total population of Hillsborough County. Tourism, agriculture, construction, finance, health care, government, technology, and the port of Tampa make up the economy of Tampa (www.tampagov.net).

Tampa's eGov initiative is embedded in a progression of efforts to make the official website of the city citizen-centric. On September 18, 1996, Tampa launched its website, with a focus on delivering static content from six departments. In February 1999, the website included services and basic information from 40 agencies. In 2000, the focus of the website was shifted from merely static to dynamic, i.e., interactive and service oriented through the use of a database, and payment oriented e-Commerce services were offered to citizens. In 2001, the focus was still on making website citizen-centric and revenue was collected through the payment of utility bills and related services.

In 2002, TampaGov (the official name of the website) was awarded first place in the 2002 "Best of the Web" and first place in the 2002 "Digital Cities Survey" (www.tampagov.net). In 2003, citizens could access many e-services, including "reporting a problem," "requesting a service," "asking a question," and "expressing an opinion" (www.tampagov.net). "TampaGov experienced more than one million page requests every month, and via the ePayment services, TampaGov collected more than two million dollars in revenue. It was again awarded 1st Place in the 2003 'Digital Cities Survey' (www.tampagov.net).

In 2004, a new portal, "Customer Service Center," was added to the website. This addition received attention from all around the country and is highly recognized for the services it provides to citizens. TampaGov calculates numbers of hours saved by citizens and by city staff by using e-services on website. As of February 9, 2005, 5,739 hours were saved by citizens and 8,282 hours by city staff. A telephone interview with an

official indicated that cutting transaction costs and increasing efficiency by saving time are the main motives behind eGov.

South Delhi

The South Delhi district is one of nine districts of the NCT of Delhi, which came into existence from January 1997, when Delhi was divided into nine revenue districts. The decision to divide Delhi in nine districts was population induced. Prior to that, there was only one district for the whole of Delhi. The South District has great historical, social, economical, and cultural importance.

South Delhi is predominantly urban, but also has a sizeable rural area. The rural area is comprised of 25 villages in the district. Area-wise, the South District is the third largest District of Delhi, spread over 249 sq. km. and covering 16.7% of the total area of the NCT of Delhi. The total population of the district is 22, 62,377, and 8.11% of the total population lives in rural areas.

The reason for taking one district of the NCT of Delhi was to have a similar sized district for comparison with Tampa. Unlike Tampa, the district of South Delhi does not have its own web portal. Services to citizens of South Delhi are provided by various other portals designed by the NCT of Delhi or the Municipal Department of Delhi (MCD). The only portal dedicated to South Delhi citizens is the website of the “Office of the Deputy Commissioner of South Delhi” (<http://dcsouth.delhigovt.nic.in>). This portal provides various services to citizens such as downloadable applications for various certificates, news and happenings in the city, public grievance reports, government initiatives on citizen empowerment (involving citizens in government decision-making,

and democracy), and application status reports. These e-services are tied to the main portal of the NCT of Delhi (<http://delhigovt.nic.in>).

MCD, which looks after the civic government of the NCT of Delhi, is responsible for important services such as primary education, public health, sanitation, and community services and has recently set up an online Public Grievance Redressal system (PGRS) at <http://complaints.mcdonline.gov.in/>. A report by Mukharji (2005) in the Times of India states that 220 people already have registered their complaints online. According to Mukharji, this has happened despite the fact that the corporation is yet to formally launch the system and publicize it. Among these complaints, property tax complaints are the highest, with Sanitation and Engineering Department complaints following, as second and third highest. Once the PGRS is formally launched and publicized, a large number of grievances are likely to be filed online. There are other eGov initiatives in South Delhi that are targeted at increasing computer literacy in slums.

Methodology for Comparative Study of eGov in Tamp and South Delhi

The case study approach was undertaken to investigate the eGov initiatives of two cities. This case study was exploratory in nature, using officials to provide information about their eGov projects. In addition to these interviews, officials and policy makers were asked to participate in a survey that asked questions regarding their beliefs, attitudes, benefits, experiences, budget, and related items.

Sampling

There were two groups of interviewees: (a) the initiators, who were group of policy makers or government officials who initiated the process of eGov as part of urban governance and (b) the implementers, who were group of civic officials and IT

professionals who implemented what was planned by the “initiators” for public use. Five participants from each group were surveyed.

A sample South Delhi’s citizens also were interviewed because the researcher wanted to determine how citizens were obtaining eGov services, given the major challenge of the digital divide. Hence citizens using info-kiosks, from slum areas, and from elite educated groups were included in the sample.

Tampa’s eGov Initiatives

Evolution of eGov

The site was officially launched on September 18, 1996, with the delivery of static content from about six departments. The effort was assisted by the University of South Florida and was initially hosted by InfoHaus, an “Internet Café” startup group. InfoHaus hosted the site for the city at no cost for the first year of operation. The city had no funds for this venture, so the site remained essentially un-maintained for almost 18 months.

In February 1999, the site was restructured and major efforts were undertaken to make the site more than a minimal Internet presence. Specifically, all departments were encouraged to participate by posting services, procedures, and other basic information. To this end, the Management Information Systems department established a “web contributors” group to assist and educate departments, and this effort resulted in more than 40 departments actively participating. Initially the focus was strictly on quality (current and accurate) information.

In 2000, the site’s emphasis changed from static to dynamic (database-driven) information resources, such as calendars, schedules, and police calls for service.

Additionally, a business partner was sought out to expand the initiatives, primarily into payment oriented (eCommerce) services. This effort resulted in a contract with Florida Local Interactive.

In 2001, the site was branded as "TampaGov." It experienced another major redesign to provide a consistent look and feel and to move the site to even more of a citizen-centric focus. The site also began providing useful revenue collection services (utility bill payments, parking ticket payments, and others).

In 2002, the home page was once again redesigned, with an emphasis on interactive online services and continued expansion of a citizen-centric focus. These efforts received national attention and TampaGov was recognized for excellence and leadership in the local government arena. Specifically, TampaGov was awarded first place in the 2002 Best of the Web and first place in the 2002 Digital Cities Survey.

The 2003 effort built on the 2001-2002 areas of emphasis, with a focus on transaction based services that do not have a payment component. Using TampaGov, citizens can request a wide variety of services, including the actions of "reporting a problem," "requesting a service," "asking a question," and "expressing an opinion," which are delivered from a centralized facility. Citizens also can track their communication to city officials and provide follow-up information/feedback at their convenience. As noted above, "TampaGov experienced more than one million page requests every month, and via the ePayment services, TampaGov collected more than two million dollars in revenue. It was again awarded 1st Place in the 2003 'Digital Cities Survey'" (www.tampagov.net).

In 2004, map based personal research tools were significantly expanded with the introduction of Tampa Address Characteristics and the My Tampa Address facility. These resources enable quick access to a list of (and links to) nearby places, including parks, public schools, police and fire stations, hospitals, and other points of interest, along with a map and regional characteristics such as neighborhoods, census tracts, council districts and more.

Political Environment and Budget

Since the launch of the eGov portal in 1996, the city has gone through two different administrations, with two mayors. The first administration relied on a technology team to bring the website up, but was not proactively involved in the project and there was no special fund allocated for the project. In 1999 and 2001, three employment positions in regard to the website were funded.

It was the technology team who decided on the content and look of the website. There was no political leadership, but technology team was passionate about the site and worked towards making this portal truly citizen-centric. It was not political push, talent pushed it (Interview with executive, March 28th, 2005). Other eGov initiatives around the country were investigated and there was continuous public feedback on which the team relied for improving the portal.

With the change of administration and the appointment of new mayor in the year 2003, there was still no dedicated funding for the eGov initiative, but there was strong interest shown by the political body to make website citizen-centric. Web portals sometime become a window for publicizing the political body of the city. The political

body intended to use this website for this purpose, but to provide strong support to eGov initiatives for the citizens.

The current administration is providing political support for eGov growth. Providing customer service to citizens via the Internet is one of the five cornerstones of the city. There is a strong, but undocumented, policy foundation to improve and expand the services. The main objectives of eGov are customer service and cost savings for the citizens (Interview with a policy maker, March 28, 2005). The driving factors behind future funding will be determined by the success rates of various features of present eGov programs and new capabilities that could make the site more citizen-centric.

Enterprise Participation

Currently the TampaGov website hosts information from 50 city departments. Each department has a sub-web that is maintained by a web author/contributor. The departments have the freedom to post content, but the quality of presentation of content has to be in sync with the look and feel of the main portal. There were issues regarding whether departments would maintain their ownership over their website, but a policy of strong city ownership, not department ownership, was advocated.

Customer Service Center

The customer service center is a communication tool for the citizens to interact with government online. This system is not email based. Citizens (considered customers) can send their comments, questions, or opinions via this e-service and can track the progression of the communication. The researcher had requested an appointment with the mayor through this service. The researcher found that she could monitor whether the request has been attended to by using a tracking number given by

the portal, once the request was posted. Which officials at what time were attending the request could be easily seen.

Various city departments are using this customer service center as a communication tool to get feedback from citizens on different issues related to the various departments. At the administration end, the heads of departments displayed great relief over being able to provide their suggestions to citizens through this communication tool, rather than over the telephone. They demonstrated benefits of web enabled communications by great time saving in everyday business with citizens. "According to head of one department, this service, provided via the Internet, is making citizens more educated about government processes" (Tampa 1).

This service follows the philosophy that citizens do not need to know what department they need to talk to as a means to get answers. There is a place where they can post their question, and the organization figures out who is responsible for answering that question. The site sends the message from the citizen to particular staff member and then the staff member sends it off to a responsible party. An excellent feature of this service is its transparency. Citizens keep getting messages about who saw the question, at what time, and to whom it was transferred. If there is any delay in the process, citizens will know and can question the system. "This mode of communication has facilitated increased participation by citizens" (Tampa 2).

"Another benefit of publishing information over the Internet is the capability of citizens to go back to the website, rather than spending time on the telephone" (Tampa 3). Department heads also noted the ease of dealing with emails/messages on a 24/7 basis via the customer services center. The police department understands "the benefit of dealing

with “hostile” conversations via emails rather than over the telephone” (Tampa 4). There is also the advantage of taking care of issues according to priority accorded to the issue. For example, if the staff felt offended by a communication via email, rather than resolving the issue right then, the staff could come back later, when in better emotional state. This prevents negative communications between the staff and citizens.

Some problems were illustrated in this meeting. The officials are facing challenges in regards to receiving large number of communication from citizens and not able to respond to the communications in time. Officials have to work at nights to be up-to-date with their responsibility to send responses to citizens. “Parks and Recreation has received more than 300 electronic mails over a few days and it is difficult to answer to all of them in expected time-frame (Tampa).” “But, the level of efficiency has increased and the value of efficiency is higher than challenges in this system” (Tampa 5).

Police Department

“The Police Department is using the website as crime prevention source that can alert citizens about crime related happenings in the city” (Tampa 4).

The department publishes monthly crime statistics, new releases from jail, and suspected location of criminals (e.g., sexual predators). “The amount of crime prevention information that departments could bring to citizens via the Internet is the most important feature of eGov” (Tampa 4). “It would be difficult to reach citizens in this way without a web presence” (Tampa 4).

Employment Services

Employment services, such as applying for jobs online, have become a highly useful feature of the portal. “The city receives applications from around the world for

jobs published on the website” (Tampa 5). The staff is overwhelmed by the number of applications, “especially during the summer, when there are approximately 20,000 applications” (Tampa 5). Currently, the department is using software that filters eligible applicants by searching for the appropriate qualifications for the posted job. Another issue was the number of times that staff members have to enter basic information about the applicant, from the time of receiving an application, and the individual becoming potential candidate, getting selected, and quitting/retiring. There was a desire to have a system that could automatically duplicate the basic information during the cycle of employment. Additionally, problems related to back-end system integration were highlighted by various departments. Stressing on the importance of eGov, the head of Employment Services Department said, “you cannot run government in this age without eGov, eGov is becoming part of everyday life” (Tampa 5).

Land Development, Construction Services, and Neighborhood Indicators

Land development and construction related services such as delivering information to citizens about zoning, permits, planning applications, neighborhood data, census, and demographics have become easier to provide because of the website, and planners have experienced time savings and reduced telephone calls from citizens for planning related inquiries. Documents related to growth management, comprehensive planning, master plans, and neighborhood planning are available through the website.

The website provides neighborhood information (indicators) to citizens. The neighborhood information page presents particular neighborhood’s strengths and weaknesses, level of public services provided, opportunities for investment and development, real estate, crime rates, number of police calls, and so forth. “One major

benefit of this service is that citizens do not have to depend on neighborhood associations to learn about the condition of their area. They can access such information via the Internet, and this instigates a process of bottom-up planning” (Tampa 6). “Sitting at home, citizens can access almost all the information related to the neighborhood and can make a report to a city planner for improvements or revitalization” (Tampa 6). This is one of the main benefits of the Internet—to make citizens better educated about their neighborhoods.

Various forms related to permits are available online, with fee schedules. Residential and commercial plan review handbooks are available in electronic format, and appointments for permit inspections can be taken via the Internet. A new info-kiosk service is provided for commercial development services. This kiosk can be used to obtain express permits and plan review comment sheets.

Delhi eGov Initiatives

Evolution of eGov in Delhi

Unlike Tampa, Delhi does not have a single portal for all public services provided by different organizations. MCD, the municipality of Delhi has its own website, with its own priority of services. Delhi Development Authority (DDA) has its own web portal. The web portal of the NCT of Delhi, however, provides links to web portals of different organizations.

Unlike many other states, Delhi has multiple service providers. For example, health services are provided by the hospitals run by the union government, state government, MCD, cantonment board, private organizations, and NGOs. The

multiplicity of the authority makes it difficult for citizens to find exact information regarding the availability of services, as well as to obtain certificates, licenses, and many other needs. The government portal (of NCT of Delhi) was designed to provide information and services from approximately 80 government department websites in a citizen-centric manner.

MCD has been facing problems with regard to revenue collection, which has been less than adequate due to system snags and bureaucratic delays (Gupta, and Jana, 2003). Service quality and transparency in operations also was poor (Gupta and Jana, 2003).

The Government of India has promoted eGov by enacting a national policy for various levels of governments to become web-enabled and, hence, Delhi decided to implement eGov projects. On February 19, 2003, MCD launched its website, www.mcdonline.gov.in. MCD started taking steps towards eGov implementation by computerizing many of its departments, based on the IT Master plan of 2005.

On June 22, 2004, MCD signed a Memorandum of Understanding with the Bangalore-based eGovernment Foundation to promote eGov in the Corporation. Four major eGov projects were chosen for implementation through this partnership. The first project was systemizing property tax collection, the second was monitoring and resolving public grievances, the third was GIS, and the fourth was fund-based accounting. Currently, only one of the four services, PGR, is provided via the web. This software package, which is valued at US \$2 million, was given to MCD free of cost (<http://www.pstm.net/article/index.php?articleid=260>). The goal of using this software was to improve public accountability, transparency, and high quality public service delivery systems (<http://www.pstm.net/article/index.php?articleid=260>). According to

Chief Minister Shiela Dikshit, the software would enable a more effective interface between citizens and their local government and create a hassle-free, transparent system (<http://www.pstm.net/article/index.php?articleid=260>).

Because of low ICT penetration in India, the Government of India has initiated the installation of Citizen Service Bureaus (CSB) in cities. MCD has installed 94 such centers and plans to add 40 more. This is a means to provide physical proximity for obtaining e-services. The objective is to provide accessibility within a 10- to 15-mile radius.

Currently, the web portal of the NCT of Delhi (different from the portal of MCD) provides facilities for online submission of 11 kinds of application forms, certificates, and licenses; information related to environment, health, and education; property tax information; vehicle registration; marriage registration; police and traffic departments; welfare schemes; daily rates of fruits, vegetables, and grains; tender notices; and so forth. The government portal of Delhi (www.delhigov.nic.in) has been recognized as one of the top ten state portals of the country.

South Delhi (the district being studied) does not have a web portal, but there is web portal for its bureaucratic leader, i.e., the Deputy Commissioner of South Delhi. The applications provided on this site are more like catalogues and are highly inter-dependent with the web portal of the NCT of Delhi. It should be noted that, although South Delhi was selected as primary study area, field study exposed its inter-relationship with the web portal of the NCT of Delhi and, hence, the study shifted to the investigation of Delhi as a city, as well as a state, for eGov initiatives.

Political Environment and Budget

The questionnaire survey, which was conducted to gauge the presence of political leadership, as well as other concerns, for eGov initiatives in Delhi, indicated that, at present, eGov is a top priority of government administration. The presence of eGov policy (unlike the situation in Tampa) is significant to acknowledge the government's seriousness about the implementation of eGov. The Chief Minister (Governor) is spearheading the eGov movement and is highly optimistic that Delhi will one day be e-governed (Interview, April 22, 2005). Other top policy makers believe in the electronic delivery of services to reduce citizens' direct interface with government staff as a means to cut red tape and gift taking tendencies by officials (Interview, April 11, 2005). The presence of a citizen charter on the web portal of each government department strongly supports the eGov movement. The political body intends to make government truly for the citizens. According to the Secretary of IT, if a person cannot find the information relating to any government department or services online, it can be presumed that it is not available any-where else (eGov, 2005).

Unlike Tampa, Delhi has not gone through a change of administration during the last five years. The Chief Minister has been elected by the public for a second term (which started last year), and she is promoting eGov, making it a top priority of her administration. She has provided her leadership and support for every department to go online. Because Delhi is a union territory, her support is very important for making Delhi's eGov initiatives successful. She has initiated government-citizen partnerships via the Internet, known as Bhagidari (involvement).

Unlike Tampa, with a high percentage of ICT penetration, with 60% of the total population having access to the Internet (Interview, March 3rd, 2005), Delhi has low ICT penetration, of which the political body is aware. The IT secretary's priority is to create an information society for all and, to this end, CSB and cyber cafes are being installed.

Unlike Tampa, the focus is not just on customer service, but also on administrative reform to reduce malfunctioning of the system and increase efficiency and transparency. Different government authorities and departments have designated budgetary provisions to implement eGov services, which is also unlike Tampa.

Enterprise Participation

Unlike Tampa, Delhi government departments have ownership of their web portals. Departments design their own websites and have the freedom to post information that they think is important. This is not a citizen-centric approach, as citizens get baffled by the number of web sites available. Further, by examining the nature of eGov applications, it is evident that departments are more involved in automation of back-end processes. This is justified because it is important to have electronic data available to provide front-end services. Many departments were in a "pen and ink" mode for entering data, and it takes time to convert everything in an electronic mode. It should be noted that, contrary to Tampa, where department heads were kind enough to come to a single table to participate in this study, in Delhi, the researcher had to go to different departments to conduct interviews, which indicates the diversity of organizations scattered in different corners of the city. Hence, the write up of these interviews is different from those of Tampa. Following is a description of three government

organizations whose commissioners were interviewed as a means to understand their eGov applications and benefits obtained through those initiatives.

Excise Department

The department has developed functional system modules for all the major activities for revenue collection and is considered one of the most computerized departments. “The entire revenue collection of excise duty, entertainment tax, cable tax, and luxury tax is conducted through a single window counter of the State Bank of India set up in the department. The system has received an overwhelming response from the public by obviating the need for the tax-paying public to wait for the payment of taxes.

The excise department is also connected to 30 branches of the State Bank of India for citizens to pay taxes in those branches. This has reduced traffic to the department and enables the obtaining of accurate collection figures through an integrated management information system. The interview indicated that there was a substantial increase of revenue with this system. “The convenience and the eradication of middle-person involvement have been major factors (Interview, April 12, 2005).

A bar coding system has been installed for tracking of every liquor carton coming into the city (Delhi does not produce liquor locally). “Due to increased transparency, this also has increased revenue” (Interview, April 12, 2005). Most of the warehouses are linked with the IT network of the department. The moment a duty is paid by the licensee corporation at the single window, a treasury receipt is generated, which facilitates the generation of transport permits at bonded warehouses located in different parts of Delhi. This system has resulted in the reduction of the working capital requirement of licensee corporations and better inventory management. “Public officials indicated that eGov

applications have increased transparency, assisted the speedy disposal of services, reduced discontentment of clients, and increased revenue” (Interview, April 12, 2005). “E-governance has enabled the department to monitor number of private parties selling liquor, it has controlled the market and has helped to maintain transparency” (Interview, April 12, 2005).

Municipal Corporation of Delhi

MCD aims to provide online services to citizens via the Internet at home or from kiosks/service centers available near their homes. “They should not be required to visit government offices for any of the services required from departments/agencies” (Interview, April 14th, 2005). E-services are provided over the Internet and include registration of information relating to births and deaths, applying for issue of licenses, booking of parks, registration of complaints and their status, and accepting payment of municipal dues through the use of credit cards over a secure payment gateway. At CSBs, similar services are provided. Two hundred and fifty hospitals, both private and government, participate in online registration of births and deaths. Data on births and deaths get sent to MCD online. Citizens also can register deaths in a computerized system at six crematoriums. Factory license records have been digitized and renewal can be done in any CSB across the counter.

MCD is working towards automating the operations and functions of the Engineering Department for efficient monitoring of all relevant activities of construction, development, electrical, and other works. Similarly, South Delhi, which is dependent on MCD applications for e-services, provides these services. Other than these services, the South Delhi district also has implemented a project that keeps the database of the voter

list in an electronic format and electronically performs all statutory modifications in this database. It also assists voters in obtaining the location of their polling booth and their entry in the voter list.

The state-level web portal of the NCT of Delhi also provides similar services. Birth and death registration and community hall reservations have been the most popular eGov services. MCD has faced difficulty in bringing different government levels under a single window. It also has faced problems, due to lack of funding, regarding internal networking and capacity building. The benefits of eGov services also include increased speed of public service delivery, reduced distress in citizens, increased transparency, and increased revenue.

South Delhi has done work in increasing ICT awareness in slums to encourage children to get accustomed to computers. Following a popular project called “hole-in-the-wall” (installing a computer with joystick in the wall of a slum area), children are encouraged to learn computers themselves free of cost. The researcher visited a slum area and saw children busy playing educational computer games. An interview with a 15-year-old boy showed his eagerness to learn about computers.

One man spoke of his desire for his daughter to be able to access the results of her school exam through the Internet, rather than having to travel a great distance to obtain such information. College students have indicated their need to access information on jobs and training. A middle-aged shop owner, who cannot afford a television, wants to read the national and international news on the Internet. Another individual told me how accessing public services on the Internet would help him avoid the “gift taking tendencies” of officials and free him from the use of brokers to obtain public services.

An interview with a politician also indicated “how important it is for children to learn how to use computers, particularly to use eGov services once they enter adulthood.”

Delhi Development Authority (DDA)

The Delhi Development Authority (DDA) is responsible for land development, housing provision, parks, and commercial/industrial development of the NCT of Delhi. It is one the busiest departments of the Delhi government. It has adopted information technology to automate its work processes and monitor the supply of land and housing.

An interview with a high official indicated that this “department is responsible for more than half of the Delhi housing supply.” Because there is more demand than supply of housing, the department draws the names of citizens eligible for housing via a lottery system, and the results are posted on website. Various housing registration schemes also are published on website, and the progress of housing loans can be monitored online.

The Delhi government acquires land from rural areas or urban fringes for development under a land acquisition policy. This system, which was manually registered in past, has now been automated. There are two ways that this department is using information and communication technologies to increase efficiency. The first is computerization for dealing with the public better. There is no private cooperative association that provides affordable housing in Delhi; it is a government initiative. Because there is large number of people wanting housing, the process of allotment is tedious and easy to manipulate. The schemes, available housing list, draw results, allotment of housing, payment and verification of payment, and status of applications are all computerized. Info-kiosks are installed in various offices around the city, where citizens can download applications, get information, and make payments. This has

reduced the burden on the staff by one third. “Approximately 50,000 forms are downloaded every month. When there are draw results, there are 100,000 hits on website.”

The tracking and monitoring of the disposal of housing has become more transparent and easier to manage. The housing loan recovery system is also online. Web-based application software, which maintains that data on loans disbursed, is available, and all loanees can see their account online. For the government house allotment, a web-based application is available to maintain seniority and a place on the waiting list.

The second way is the land acquisition management system. The Delhi government acquires land from villagers, from time to time, for land development necessitated by the increasing urban population. This acquisition process was manual and time-consuming. It was difficult to keep track of land acquired, compensation payment to farmers, and completion of the application process. At present, a fully integrated web-based system connecting the land and building department and all land acquisition collectors is available. The entire process, from receipt of request to the approval and the handing over of land has been mapped (Interview, April 20, 2005). A complete electronic record of funds received and disbursement made to landowners is available. Monitoring of related court cases is also available.

An Interview with the Vice Chairperson of the organization demonstrated that eGov is a facilitator in the vast range of work that this department undertakes for urban development. In this regard, three components of eGov are required: (a) spatial information about land acquired by the government; (b) computerization of engineering,

design, and monitoring of planning processes; and (c) data for the purpose of tracking and monitoring of maintenance and disposal of land. Additionally, an interface between these three components is needed.

Overall Survey Results

A survey was administered to two groups of stakeholders involved in eGov in Delhi and Tampa. These were policy-makers, called “initiators” in this study, and staff and civic officials, called “implementers.” Another group, urban planners, also was involved. This group was considered under implementers, but was asked questions regarding ePlanning (use of ICT in urban planning). There were few questions about participants’ ability to use computers to determine computer literacy in government employees and policy makers.

Policy Makers

Both cities have tech-savvy policy makers. They are well educated, with a strong background in technology and the hard sciences. They are computer literate and have Internet accessibility at home and in office. It was interesting to learn that Delhi’s key policy makers access the Internet via a dial-up modem at their residences, in contrast to Tampa policy makers who have high speed Internet accessibility. This could indicate the gap between different modes of connection preferred/accessed by each group.

Both cities have strong political leadership and support for eGov services, have indicated that is a top priority of their administration, and note that eGov is one of the key areas whose performance is regularly monitored by the top officials. Although both cities are working towards educating citizens about how to use eGov services, Delhi has not taken concrete steps toward the marketing of eGov services. Delhi policy makers believe

that computer literacy has to be encouraged among children and adults in different levels of society. Because many applications are still at a pilot stage, policy makers want to be confident about the proper functioning of eGov services before the services are marketed. Tampa has done well in marketing and, because of higher penetration of ICTs, eGov services have become popular.

Both cities consider eGov projects a result of teamwork and ideas are shared with different levels of officials in administration. Initially, both cities had promoted supply-driven eGov. Tampa has gotten to the point where there is enough demand from citizen to keep up eGov services. One reason for this was its focus on providing citizen-centric services from the beginning, and increasing internal efficiency was not the only focus.

Delhi's eGov, in comparison, is purely supply-driven. According to one policy maker, "We first have to provide the services to let citizens know and then there will be demand" (Interview, April 20, 2005). Another policy maker believes that eGov in Delhi is neither supply-driven nor demand-driven, but it is "government-driven." This illustrates the government's focus on implementing eGov projects. Another policy maker indicated that eGov is supply as well as demand-driven. It could be concluded that, unless eGov services are disseminated among citizens, policy makers can be confident in stating that eGov services are demand-driven.

Delhi follows an action plan for the implementation of eGov projects that are result of consultation with various officials. This action plan contains various milestones that have to be met in a given time. Tampa does not use this kind of process. Although there is no written action plan available, there is regular documentation of daily work

related to eGov. This illustrates the seriousness with which both cities are approaching eGov.

According to policy makers of both cities, the public-private partnership is considered very important for optimal functioning of eGov projects. This highlights the changing nature of government functions in this age of the inter-dependency of the public and private sector. Although Tampa initially followed the public-private partnership model for implementation of various eGov services, the private sector could not recoup its costs. Generally, doing business with the federal government makes more sense for the private sector than for municipal government. Delhi, in comparison, completely relies on a public-private partnership, especially for dissemination of eGov services via cyber-cafes and info-kiosks. The sheer volume of population supports the private sector becoming involved in these projects.

Policy makers were asked to rate the importance accorded to eight eGov features on scale of 1 to 10, with 1 being most important and 10 being the least important. These features included minimizing distance to access, extending access to underserved groups, introducing transparency, simplifying transaction procedures, minimizing cost to citizens, minimizing cost to government, increasing government revenue, and improving time to transact.

The results indicated that Tampa values minimizing the distance to access as the most important. This is followed by improving time to transact and minimizing cost to citizens. Delhi, in comparison, values introducing transparency to government systems as the most important. Second in importance is improving the time to transact, followed by minimizing the distance to access public services and minimizing cost to citizens.

When the policy makers of Tampa were asked by the researcher their intentions regarding introducing transparency, they did not understand what this meant. The variation in importance given to this feature of eGov in the two cities is very interesting. It reflects how the Delhi government understands the prevalence of distance between government and citizens in Indian democracy and eGov is used to narrow this gap. This does not appear to be an issue for the Tampa government.

Both cities consider minimizing cost to government and increasing government revenue to be the least important. Extending access to underserved groups is not a high priority for both cities. The policy makers of Delhi believe that, when services are provided, citizens from every stratum will try to access them. The condition of computer literacy and low penetration of ICTs remains a challenge for Delhi. Tampa does not believe that there are underserved groups in the city, based on the high penetration of ICTs. Also one subject said, “they provide some information to urban poor but because users of eGov are owners of high-speed internet, publishing information relevant to urban poor will not be popular” (Interview, Feb 2nd, 2005).

Delhi is very concerned about eGov applications running at top efficiency as a means to retain users. To maintain the efficiency of e-services, Delhi values broadband technologies. Policy makers stated that, with high connectivity, users’ attraction to government sites can be maintained. If the connectivity is not efficient, users could get discouraged and not come back. High connectivity enables quick disposal of work; otherwise, users might consider e-services “a waste of time and effort.”

Tampa intends to use broadband connectivity to deliver video streams (live broadcast of local television channels) through the Internet, increase the richness of

context, and provide wireless services such as those seen with laptops. Tampa intends to use high-speed connectivity. This is different from Delhi, where broadband technologies will be used to maintain current services. This is indicative of the challenges, due to the weak infrastructure, that policy makers face in trying to keep e-services functioning at optimal efficiency levels in Delhi. Tampa can look beyond this stage because there is a good infrastructure available.

Both cities receive input for eGov policy formulations via different channels. The survey asked policy makers to rate these channels, which included the media, officials, citizens, vendors, the Internet, or "other." Tampa rated officials as first, followed by citizens and then the media. This indicates that employees and officials are the most important sources for the formulation of eGov policy. Delhi, in contrast ranks the Internet first, the media second, and then seminars and workshops. The input of officials was ranked very low, second to the last, and citizens were ranked last. This low ranking of officials indicates either weak participation of employees in development process of eGov policy or a truly top-down process of eGov policy formulation. Citizens are not at all involved in this process. This suggests that Delhi is following a supply-driven eGov policy.

A section of the survey was dedicated to understanding what kind of urban planning services are available online. Delhi and Tampa gave similar responses to all the questions in the survey. Both cities are using ICTs extensively in planning processes. They are undertaking initiatives under eGov initiatives rather than under ePlanning. Tampa officials have not heard about ePlanning. Delhi officials acknowledged the term, but indicated that their initiatives are eGov initiatives, rather than ePlanning initiatives.

Both cities have experienced the increased use of eGov applications for tracking application processes and payment of various kinds of fee associated with planning processes. There is increased use of GIS applications in producing interactive maps for dissemination of information and increased participation of citizens. There is also the increased use of eGov applications for communication between planning departments and citizens. Email, feedback icons, and online forums are used to let citizens know about new developments in their cities. Comprehensive plans, zoning information, and master plan are available online. The city invites citizens' input, via email and online forums, when making changes to master plans.

This group of implementers believes that eGov has increased transparency, citizen participation, and productivity in their departments. Internet accessibility also was considered important for the revitalization process of inner-city communities and for increasing democracy in the urban planning processes. The key was the capacity of the Internet to disseminate information to different sections of the population and to empower them.

Implementers

Implementers are the group of officials who implement what policies, designed by the policy makers, advocate. This group is very important because they are concerned with the decisions on how to implement projects. They deal with budget issues, hiring of talented individuals, and with supervision of ongoing processes. Five implementers from each city were surveyed and following are the results of the survey, by city.

Survey Results for Tampa

All officials who participated in the survey were highly educated, except for one, who is high school graduate. On average, they had a bachelor of science degree, but were not trained in public administration like their counterparts in Delhi. They are all computer literate and can access the Internet in their offices and their residences. They had learned about eGov at least two, and up to five, years prior. This is in comparison to the Delhi officials, who had known about eGov for at least five years, except all Delhi officials knew about eGov for last five years.

They all believe that eGov is a potent tool for transformation of governance, whose potential is yet to be realized. They indicated that eGov has raised productivity, reduced red tape, increased transparency (however, one implementer did not know the meaning of transparency), and increased citizen participation. They share the eGov objectives set by policy makers. Although no formal action plan is present, implementers indicated that they are falling short of targets, as specified in the action plan. This indicates that there is some informal documentation upon which the staff relies.

All implementers, except one, believe that the eGov initiatives in their departments are totally successful. One department, the Department of Utilities, found that eGov applications are partially successful, but would become more successful with time. Although the IT leader of Tampa stated that the Department of Utilities was the most popular among citizens in terms of eGov services, the head of the department does not believe that his department has fully succeeded in eGov initiatives. The reason is the sheer volume of citizens that need this service is still using traditional ways of paying bills.

In contrast to Delhi, Tampa's implementers do not review eGov projects frequently; they are reviewed annually. The Department of Neighborhood and Community Relations reviews its eGov programs monthly. This department interacts with citizens on regular basis and, as such, it reviews eGov programs every month to make the services truly citizen-centric.

All implementers, other than the Department of Neighborhood and Community Relations, indicated that they upgrade technologies used for eGov "sometimes." This single department again stands alone in upgrading technologies every month. Again the reason is its responsibility to deal with citizens directly to improve their interactions with government.

All departments are satisfied with the number of employees who are responsible for eGov projects. Here again, the Department of Neighborhood and Community Relations indicated the need for more talented individuals to enhance eGov services. All departments are either developing documentation of IT training for employees or are in process of formulating documentation.

When asked to rate eGov features on scale of 1 to 10, with 1 being most important and 10 being the least important, there was variation in responses. "Simplifying transaction cost," "minimizing distance to access," and "introducing transparency" were rated high by half of the implementers. Others rated increasing "government revenue," "minimizing cost to government," and "extending access to underserved groups" as important. One implementer rated "minimizing cost to citizens" as the most important. This variation in ratings could correspond to the variation in services offered by these departments.

IT department rated “simplifying transaction procedures” and “increasing government revenue” as important. The reason for this could be their belief that computerization improves productivity of government processes. The Department of Utilities also rated “simplifying transaction procedures” as important because it intends to make payment of bills convenient for citizens. The Department of Neighborhood and Community Relations rated “minimizing distance to access,” “minimizing costs to citizens,” “extending access to underserved groups,” and “simplifying transaction procedures” as important. All these features relate to qualities that a citizen could appreciate and, as such, the ratings correlated with the functions of different departments.

Survey Results for Delhi

All officials in this group were highly educated, with good expertise in public administration. Most of them were graduates of the Indian Administrative Services school and were trained in public service. They were all computer literate and highly value eGov. They all have Internet connectivity at their offices and use the Internet at their residences. They had known about eGov for more than five years.

They all believe that eGov is a potent tool for the transformation of governance, whose potential is yet to be realized. They believe that eGov has raised productivity, reduced red tape, increased transparency, and increased citizen participation. One implementer believed that eGov has increased citizen participation only partially. This individual was from the Department of Sales Tax. This department has yet to fully implement e-services. They all co-share the objectives of eGov with policy makers (contrast to low rating given to involvement of officials in eGov planning by policy

makers).. All departments, except one, are meeting all targets as specified in the action plan and eGov policy.

Half of the implementers believe that eGov initiatives in their departments have been totally successful and half indicate they are partially successful. These implementers review eGov projects and programs on a weekly basis and update technologies “very often.” Some departments, however, indicated that they update technologies only “sometimes.” The rate of updating was correlated with success rate. Implementers who indicated that their eGov services are fully successful update their technologies “very often.” Partial success is correlated with updating technologies “sometimes.”

The benefits realized by various implementers were transparency, information dissemination, speedy disposal of services, reduced distress of citizens in obtaining services, and increased revenue. All departments have access to a dedicated budget for eGov projects. From 5% to 10% of the total funding of each department is dedicated to eGov projects. All implementers are satisfied with the dedicated budgets.

All departments have indicated that there is an adequate number of employees to carry out eGov work. Most of the departments, except one, have a well documented IT training and development policy for implementation, for which documentary evidence could be provided. Only one of five implementers indicated that he or she is in the process of documenting IT training and development policy.

When asked to rate eGov features according to their importance, “introducing transparency” was at the top of the list. “Simplifying transaction procedures” was rated second, followed by “minimizing distance to access.” One department rated ‘minimizing

distance to access” first because this department (MCD) deals with largest number of public services for citizens. Unfortunately “extending access to underserved group” was rated low (fourth to sixth). This may be because this stratum of society still needs to become computer literate, and the priority then is not eGov, but first making them computer literate. “Minimizing cost to citizens and government” and “increasing government revenue” were of the lowest priority. This may be because implementers have not yet seen the full result of these projects. The departments that have implemented the projects to completion and for which citizens are taking full advantage rate “increasing government revenue” as a high priority.

Summary

It is evident from the above results that eGov has become core administrative strategy for local governments of India and US. Delhi and Tampa are dedicated to provide eGov services for citizens. Tampa’s eGov initiative has been citizen-centric from the beginning. “We push citizen-centric eGov rather than organization centric (implementer).” Delhi on the other hand is focused more on increasing internal efficiency of administration by automating and computerizing the systems. Citizen centric services are present but because of poor marketing it is not reaching the citizen. CSB have become popular. Tampa has no intent of installing CSBs for people who cannot access Internet. It was a oversimplification when one policy maker said, “we have no underserved groups.”

Delhi’s seriousness towards eGov is shown through its policy documents and also dedicated budget allocation for eGov services. Tampa doesn’t have an overall policy in place and also there is no specific budget determined for eGov.

Increasing transparency is top priority of Delhi's eGov initiative. Tampa has given high priority to online customer service for citizens, i.e., providing information to citizens.

Although survey revealed that initiators and implementers co-share their objectives for eGov, interviews indicated there are many issues that implementers don't agree on with initiators. For example, strong political presence of political leaders on website (e.g., picture of political leader with her/his press releases) was an issue that implementers were not happy about. There was issue of limited resources available to accomplish the tasks given by initiators.

Clearly Tampa's eGov has gotten to a stage where it is demand-drive because of high-take up of eGov services by the citizens (recall Tampa's eGov was initially supply-driven). Delhi's eGov is truly supply-driven. Unless there is strong marketing strategy available for letting citizens know about eGov services, the take-up of these services will be low.

CHAPTER 6

CONCLUSION

Egov has become a key player in public administration reform in US and India. It has been adopted by both governments to change the way the government performs its functions. It has been illustrated by both governments how eGov helps reduce operational costs by increasing efficiency of government services. Egov has become top priority of local governments of Tampa and Delhi. It is safe to state that this trend of adoption of eGov is taking place in other local governments of the two countries. Few of the key benefits of this kind of governance are its ability to increase government transparency, efficiency, and accountability: which eventually helps reduce corruption opportunities. "Information is the natural enemy of corruption. Corruption thrives on ignorance, not information. It needs secrecy, not transparency "(Former vice president Al Gore, 1999 – cited in Eggers, 2005, p. 134).

These benefits were observed in survey results wherein respondents highly valued these outcomes of adoption of IT in government processes. Delhi's Secretary of IT, values eGov for its ability to increase the internal efficiency of the government; improving the government-citizen interface through information dissemination, smoother delivery of services; and reducing the time spent by citizens at the counter. According to Chief Information Officer of Tampa, "eGov is the communication tool that brings information to citizens and encourage them to participate in government decision-making."

eGov is believed to empower the general public to actively participate in policy formulation and help ensure transparent use of public funds. Budget information is being

posted on Internet. “The combination of Florida’s penchant for open government and Bush’s penchant for performance management resulted in the first American state budget specifically formatted and designed for the web – what Bush dubbed his “e-budget” (Eggers, 2005, p. 127). This e-budget site offers indexes that lets users identify budget data according to functional area and agency. NCT of Delhi publishes its budget on its site as well.

Internet and the World Wide Web (WWW) have helped government to shift its focus to its external relationship with citizens (Tat-Kie Ho, 2002). “The internet gradually has matured into a cost-effective and user-friendly platform for officials to communicate directly with citizens and to deliver massive quantities of information to the public” (Tat-Kie Ho, 2002). According to Gore (1993 – as cited in Eggers, 2005), “egovernment will allow citizens broader and more timely access to information and services through efficient, customer-responsive processes – there by creating a fundamental revision in the relationship between the federal government and everyone served by it.”

Public participation in urban planning processes is highly valued and eGov has become potential communication channel to engage citizens in these processes. The benefits of providing information and enabling interaction of citizens has brought eGov into the realm of urban planning. It has brought the much desired component of convenience in clients’ lives who interact with planners on daily basis for processes like permits and inspections. GIS has been used in various local governments to present comprehensive plans and zoning information electronically to citizens. Neighborhood indicators are presented on web.

Acknowledging all these benefits doesn't make eGov a panacea for government administration reform. Technology can only help if there is adoption of strong vision of citizen-centric eGov. The processes embedded in formulation of eGov have to be citizen-centric. Citizens have to be educated about eGov. Increasing internal efficiency of government is one great benefit of eGov, but if it is not coupled with the motive of increasing quality of life of citizens, the mission is only half attained.

For getting to a phase of citizen-centric eGov, eGov has gone through two phases of growth. Egov growth and maturity has been illustrated in three phases (third being citizen-centric eGov). First phase includes the passive presence of governments on the Web. The websites provide static information but doesn't let citizens interact with them. Second phase of eGov maturity allows citizens to interact with government agencies online – for example, payment of property tax or renewal of drivers' licenses. Third phase theoretically involves breaking down bureaucratic barriers to create functionally oriented, citizen-centric government Web presences designed to give citizens a self-service government (Atkinson, and Leigh, 2003). This phase requires unprecedented bureaucratic and political challenges that are not easy to overcome. Dissolving direct ownership of departments and sharing data to produce integrated eservices for citizens is seen as a threat to autonomous power.

Tampa has shown its intent to get to third stage of eGov by producing online Customer Service Center wherein all departments share responsibility to respond to inquiries coming from citizens at a single point of entry. Tampa has also adopted the strong philosophy of direct ownership of the website rather than giving authority to departments to produce their own websites. Tampa tracks top requests from citizens to

make popular services efficient and easily accessible to citizens. Tampa's website doesn't use jargon, program names and acronyms. Even if acronyms are used, there is a page where the acronyms are spelled out.

Delhi has not yet shown much progress towards third phase of eGov growth. Processes for implementing eGov are widely distributed in different organizations. Organizations own the rights to produce their own websites with their priorities and preferences. Although NCT of Delhi monitors the progress of eGov implementation in each organization, it doesn't interfere with the design of the website. The result is large number of websites operating to provide their services to citizens. This strategy hasn't been able to resolve the "stovepipe" barriers that exist between agencies and levels of governments. The frequent use of acronyms and jargon makes the site difficult to understand by common citizen.

Delhi has reached the goals of first phase of eGov i.e., using Internet to share information, and has made progress to get to second phase of online transactions. It is at a stage where citizens can download applications from the website. It has recently launched online payment of bills.

It is slowly but surely taking steps towards third phase of eGov by tracking top requests/services. It is also moving towards integrating all departments under one website which is owned by the city and not by individual departments. It is also trying to provide neighborhood level information to citizens. These were the suggestions that researcher took from Tampa and provided to Delhi officials. Secretary of IT had given indication that these suggestions would be implemented.

Delhi hasn't taken strong steps to market their eGov services. Delhi's eGov initiatives have been based upon a "build it and they will come" mentality. They haven't incorporated marketing into eGov activities. When asked about marketing strategies general answer from officials was, "everybody knows about it." This answer was not supported by examples of how they are marketing. Policy makers wanted to be confident about the applications before these activities are publicized. One official said, "marketing is expensive and government has no agenda on spending money on marketing yet."

Tampa has done well in this respect. It was comparatively easier for Tampa to reach citizen because of high penetration of ICTs. Delhi has to overcome this challenge of low ownership of PCs to speed up the process of marketing of these services.

The purpose of doing a comparative study of two cities of a developed and developing country was to learn how eGov is taken by public administrators in two economies. These two cities are representative of many projects going on in the countries. Delhi being the capital of country reflects the eGov trends in the country. Tampa hosting one of the best eGov site in the country also shows country's vision of eGov. It is evident that both countries highly value eGov and have similar expectations out of it. Challenges prevail in both countries. One of the major challenges is achieving end-to-end integration between the Web front-end and the back office systems.

Interviews with citizens of Delhi revealed that eGov is used by educated, young, and middle-class to affluent citizens of Delhi. Citizens of low-income neighborhoods have no knowledge of eGov. Until and unless eGov reaches every citizen of a country, its full potential cannot be known. India has many policies in place to provide eGov

services to citizens of every stratum via Citizen Service Bureaus. Researcher interviewed citizens in these centers. One user of this service illustrated the benefit of convenience. "It is easier to attain birth certificate through this center, otherwise we had to travel to city office to fill the application and the process used to take weeks." On the same day, another citizen illustrated the situation wherein officials in these centers were taking gifts from citizens to provide certificates. This kind of situation arises when citizen is unaware of benefits of eGov. This citizen didn't know that there should not be any delay in getting the certificate because the whole system is automated. He was unaware of this and believed official who told him it would take eight days to get the certificate and the process can be expedited if he paid tip. Citizens have to be educated by the government about eGov system so that citizens don't get befooled by irresponsible officials.

Egov has to reach urban poor. They are the ones who need eGov services and opportunities for better quality of life by accessing information. There has to be more detailed research on how to make eGov citizen-centric so that citizens from every stratum of society avail the benefits. One major challenge is that of policy. Disability access, readability, non-English language accessibility, interactivity, equity of access across agencies, and user fees and premium sites, are elements of policy that governments are trying to focus on (West, D., 2003). These all elements could be grouped under "citizen-centric e-government".

For eGov to be citizen-centric policy issues described above have to be studied. If eservices provided by government are designed according to needs and limitations of citizens such as physical disability, low-literacy, poverty, etc., it would be a step towards 'egovernment for all'.

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COMPARATIVE STUDY OF eGOV IN TAMPA, FLORIDA AND SOUTH DELHI, INDIA

EGOVERNMENT – WHY AND HOW: A COMPARATIVE STUDY OF EGOV. IN
TAMPA, FL, AND SOUTH DELHI, INDIA

eGov Survey: U.S. and India

This survey is being undertaken as a part of my Master Degree Project (MDP) at the University of Manitoba, Canada.

Objectives: The objectives of my study are: 1. To explore the adoption of eGov in two local governments, one from developed country (Tampa, USA) and the other from developing country (South Delhi, India). 2. To understand the collaboration of various stakeholders for eGov planning. 3. To identify benefits of eGov experienced by policy-makers, civic officials, citizens, and entrepreneurs. 4. To understand citizens' accessibility, and usability of eGov services. 5. To understand importance accorded to eGov and broadband connectivity for faster transactions and enhancement of small and medium businesses. 6. To understand problems attached with eGov to make it a valuable addition to public sector.

Structure of Questionnaire: This questionnaire is divided into six sections. **Section I: General** seeks answers related to respondents and their organizations and is common to all the respondents. **Section II: ePlanning** seeks answers related to eplanning issues and the respondents are city/urban planners. **Section III: Policy** seeks answers related to eGov policy issues and the respondents are policy-makers (non-officials). **Section IV: Implementation** seeks answers related to implementation of eGov projects and services and the respondents are civil servants (officials).

Instructions for Filling the Questionnaire:

1. Kindly read the question carefully before attempting to answer it.
2. Section I: General applies to all the respondents.
3. After attending to Section I: General, select the section applicable to you. Ignore or strike off sections not applicable to you.
4. Answer all the questions.
5. Where applicable, answers should be to the point and written in simple and unambiguous language.

Email back to me the filled Questionnaire latest by April 15, 2005 at

_____.com

Confidentiality

Feel free to express your views. All the information provided by you will be kept confidential (in locked file cabinet) and will be used for academic purposes only.

Acknowledgement

Your co-operation in advancing the cause of eGov by filling this questionnaire is appreciated. I am grateful to you for sparing your valuable time for filling this questionnaire. In case you want any clarification, feel free to contact me.

March 21, 2005

Gurpreet Sohal (aka Sania)

Email: _____com

Tel:

QUESTIONNAIRE

Part I: General

1. NAME _____

2. Position / Job Title _____

3. Occupation (check (-/) whichever is applicable):

City/Urban Planner

Legislator

- Civil Official
- Citizen
- Businessman /Woman

4. Organization

- Municipality** (State Functions, and Annual Revenue)

- State Government** (State Functions, Annual Revenue and Expenditure and Number of Employees)

- Any other Government Organization** (State Functions, Date Established, Annual Revenue and Expenditure and Number of Employees)

- Private Company** (State Nature of Business, Date Established, Annual Turnover and Number of Employees)

Any other (Please specify, stating Functions, Date Established, Annual Revenue and Expenditure and Number of Employees)

5. Address _____

6. Email _____

7. Tel _____

8. Fax _____

9. Age (in years) _____

10. Sex _____

11 Educational Qualifications:

Grade School _____

Matriculate / High School _____

Bachelors (State subjects/Major) _____

Masters (State subjects/Major) _____

Doctoral (State subjects/Major) _____

Any other (Kindly specify) _____

12. Experience (State years in service, business, etc.)_____

13. Computers: Do you own a computer? Yes / No

If yes, state

Since when are you owning a computer?_____

What do you do with the computer, please put a check mark what applies.

1. Send and receive email
2. Access and / or Download information
3. Conduct transactions
4. Any other (Please specify)?_____

Part II: ePlanning (For City / Urban Planners)

1. When did you first hear of eGov?

- Five years back
- Two years back
- A year back
- Less than a year back
- Never

2. When did you first hear of eplanning?

- Five years back
- Two years back
- A year back
- Less than a year back
- Never

3. Have you noticed increased/sustained/decreased (please check the one applicable) use of eGov applications such as applications enabling customers to submit, pay for and track the progress of planning applications in your department.

4. Have you noticed increased/sustained/decreased (please check the one applicable) use of GIS applications in urban planning departments to present planning policies and proposals in the form of interactive maps?

5. Have you noticed increased/decreased/sustained (please check the one applicable) use of eGov applications such as discussion forums/feedback icons/communications via emails to get inputs from citizens about urban planning happenings/policies in your municipality or jurisdiction?

6. Are policies, goals, and objectives of Comprehensive Plan of your city accessible via Internet.

- Yes, it is fully available online
- Only part of the plan is online
- It is not online yet, but city is moving towards making it available online.
- It is not online, and there is no intent to move in that direction.

7. Are Zoning and / or Building Bye-Laws available online?

- Yes
- No

8. Can a citizen apply online for sanction of her building plan?

- Yes
 No

9. (a) How much is the budget for your organization/ department for 2004-05?

(b) How much of the budget for your organization/ department for 2004-05 is earmarked for ePlanning?

(c) Are you satisfied with the budgetary provision for your organization/ department?

- Yes
 No

If "No", please specify, what changes would you like to see in the budget _____

10. Has eplanning/eGov helped your department in following factors?

- | | | |
|---------------------------------|------------------------------|-----------------------------|
| Raised efficiency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Reduced red tape | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased transparency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased citizen participation | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

11. If you answered "No" to any of the above, do you believe eplanning/eGov could help your department in following factors?

- | | | |
|---------------------------------|------------------------------|-----------------------------|
| Raised efficiency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Reduced red tape | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased transparency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased citizen participation | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

12. Do you believe accessibility to Internet can be of benefit for revitalization of poor inner-city neighborhoods?

- Yes
 No

13. Do you believe Internet could be a useful tool for increasing democracy and participation in urban planning processes?

- Yes
 No

14. Have you prepared any Perspective Master Plan for the Development of the City?

- Yes
 No

15. If the answer to the above question is "Yes," please specify here the extent to which you have used information and communication technologies (ICTs) in the preparation of the Plan

16. What are the planning services available online for the citizens? Please specify them here in order of importance.

1. _____
2. _____

3. _____
4. _____
5. _____

Part III: eGov Policy (For Policy Makers / Non-Officials)

1. Does your Ministry / Department / Organization have an eGov Policy? Yes / No

If yes,

- When was the eGov Policy promulgated?
- Does the present eGov Policy require a change? Yes/ No
If yes, specify here the changes required

2. What is the importance accorded to eGov in the overall functioning of your Ministry / Department / Organization?

- One of the key areas whose performance is regularly monitored by the top officials (above Director level)
- Not a key area but still considered as important by the top officials
- Low importance in the overall functioning of the Ministry / Department / Organization
- No relevance at all in the overall functioning of the Ministry / Department / Organization

3. When did you first hear of eGov?

- Five years back
- One year back
- Any other period. Please specify _____
- Do not remember

4. What importance is accorded to citizen – centric services under e-government initiatives?

- Top priority
- Automating bureaucracy work-flow is more important.

5. Is there any policy in place that encourages officials to involve citizens into the eGov processes.

Yes

No

6. Is there any Action Plan for eGov for your Ministry / Department / Organization?

Yes

No.

6. If yes, (i) When was the Action Plan for eGov formulated? _____

(ii) What are the top five milestones of this Action Plan? Please provide your answer in the space below.

1. _____

2. _____

3. _____

4. _____

5. _____

7. Is this Action Plan an end -product of co – sharing of eGov ideas of officials from different departments?

Yes

No

8. In your Ministry / Department / Organization,

Precise definition and scope of eGov are clearly understood

- Precise definition and scope of e-Gov are not well understood
- Definition and scope of eGov are not clearly specified but my Ministry / Department / Organization has their good understanding
- Definition and scope of eGov are not clearly specified and my Ministry / department / Organization does not have a good understanding
- eGov has no relevance to my Ministry / Department / Organization

9 Please answer on the scale of 1 – 10 the importance accorded to following features of eGov.

- Minimize distance to access
- Extend access to unserved groups
- Introduce transparency
- Simplify transaction procedures
- Minimize cost to citizens
- Minimize cost to government
- Increase government revenue
- Improve the time to transact

10. Is Public-Private-Partnership a valuable strategy for implementing eGov in your Ministry / Department / organisation?

- Yes
- No

11. Is eGov in your Ministry / Department / Organisation

- Demand driven
- Supply driven

Note: "Demand-driven" means citizens demand eGov services from your Ministry / Department / Organisation. "Supply-driven" means that there is no demand for eGov services from the citizens but your Ministry / Department / Organisation just make the eGov services available to the citizens and it is for the citizens to make their use.

12. What are top three successes of eGov for your Ministry / Department / Organisation? Please describe them here.

1. _____
2. _____
3. _____

a. What are top three failures of eGov for your Ministry / Department / Organisation? Please describe them here.

1. _____
2. _____
3. _____

b. Please specify below the order (1,2,3,...) in which you receive inputs for eGov policy formulation:

- Media
- Civil Servants
- Citizens
- Vendors
- Internet
- Any other (Please specify) _____

c. Have you heard of broadband? Yes / No.

If yes, in what way you think that it will accelerate the process of introduction of eGov and provide rich content of eGov services to citizens? Please specify it here:

Part IV: eGov Implementation (For Officials)

1. When did you first hear of eGov?

- Five years back
- One year back
- Any other period. Please specify _____
- Do not remember

2. Do you think that eGov is

- Just a publicity and a waste of public money, or
- A potent tool for transformation of governance whose potential is yet to be realized?

3. If you think eGov is potent tool for transformation of governance whose potential is yet to be realized, do you think eGov in your organisation has

- | | | |
|---------------------------------|------------------------------|-----------------------------|
| Raised efficiency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Reduced red tape | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased transparency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Increased citizen participation | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

4. Do you co-share the objectives of eGov with the policy-makers?

- Yes
- No

If not, in what manner do you differ with them? Please describe the difference here.

5. To what extent the eGov efforts have succeeded in your department so far?

- Only partially successful.
- Totally successful
- Total failure
- Do not know

6 How frequently the eGov projects and programmes are reviewed in your department?

- Weekly
- Fortnightly
- Monthly
- Quarterly
- Half-yearly
- Annually
- Never

7. What are the benefits you believe eGov will bring to your organisation. Please provide you answer in space below.

8. Are eGov policies and action plans communicated to all stakeholders of your department?

- Yes
- No

9. To what extent have you been able to adhere to eGov policies and action plan?

- We are meeting all targets as specified in the Action Plan for which documentary evidence exists
- We are meeting all targets as specified in the Action Plan, but there is no documentary evidence for this.
- We are falling short of a few targets as specified in the Action Plan
- We are falling short on a lot of targets as specified in the Action Plan
- The Action Plan does not exist at all / is in the process of development

10 How often do you upgrade the technologies used for eGov programmes and objects?

- Very often
- Sometimes
- Never

b) When did you first hear of Broadband?

- A year or more back
- Six months back
- Never

(c) Has your organization taken any steps to implement broadband technologies?

- Yes
- No

If the answer is "yes," please specify the steps taken by your organization to implement broadband technologies including WiMax here _____

11 a) How much was the budget for your organization during the last financial year 2004-05? Please specify here _____

b) How much of the budget for your organization during the last financial year 2004-05 was earmarked for eGov? Please specify here _____

c) Are you satisfied with the budget for eGov for your organization?

- Yes
- No

If the answer to above question is "No," would you like the budget to be

- Enhanced
- Reduced

Please specify reasons for your reply here

d) What percentage of funds allocated to eGov during 2004-05 were utilised? Please specify the percentage here _____

In case of shortfall, please specify reasons
here _____

- 12 (a) What is the number of employees in your organization? Please specify here _____
- (b) How many employees of your organisation are engaged in eGov work? Please specify here _____
- (c) Is the number of employees engaged in eGov work in your organization adequate to meet the demands place by eGov?
- No
- Yes

If the answer to the above question is "No," how many and of what specialization employees you require to fulfill the mission of eGov in your organization. _____

13. What is the status of IT training and development programs in your department?
- Well documented IT Training & development policy for implementation, for which documentary evidence can be provided
- Documented IT Training & development Policy exists but cannot be provided
- In the process of documenting the IT Training & development policy
- IT Training & development policy is in the planning stage
- IT Training & development policy does not exist at all

14. Please answer on the scale of 1 – 10 the importance accorded to following features of eGov:

- Minimize distance to access
- Extending access to unserved groups
- Introducing transparency
- Simplifying transaction procedures
- Minimizing cost to citizens
- Minimizing cost to government
- Increasing the government revenue
- Improving the time to transact

15. Being responsible for implementing the policies and actions plans designed by the ministry, do you agree with the policy-making approach for eGov programs? If you would like to change anything in the approach what it would be? Please provide your answer in the space given below _____

Part V – End Users of eGov - Citizens

1. Do you ever go online to access the Internet or World Wide Web or to send and receive email?

- Yes
 No
 Don't know (DK)/Refused

2. Government agencies have many web sites on the Internet. Please indicate in the following section if you have come across the following websites?

- a. tampagov.com Yes No DK / Refused
b. whitehouse.gov Yes No DK / Refused
c. govbenefits.gov Yes No DK / Refused

- a. dcsouth.delhigovt.nic.in Yes No DK / Refused
b. www.mcdonline.gov.in Yes No DK / Refused
c. delhigovt.nic.in Yes No DK / Refused

6. How did you find out these government web sites?

- Search Engine
 Government Publication
 A link from a website
 other? _____

7. What kind of information you were specifically looking for from these websites?
Please provide your answer in the space given below.

8. When you visited the web sites, would you say that websites were

- Very useful
- Somewhat useful
- Not too useful
- Not at all useful
- Don't know/Refused.

9. Please indicate the reason if the websites were not useful. Was it because

- You could not find the information you needed
- The site was complicated or confusing
- You were worried the government would NOT protect you privacy
- Other reason

10. Which of following eGov services would you prefer the most. Please rate on scale of 1,2 3 (1 – first preference, 2-second preference, 3 – last preference).

- E-government that provides individual citizens with government information and services that are easier to use
- E-government that improves communication and efficiency between citizens and government agencies and federal, state, and local governments.
- E-government that helps businesses use government resources and comply with government regulations.

11. In your view, how high a priority should it be for government to invest public money in making information and services available over the Internet-

- high priority,
- medium priority,
- low priority,

12. According to you, is government involving citizens in eGov planning?

- Yes
- No

13. Approximately how many info-kiosks/internet cafes are there near your place of residence? _____
14. Do you remember seeing any advertisement/marketing of your city's website (websites that were mentioned start of the section)? If yes, please indicate where?
15. Are you using Broadband connectivity at home? If yes, could you please indicate how it is different from other connectivity?