E-Governance in India: Models That Can Be Applied in Other Developing Countries

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Abstract. Gone are days when every thing related to "e" must be western or related to developed countries. There were times not long ago, when India was considered a country of snake charmers. With technological revolution, India has been the front runner in the area of Information Technology. India's matured and robust educational system provided the much-needed backbone to IT manpower needs in country and abroad. Implementation of Information Technology is not only in the industrial sector as thought, but also in the area of governance. Information Technology has became a new tool for "Democracy". Although e-governance is there on priority for every state government, some have taken a lead and developed effective models from which others can take a lead.

1   What Is E-Governance?

e-Governance is much more than just a government website. Many definitions exist for e-governance and several other terms are interchangeably used with e-governance. Some of these terms are e-business, e-democracy, e-democracy. E-government is the use of information and communications technology (ICT) to promote more efficient and cost-effective government, facilitate more convenient government services, allow greater public access to information, and make government more accountable to citizens[1]. No observation on e-government can apply to all countries in such a diverse region, ranging in terms of population size from the People's Republic of China (PRC) to Nauru, and in terms of per capita GDP from Singapore to Nepal.

Therefore, a common definition for e-government could be:
Electronic Government is a form of organization that integrates the interactions and the interrelations between government and citizens, companies, customers, and public intuitions through the application of modern information and communication technologies.

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[1] Some define e-government more restrictively, making it the public sector equivalent of e-commerce, see World Bank, "E*Government" (Online). Available:
<http://www1.worldbank.org/publicsector/egov/index.htm>.
Others take a broader approach, see Economist. "Survey: Government and the Internet". June 22, 2000. This article takes the broader approach to reflect the many benefits that can result from other ICT applications in the public sector. Major English dictionaries do not yet list the word "e-government" or the phrase "electronic government."

2 Indian Reality

E governance in India and perhaps where ever it is in a nascent state, in third world countries would have three essential problems to tackle. These can be summarized as

1. Scale
2. Standards
3. Reusability

In the case of Andhra Pradesh governments e-seva initiative these problems come out clearly. As the endeavor is the first of its kind in India the identification and subsequent elimination is possible.

In developing countries like India even though the service providers are available it seems to be unlikely that any one of them would be able to match up to the scale at which the initiate is being taken up. Hence the problem of scale leads to a typical problem of not being able to entrust a solution provider with a part of e governance.

The second problem finds its roots in the first, however has a completely different bearing on the project. It is that of maintaining the same standard across the service as well as services. As each service provider would use its own technology, data schemes and standards integration becomes a challenge.

The third problem is to encourage the development of portable or replicable solutions that can re-used in applications for other government agencies, states etc. The reason behind this is that just as in businesses, around 85% of the processes are same across companies within the same industry, it is expected that 85% of the processes should be similar across different governments. Thus, it should be possible to use the solutions developed for one government, in another government. Reusing the e-Governance asset across different governments can substantially bring down the cost of governance

Gartner, an international consultancy firm, has formulated a four-phase e governance model. The four phases of maturity, in a nutshell are

1. Information   Presence
2. Interaction   Intake Process
3. Transaction   Complete Transactions
4. Transformation   Integration & change

This model does not imply that an institution has to go through all the phases at the same time. On the contrary in the western world government institutions are in 1, 2 or 3. From a value to citizen point of view the value chain would be 4>3>2>1 and on the complexity scale it would also be 4>3>2>1, 4 being most complex. This serves as a template for governments to put their projects on track, and point at parts of the value line taking into consideration the complexity.

3 E-Seva: A Role Model

The e seva model is designed on 4 layers. These layers are as follows

Implementation Framework   6 C model
Prioritization Framework (the big picture)   PPP model
Technology framework   ICT Architecture

The ICT structure would enable the government to prioritize its projects, implement them in phases. It would also help in avoiding duplication and ensure interoperability. As part of the continuum of the framework it enables PPP to achieve sustainability.

The Private Public Partnership addresses lots of issues. It caters to the need to provide high quality services. Accounts for shrinking budget support. Ensure a steady pace of implementation. It also controls the risk of technology obsolescence. It provides cost effective solutions and also delivers to the system efficiency and accountability.

There are certain prerequisites of PPP. The participant government must be a proactive government. There should be abundant IT skills in the private sector. Connectivity should be cost effective. There should be administrative reforms to enable the IT architecture for e government. A foolproof framework for security of the system must be in place.

The PPP methodology for e governance can be put into 8 steps. These are
1. Identify partner for project development and management
2. Establish project development processes
3. Identify 5 core to 50 pivotal projects
4. Invite proposals
5. Shortlist
6. Develop prototypes
7. Enter into appropriate partnerships
8. Evaluate results through third party audits

The 6 C model looks into the following aspects of an e governance project. They are
1. Content
2. Capital
3. Competencies
4. Connectivity
5. Cyber laws
6. Citizen interface

As part of content identification and definition the project manager must prioritize his applications, System study. Get Ownership/involvement/inclusion in the project. Set standards of data, hardware, software and networking. Set the local language interface. Define the architecture of e government and security of the system.

The next part of the 6C structure is capital. This includes budget support, public private partnership. Leasing Vs. Purchasing. Sustained stream of revenue and user charges.

Connectivity is the essence of any e governance project. The project requires National/ state backbone of optical fiber cables. Satellite based communication networks. Campus area networks and most importantly affordable access

While setting up projects the government must be aware of Cyber laws that include IT Act 2000 Digital signatures Encryption Evidentiary value of electronic records Privacy issues Need for specific legislation/rules (Registration Act & Rules)

The citizen interface includes integrated citizen service centers. Internet based applications and Community Internet infrastructure, Smart cards and electronic payment gateways.

4 Conclusion

The overall model suggested in the paper about scale, standards and reusability was conceptualized through our interaction with the department if information and technology, Government of Andhra Pradesh, the service providers and also a section of the people who are availing the services of e-seva. The difficulties faced by us while using the system have further strengthened our framework. The layered structure is the right template that can be applied to e governance projects across developing countries as again verified through our interactions. Thread of problems in implementation of e-governance projects runs through all developing countries. The 4-layered structure tackles these problems in a structured, sequential manner. This structure has been developed after studying the shortcoming and success of Indian e-government projects and can be extended to other projects beyond of political boundaries.