E-GOVERNANCE PRACTICES AND MODELS; OPTIONS FOR PAKISTAN

(Muhammad Ilyas)∗

Abstract

E-government strategies are defined as the employment of the Internet and the world-wide-web for delivering government information and services to the citizens. E-government has become one of the prerequisites of good governance and is an important milestone in this globalised world. Various models of it have been devised by scholars consisting of stages from 2 to 6, e.g. Layne and Lee Maturity Model in United States, Andersen and Henriksen Maturity Model in Denmark. Irrespective of different e-governance models, main aim and purpose is to enhance government efficiency and outreach in all private and government sectors. E-governance has evolved through four stages, i.e. presence, interaction, transaction and transformation. A state like Pakistan has to go through its fully developed stage, Transformation. So where e-government has huge benefits there at same time it exposes governments and all other linked stakeholders to these systems to many perilous consequences as well. Many issues related to privacy of data, network security, Government IT management are attached with E-government.

Key Words: e-government, prerequisite, transformation, presence, transaction

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What is e-governance?

Governance, the act of governing, is a routine occurrence, with decision making and its implementations as integral parts of it. The World Bank in its PRSP Handbook terms governance as ‘the way power is exercised through a country’s economic, political, and social institutions’. It comprises strategies, actions and processes through which citizens and institutions meet their obligations and talk over their differences. An efficient form of governance has always been a search for the stakeholders. E-governance is an important step in the evolutionary process towards this end. Electronic means are employed in mutual interaction of government and citizens and government and businesses, as well as in internal functioning of government offices. The major intent is to make things easier and simpler, and to improve multiple aspects of governance.

E-governance may be defined as ‘delivery of government services and information to the public using electronic means’. Commonly, these means of delivering information are termed as Information Technology or ‘IT’. Use of IT is made in government facilities with a purpose to generate a process which is efficient in working, speedy in response and transparent in outlook. This process is intended to make information available to the public and other concerned institutions, and to carry out government administrative activities. By making the use of e-governance, and by employing information technology, especially the Internet, the government services are delivered to citizens, businesses, and other government agencies efficiently. This form of delivering government services is vibrant enough to connect more directly the government tiers with the citizens of the country. E-governance could enable
citizens to, round the clock, interact with and avail services of the governments at different levels, thus the society progresses dynamically.\textsuperscript{3} On the other hand, it not only opens new vistas and opportunities, but has to confront new challenges as well.

In the process of e-governance, the proactively evolving Information and Communication Technologies (ICTs) define the nature and extent of the interactions among the institutions like state organs, commercial/business communities and civil society. These dynamics keep evolving; various manifestations of these are exemplified by various scenarios: certain info are provided, e.g. electoral details, tax information, bank transactions etc; enhanced and sophisticated mobile telephony and digitized mobile access of world wide web are widespread; extensive use of social media by civil society, public and private institutions etc to mobilize or generate opinion and influence decision-making process and dissemination of certain public info messages.

**Scope of E-Governance**

E-governance is not simply presenting or using certain technological tools, rather it is basically related to bringing change in the mindset and work culture in order to integrate government processes and functions to serve the citizens better.\textsuperscript{4} The Commonwealth Network of Information Technology for Development (COMNET-IT), studied impacts of e-governance in different professional and government sectors, with primary focus on certain government initiatives.

The governments profess to bring in transparency,\textsuperscript{5} knowledge exchange and its creation within its institutions,\textsuperscript{6} but towards this end, effectiveness of ICT is to be enhanced alongside the governments may bring a culture of change through integrating
their functions. The government departments can make their hierarchical structures more pragmatic and effective. Researchers have found that levels of social security, political well-being, infrastructure development, and pledge to the principles of good governance have close connection with the level and quality of e-Governance. If this co-relation is established, it will result into commoners’ convenience, more transparent and corruption free environment, revenue generation, efficient working and reduced costs.

Concept of e-governance can well be understood by having a fair idea of the concepts of e-democracy and e-government. **E-democracy** refers to all forms of electronic interaction between the elected component of any government and the citizens or electorate.  

**E-Government**

E-government is a form of governance which comprises of processes and structures required to deliver electronic services to the public (citizens and businesses), liaise with commercial entities and to conduct electronic transactions within an organisational entity. E-government is a broad ranging concept, defined differently not just semantically but reflects priorities in a government’s strategies. It means many things to different people depending upon intended focus. In its broader sense it can be defined as a system to improve organizational performance; it is an efficient way through which governments assist and communicate with citizens through ICTs. Communication in e-governance is carried out in different directions with varying degrees: **government**
to government, government to citizens, government to commercial and business organisations, government to civil societal organizations and citizen to citizen.

Sometimes, e-government is linked with provision of certain specific services: establishment of some sort of kiosk for postal services or money transfers/receiving, access to some SMS based information like electoral info, tax-paying status or CNIC validations. Other observers define e-government more generally as automating the delivery of government services.\textsuperscript{12} So, a whole range of perceptions of e-government exists.\textsuperscript{13} The Gartner Group describes e-government as “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet, and new media.” Earlier, Jane E. Fountain had envisioned ‘building the virtual state’ in early 2000s.\textsuperscript{14}

E-government is itself a process still in the early stages of development. Initial forays into e-government initiatives have focused mostly on providing enhanced access to information and basic services. Although the full transformative effects of e-government remain largely unrealized at this time, the rapid growth in interest and resources dedicated to e-government initiatives may contribute to swifter changes. E-Government provides opportunity for the realization of those set agendas. Thus, it is not an end in itself. Rather it can be a strong contributor to the achievement of government’s policy outcomes.\textsuperscript{15}

**Use of ICT in Government Organizations**

Information and Communication Technologies are the tools for promoting in our society a knowledge based environment where the interactions between a citizen and government officials take place
electronically.\textsuperscript{16} Being an orthodoxly working environment like ours, such interactions take place in government offices, and are mostly time and space bound. Now that these are times of emerging ICTs, service centers can easily be traced closer to the users. Lot of ingenuity may take place in these domains.\textsuperscript{17} For example, government services, as mentioned above, could be provided through automated kiosk located close to the clients especially the urban ones, or the use of a personal computer at home or office, with dominant desire for quality, relevance and efficiency. But in our state institutions, in most of the conditions, e-Governance lags behind in understanding the needs of stakeholders in wholesome perspective. Such perspective of e-Governance includes: Publicizing, Interaction and Transaction.\textsuperscript{18}

Through these activities, the aim of enhancing access to government information such as laws and regulations; data relevant to particular individuals; increasing public participation in decision-making can effectively be enhanced and ensured. Through, for example the publishing of e-mail addresses of government officials and on-line forms, the government services more readily available to the public through e-filing of tax returns, online applications for driving or weapon licenses, lot of ease can be generated for the general public. Unfortunately, to date, in e-Governance domain, our major efforts are centered on publicizing of information, and no concrete steps have been taken to move towards ensuing phases of interaction and transaction. Automation pertains both in the domains of internal operations of the government and its external interactions with citizens and other agencies. When internal operations are automated, it will reduce the recurring expenses and at the same time will improve the response time to various
emerging situations. In this way, the government processes will be more elaborate and enhanced in effectiveness.\textsuperscript{19} By automating the interactions, the costs will be reduced and processes will become cost-effective.

**Sectors of E-Governance**

Although e-governance encompasses a wide range of activities and actors, three distinct sectors can be identified to shortly describe their mutual interaction.\textsuperscript{20} These include between/ among government agencies (G2G) – the interaction includes both inter- and intra- domains; government – to – business/ commercial community (G2B); and government – to-citizens (G2C).

- **Government-to-Government (G2G)**
  
  This interaction forms the backbone of any form of e-governance.\textsuperscript{21} Need arises that governments at all tiers must work to strengthen and consolidate their own internal workings and operating procedures before they could embark on successful electronic interaction with other stakeholders of the society. G2G e-governance involves sharing data and conducting exchanges based on their electronic systems, both upwards and downwards, between governmental actors. This involves well-disciplined and updated intra- and inter-agency exchanges at different levels.

- **Government-to-Business/ Commercial Sector (G2B)**
  
  The mainstay of e-governance in a country like Pakistan is interaction between government agencies and business and corporate communities, i.e., Government-to-Business sector (G2B). Here the business sector is basically the corporate or commercial sector. This interaction has the potential for
reducing costs through improved procurement practices\(^{22}\) and increased competition.\(^{23}\) The G2B sector includes commercial interaction in terms of sale of products from state-owned units to the public, as well as the disbursement of services. Keeping in view the nature of the society and the orthodox practices being practiced at massive scale, not all transactions/interactions are directly based on the use of information technology, but still diversified and innovative methods can be employed in relation to the G2B sector.

- **Government-to-Citizen (G2C)**
  The third e-governance sector is Government-to-Citizen (G2C) interaction. In this initiative citizens are facilitated while interacting with government. It has been termed as ‘citizen-centric form’\(^ {24}\) which, for some observers, is to be the primary goal of e-governance. G2C initiatives use dissemination tools, such as web sites and/or kiosks\(^ {25}\) to enhance public access to certain information. This purported feature of e-governance is basically a focused effort to provide hassle free, near the door step and timely access to some government functions. E-governance experts suggest that one of the goals of implementing these initiatives should be to create a wholesome website where citizens can handle a variety of tasks, especially those that involve interaction with multiple agencies, without requiring the citizen to initiate contacts with each agency individually. This form of e-governance if matured and developed in the right direction will override geographical and time constraints, thus will facilitate citizens, by increasing citizen participation in governance.
Phases/ Stages of E-Governance (E-Governance Models)

From the above discussion it can be brought out that the three groups that standout in e-governance concepts are government (including wide array of government agencies), citizens and businesses/ commercial interest elements. Viewed in terms of interests involved, the external relationships are mainly focused on citizens and commercial elements and other minor interest groups, the internal focus is mainly on functioning and interactions between various government organs. There are some most occurring group interactions in e-governance which are presented in Figure 1 below.

As mentioned before, e-governance is more than a government website on the Internet. Question arises where we stand now in terms of services delivered and what are the opportunities and possibilities of e-governance in the future? Basing on varying degrees of interaction between multifarious elements of e-governance, some models have been devised by the scholars. These models consisted of varying stages from model to model ( from 2 Stage models to 6 Stage models); various models include; Layne
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**E-Governance Maturity Model (Gartner)**

Gartner, an international e-business research consultancy firm, has formulated a four-phase e-governance model. This model has been designed to study government sectors, and is used to categorize projects according to their development level or stage. Organisations at governmental and non-governmental level have used this e-governance model while evaluating an e-governance strategy. While using this model, the user can review strategy after each phase, and can, within bounds of time and resources, provides chances to retrace steps if required. Governments normally initiate their process of e-governance with the delivery of online information, and gradually turn towards more complex services, in the face of rising quest for convenience and efficiency. Because some services prove to be easier to be made available than the others so it is gradually that these changes will take effect; sometimes growing public demand becomes a driving force; and in some cases pressing need of cost-effectiveness drives the process.
Gartner considers that e-governance will mature itself according to a four-phase e-governance maturity model.

\[ \text{Figure 2: E-Governance Maturity Model (Gartner, 2000)} \]

**Stages of E-Government**

It is a matter of fact that diverse e-government enterprises are meant to undertake different goals. Amongst these perceived objectives, one dominant expectation from e-governance is to take full stock of the capabilities of available information technology, and to transform government from a limited scope-operation and physically restricted set-up into an automated machinery. Such it based government structure would be greatly citizen-centric, and will effectively deliver all required government services to all, with a 24/7 approach. However, the objective seems requiring time to grow into full potential, owing to many economic, technical, and political reasons. Basing on this premise, experts of the field have evolved stages of e-governance projects. This pattern is based on the degree of information technology utilization to enable the delivery of services electronically. Thus, the four stages of evolution; presence, interaction, transaction, and transformation have come up.\(^7\) It is not imperative for a project to follow the sequential order of these stages, for its optimal completion. Instead, a project can
skip levels, either from its inception or through its way to development.

- **Presence**
  
  During the first phase, the web is used to make the intentions and objectives of the government known to all stakeholders. An all-inclusive comprehensive government website, or a network of sites belonging to various departments and ministries are developed during this primary stage. Their purpose would be to let the public know about various initiatives taken by the government in solution of general problems. Loads of information such as official addresses, working hours, as well as forms and applications to the public, judicial opinions, economic reviews, corporate regulations for business and budgetary allocations and spending as a reference for government agencies, are also publicised through these websites. Such basic Web sites, as a passive presentation of general information, list cursory information about an agency, and have no interactive capabilities. During this first phase, very basic need of building the telecommunication infrastructure is met.

- **Interaction**
  
  The second stage is interaction. At this stage, there is limited ability to streamline and automate government functions. Although interactive Web-based initiatives possess extended potentials yet the interactions are relatively simple and generally relate to providing information. By using these sorts of initiatives the customer can avoid a trip to an office or make a phone call by making commonly requested information and forms available around the clock. These resources may include instructions for obtaining services,
downloadable forms to be printed and mailed back to an agency, or perhaps e-mail contact to respond to simple questions. The task handling here is enabled through building the underlying processes; it allows for rapid implementation of advanced applications as requisitioned by the consequent phases.\(^{31}\)

- **Transaction**
  The third stage in the evolution of e-governance initiatives is transaction. Now it is possible that direct interaction/connection between the government and relevant quarters will be made. Because the complete infrastructure has already been laid, thus wide-rangingle online service can be initiated to suit the needs. Services for the public such as utility bills and fine payments, license renewals, online tax returns etc for individuals and corporate sectors, tax records viewings etc for governmental agencies can be carried out there.\(^{32}\) At this stage, the electronic responses are generally predictable and comprehensively predictable. Although the level of interactivity is quite greater than second stage initiatives, the activities still involve primarily one-way\(^{33}\) flow of information (either to government or to the client, depending on the activity).

- **Transformation**
  E-governance initiative evolves at its highest order, and that is complete transformation. At this stage initiatives of the technology are utilized to transform how government functions are conceived, organized, and executed.\(^{34}\) With such use of technology, sound customer relationship and management capabilities are built up, it has a capacity to address complete range of needs, issues and questions. Such transformation faces multitude of administrative, technical,
and fiscal constraints, so in our country, quite few organisations, mostly in private sector, have currently employed this type of initiative. Very conveniently, it can be asserted that transformative e-government initiatives aim at and complete transition from agency-centric solutions to customer-centric solutions. Thus, this stage turns out to be ‘characterized by redefined relationships’\textsuperscript{35} between various segments, leading towards most advanced level where e-governance could institute virtual establishments at various tiers.

**Potential Challenges to E-Governance**

E-Governance initiatives, once implemented, would be a source of potential opportunities. But there are a number of challenges that are usually faced in the realization of these predicted benefits. While e-governance is being implemented following potential challenges may be faced:-

- **Issues Related to Privacy of Data/ Info.** Serious concerns related to privacy of information and data pose strong challenge to the implementation and acceptance of e-governance initiatives.\textsuperscript{36} At times, private information is disclosed or mishandled; hazardous sharing information between agencies is the points of serious concern.\textsuperscript{37} If we wish to safeguard privacy needs then both policy responses and technical actions would be needed in the context of e-governance.\textsuperscript{38}

- **Network Security.** E-governance faces very potent threat - a significant challenge in the form of network security. These networking and database security issues are related to: potency of security software, network access management, loopholes in software development, operating systems controls, and service continuity.\textsuperscript{39} E-governance
functionality depends on and is also directly linked to build citizen confidence and trust. However, the looming risks of fraud and misuse of sensitive data are persistent.

- **Government IT Management and Funding.** A complex challenge for the development of e-governance is how the government manages information technology management\(^4\) and to what extent requisite funds are provided.\(^5\)

- **Imbalances in Access to Computer.** In Pakistan, great disparity prevails in the domain of computer access. There are two policy concerns for e-governance: the “digital divide” and accessibility issue for people with disabilities.\(^6\) When we talk about the digital divide, it is evident that not all citizens or large populace does not have equal access to computers, whether due to resource constraints or owing to lack of necessary skills. ‘The poor, the elderly, language-limited persons, and the less-well-educated are likely to have limited access’.\(^7\) Similarly, the blind or physically impaired require expensive computer apparatus (hardware or software), such as screen readers or oral controls; they cannot access online information and services.

Few more challenges to the implementation of e-governance include: Lack of clear vision drive to address workable development issues, absence of coherent organizational structure, issues related to gender,\(^8\) level of trust in government departments and lack of confidence in the IT infrastructure.\(^9\)

**E-Governance and Pakistan**

With this change and the fast growth of ICT, the paradigm has shifted from traditional government to electronic government. The same is relevant for Pakistan as well. In case of Pakistan, it can be said that E-government is a relatively new concept. The Country’s
IT policy named as *IT Policy and Action Plan 2000* was introduced not earlier than August 2000. This is how the Government’s attention was drawn to the deployment of IT in state functionaries and technology was attributed as an important tool for sustainable development.\(^46\) This policy embarked on an aggressive approach to induct IT at all levels of government.

In Pakistan, the Electronic Government Directorate (EGD) was established as a unit within the Ministry of Science and Technology in order to employ different projects correlated to e-government, to make available technical recommendations and guidelines for the implementation of e-government projects, and to set standards for software and infrastructure in the field of e-government.\(^47\) In June 2005, the National E-Government Council (NEGC) accepted the “E-Government Strategy Five Year Plan,” which was designed to offer basic infrastructure to all government agencies, design and develop common applications for all government divisions, provide e-services to citizens, and establish standards for e-government projects (Pak e-government strategy, 2005).\(^48\) The plan also raises awareness, attracts more citizens to make use of e-government services, and facilitates better understanding and delivery. The goals of the e-government of Pakistan are to increase efficiency, effectiveness, transparency, and accountability in decision making in addition to enhancing delivery of public services to its citizens both efficiently and cost effectively (Pak e-government strategy, 2005). According to an official report Pakistan Telecommunication Authority – 2010, teledensity had reached 65.4%, and at the end of 2010, the growth of broadband was outstanding at over 100% from the previous year 2008-09.\(^49\)

It is required to be understood, it is far more essential to consider E-Governance as an intrinsic and indispensible value to good governance. Ministry of Information Technology arranged an
“e-Office Forum-2014” in Pakistan with the slogan “e-Governance for Good Governance” in May, 2014. The purpose of the forum was to share experiences regarding e-Governance initiative of ‘e-office/e-Filing System’ to sensitize all the stakeholders about its importance, and ask them for their active support in its implementation and to highlight their key roles and responsibilities.

In 2008 and 2010, UN e-government world surveys ranked Pakistan 131st and 146th, respectively. However, the South Asian region regressed in the 2010 survey and remains far below the world average. Pakistan scored 27.55 and Maldives 43.92 on a scale of 100. Maldives showed the highest ranking in the region. The 2014 UN survey termed Pakistan as ‘trailing among the bottom 30 countries globally’.

In developing countries, one of the most important reasons for the low-level adoption of e-government services is that the needs and requirements of citizens are ignored. These findings show that like other South Asian countries, Pakistani e-government services are still in the developing stage. The government needs to improve its various instruments to attract potential users and determine the influential factors in existing e-government services.

Following underlying principles have been used in the formulation of Pakistan’s revised E-government strategy:

**Human Resource:** The right quality and quantity of dedicated human resource and their long term retention is the most critical factor in the implementation of E-Governance Program.

**Top-level Ownership:** Without it, a fast-paced and successful implementation of E-Government may not be possible.

**Requirement of a Comprehensive Plan:** It is required that different areas of E-Governance are to be defined along with their priorities and integration. This is aimed towards implementing projects as part of an integrated approach.
Priority on High-Impact Application: The E-Government program should focus its resources on high-impact applications which mostly relate to providing seamless and uninterrupted citizen services.

Interoperability of Applications: There should be standardized interfaces and similar architecture for similar functionality. Wherever possible, applications should be replicated.

Security of Government Information: In view of Pakistan’s strategic location, its participation in war on terror, the threat from hostile elements, sensitive security situation and considerably weak I.T. security infrastructure and arrangements, the Government information and data needs to be securely stored in a dedicated data centre at EGD, without any access to the internet. For hosting Government of Pakistan’s Portal and for providing e-services to citizens over the internet, separate arrangement may be made for storing the non-sensitive information.

Software Development: A combination of in-house software development and outsourcing model will be implemented.

Conclusion
The key characteristics of e-governance have been discussed in the preceding paragraphs. Since Internet Technology has progressed rapidly in the last few years, and the need to align ourselves strategically about our future course has pressed hard. With the passage of time, and with the emergence of new technologies at a faster pace, the need arises to adopt a flexible approach for right and timely response to the technology explosion. The Government agencies and private/public sectors have initiated various steps in this regard which are likely to raise Pakistan’s standing at international forums. While evaluating e-governance, domains of e-services and delivery of e-services, e-democracy and e-commerce will remain in prime focus. Participation factor should be
held most important, but unfortunately many decision-makers and researchers concentrate more and unevenly on the provision of electronic services. Consideration should be paid to enhance effectiveness of Internet based technologies. Stress should be laid on people’s use of the Internet; awareness should be spread that common citizens use internet not only for their private tasks but should also involve them in public affairs.

Immediate measures will be needed to be taken at Government level before launching the online government. The states which adopted the technology have started securing the paybacks already. Our government managers should quickly capitulate upon the use of e-governance components and use them for convenience to the citizens. To make the futuristic vision work, there is a need for collaboration among e-Governance linked departments and institutions. It demands more political and organizational will to take hard decisions, change ourselves and learn to build e-Governance. Procedures are to be realigned and regulations reframed to embark upon new realities of e-governance. The above challenges and difficulties are to be surmounted to move ahead with the project, through our resolve and immediate attention.

End Notes

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