

Implementation issues

With the spread of information technologies and World Wide Web, certain demands have emerged, touching the vital areas of Governmental functioning such as right to information, transparency in functioning and speedier decisions.



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Introduction

Gone are the days when the most unfortunate part of India's population living in villages was just unreachable and uninformed on every new development-taking place in the urban areas. For every petty work they used to go to the district headquarters resulting in long queues, travel expenses and corrupt middlemen, which used to take away further a reasonable proportion of their earnings. This could be attributed to the lack of information, as uninformed and illiterate villagers just believed in what they were told by the agents roaming outside the government offices. For hundreds of years, farmers in central India were locked in a battle against three seemingly invincible foes: drought, poverty, and corrupt middlemen. Now, thanks to a new computer network, they are on their way to minimizing the third evil - and they are better equipped to combat the other two. The new information and communication technology developments in different states of India and the world have changed the way government offices used to work and also the life style of the villagers and other citizens. The new ICT revolution has connected the villages to networks that are accessible from any specified location and need not move every now and then to district headquarters for getting things done.

This has also had a bearing on Governmental mindsets, functioning and execution. With the spread of information technologies and World Wide Web, certain demands have emerged, touching the vital areas of Governmental functioning such as right to information, transparency in functioning and speedier decisions. Governments worldwide are faced with the challenge of transformation and the need to reinvent government systems in order to deliver efficient and cost effective services, information and knowledge through information and communication technologies. Development of Information and communication technologies catalyzed and led up to E-Governance, which has now become the most talked buzzword the world

over. With a view to explore the challenges in implementation, how to face these challenges and after meeting the challenges how to move in the direction which leads to a successful e-government; we are proceeding with our paper. This paper defines e-Governance, discusses the issues involved in its implementation and some examples of e-Governance practices in India. The paper also discusses some of the benefits resulted and are likely to result from e-Governance. Before touching the issues, it is quite important to clearly understand the meaning of e-Governance and E government. The following definitions of E governance is considered.

The application of electronic means in (1) the interaction between government and citizens (G2C) and the government and business (G2B), as well as (2) in internal government operations (G2G) to simplify and improve democratic, government and business aspects of governance.

E governance is that form of governance which seeks to realize processes and structures by harnessing the potentialities of information and communication technologies (ICTs) at various levels of government and the public sector and beyond, for the purpose of enhancing good governance.

e- government on the other hand refers to the facilitation of the delivery of government services; it has a focus on information technology. It can be defined as this: E government uses computing and telecommunications technologies to make radical changes to the delivery of government services to their citizen customers and the general public (G2C), businesses (G2B), employees (G2E), and other governments (G2G).

Objectives of e-Governance

With a strategic objective to support and simplify governance for all parties, government, citizens and business, by using ICT for attaining good governance, following broad objectives of the E governance can be identified:

- Improve connections between citizens and government and encourage their participation in governance
- Open up avenues for direct participation of women in government policy making process
- Reduce poverty
- Enhance democratization and citizen empowerment.

Major aspects of e-Governance

Two major dimensions of e governance include application of ICT for the betterment of administration, and application of governance to the cyber society.

Following pillars support the E Governance System. Some of these have also been included in the '6C model', as implemented successfully in the case of Andhra Pradesh:

- **Computers:** All hardware and software requirements of governance
- **Connectivity:** All carrier systems, bandwidth etc.
- **Content:** The information that is exchanged between the "consumers" of the system
- **Consumers:** All the human substitute systems that access and use the "content"
- **Confidence Building:** Those measures that help the citizens develop confidence in the e governance and encourage them to take to the e transformation.
- **Cyber laws (IT Act 2000)**
- **Citizen Interface Options**
- **Capital**

Issues in implementation

On studying various E governance projects, following inferences about various issues that are involved in implementation of E governance can be drawn:

Infrastructure Issues

The infrastructure issues, which are important, are poor rural telecommunications network, power problems in various states, and network connectivity. Unless these three areas are improved, an effective e governance programme cannot be implemented.

Social and cultural issues

E governance implementation leads to information sharing at each small unit level in

the masses, high awareness and transparency in governmental functioning. This also needs a strong back end functional support to successfully maintain the e governance initiative; in the absence of which the system will collapse. Due to corruption deep rooted in the political and administrative system, majority of the people at the authoritative positions in the respective functional departments may dislike the transparent and smooth working after e governance initiative. Such cultural habits are difficult to fight with which is an essential prerequisite of the e governance. Resistance of staff is also a very likely aspect, which needs to be taken care of by taking steps in advance and by spending goodwill among the employees.

On the other hand, people always fear to experiment new things, newer means of functioning. In the initial stages, any e governance project is likely to face criticism and setbacks because of lesser public participation. Further owing to lower literacy rate in majority of the Indian states, the reach of the project remains restricted to the literate people in the society.

To catalyze the tremendous social returns that are possible, the sheer magnitude of available capital must increase exponentially, and the capital must be invested strategically. Poor requirement-gathering (particularly in the case of frequent policy changes) and non-involvement of end-users during this process, poor or negligible IT awareness among decision-makers, poor management of knowledge and human resources, non-compatibility between IT projects and business processes, poor risk management, choice of technology and over-ambitious projects are among the root causes of problems in achieving significant e governance benefits.

Poor overall literacy rate and language barriers are another issues, which limit the usage such projects

Security issues

Defining a security policy can be a complicated task as each Government must decide beforehand which aspects of protection are most important, thereby compromising between security and ease of use. Various security issues involved are:

- **Authenticity** of the information sent across the web. The use of digital signatures is therefore much more required in case of Government documents.
- **Confidentiality** of any transaction or information available on the network is a very crucial matter and is therefore of vital importance to the successful e governance implementation. Protecting the information and important governmental documents from unauthorized users is all the more important in e governance.
- **Cryptography** is an important process to protect the information from unauthorized users and is an inseparable part of network security. Tested encryption software is installed before initiating the e governance.
- **Maintaining and assuring Integrity** of the information is also an important aspect of digital security, which becomes all the more important in e governance. In the absence of encryption and digital signatures, information integrity cannot be guaranteed and this may lead to new forms of fraud, as digital documents are the easiest to forge.
- **Continuous availability** of information



A typical Gyandoot kiosk

www1.worldbank.org/.../Images/case_studies971Gyandoot.jpg

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24 hrs a day is important for efficient and effective functioning of the e-governance system. This is in fact, a key distinguishing feature of the e-governance system. Therefore any anticipated hardware problems, network errors, link failures etc. need to be safeguarded beforehand.

- Network Security by using multi level barriers is in place for effective protection of the networks. These may use password schemes, biometrics, SMART card authentication and firewalls.

Hardware and software issues

Identifying the appropriate hardware platforms and software application packages for cost effective delivery of public services is an important ingredient of the e-governance system. This can be achieved by:

- Making the knowledge repository widely available through appropriate Demo-Mechanisms.
- Offering a Basket of these models to the States, Departments both in the Center and the State, which could be suitably customized as per location and work specific requirements. Towards this end we envisage to have State level models, District level models and Ministry/Department level models;
- This offer is to be supplemented by incubating and initiating efforts in this direction by various organs of the Govt. Amendment in State laws through study and consultation.

Administration issues

A strong political will and less corruption, encompassing potential changes with regard to physical, technical and human resource infrastructures and honest welfare measures are central to effective administration of e-governance. A change in the mindset of people in the government and clear thinking about what needs to be achieved and where to get the expertise and solutions to achieve it in a cost-effective, time-bound manner leads to effective e-governance. Setting up a governing body on e-Governance for the country might help. The idea should be to further the governance processes toward easier, better citizen-friendly schemes as and where required. According to an observation, hardware and software constitute only 10% of the problem, while 85% of the problem is an organization management problem that is internal to the government.

Delivery of public services like Utilities, Rural and Urban development schemes through EDI, Internet and other IT based technologies would necessitate procedural and legal changes in the decision and delivery-making processes as well as institutions, which would mean a complete revamp of the Government decision management involving faster decision mechanisms, less red tapism, changes in organization structures making it more flatter, higher delegation of authority and changes in legal provisions. These measures would lead to:

- Organizational and institutional changes effecting both people and methods at all interfaces of the delivery chain
- For this, acceptance of this Changed Processes would have to be properly understood, accepted, internalized, adopted and improved to enable full advantages of the technology being adopted in the first part of Start Governance .
- De-layering of the decision making levels leading to re-engineering and appropriate sizing of the decision making machinery.
- Training and acclimatization of the personnel at all levels more so at the lower rung of Government management organizations.
- Loss of vested interests and assumed power as well as authority both amongst the legislature and the executive

Financial issues

Apart from the ambitious work plans, the financial issues related to e-governance have to be weighed in terms of available resources both in the Plan sector and outside it. It is here that leveraging of ongoing projects can be made more cost and value effective with the use of IT in a modulated fashion without any critical incremental costs. The Private sector resources have to be also carefully dovetailed with their commercial interests and those of the Government to provide value added services. The Kiosks by themselves can bring in little in terms of better delivery of Services, unless the same are made economically viable and of demonstrated use to the stakeholders, viz. the public and the citizenry. Higher cost for high-end applications is another attention area.

Benefits of e-Governance

- Enhanced access to information and communication across large distances
- Improved access to governmental and quasi-governmental resources and services
- Opportunities to trade or bank online through kiosks
- Opportunities to design, manufacture, and market products through Internet or intranet systems
- Education through computers or about computers or both
- Superior medical advice, diagnosis or information about local resources
- Opportunities to earn a better living by learning a new skill in the knowledge based economy
- Improving agricultural productivity
- Technological benefits
 - Targeted applications of technology can help government agencies; community groups and other organizations deliver services more effectively and at a lower cost.
 - Technology applications can enable certain individuals, especially "early stage adopters", to spark catalytic change in their communities
 - Technology applications can help create and sustain online and off-line networks that introduce and interconnect people who are working toward similar goals.

Case studies from India

E-Governance is the next big trend occurring in India with at least half a dozen states jumping onto the bandwagon. While these are individual state government initiatives, they lack a national perspective. Yet, with the realization of the benefits of e-Governance among the central and state governments, in India it can actually become a reality. This will enable a healthy citizen-government interface. State governments who are jumping onto the e-Governance bandwagon are taking initiatives in this direction. Clearly the southern states of AP, Tamil Nadu and Karnataka have taken the lead in terms of implementing these projects at different citizen-government interface departments. Other states across the country have been swiftly moving to keep up with the changes in the south, and states like Rajasthan, Gujarat, Maharashtra and West Bengal have been trying to catch up fast. Also coming up are Kerala, Orissa, Punjab and Madhya Pradesh, to name a few.

Gyandoot, Madhya Pradesh

The Gyandoot project was launched on January 1st, 2000 with the installation of a low cost rural intranet covering 20 village information kiosks in five blocks of the district. Later, 11 more kiosks were set up. Villages that function as Block Headquarters or hold the weekly markets in tribal areas or are located on major roads were chosen for establishing the kiosks. Seven centers are located in towns, 8 in large villages and 7 in medium sized villages and rest are in small villages. Each kiosk caters to about 25-30 villages. The entire network of 31 kiosks covers 311 Panchayats, over 600 villages and a population of around half a million. Kiosks have been established in the Village panchayat buildings. Information kiosks have dial up connectivity through local exchanges on optical fiber or UHF links. The server hub is a Remote Access Server housed in the computer room in the District Panchayat. User fees are charged at the kiosks for the services provided. Local rural youth are involved as entrepreneurs in the kiosk operations. The routine operating activities like maintenance, rural matriculate persons conduct typing and numeric data entry. The services offered at the kiosks are :

- Agriculture produce auction centers

and commodity/ mandi Information System

- Copies of land records
- Online registration of applications for obtaining various certificates like income/ caste/domicile. This may be obtained by sending an application online. Applications can also be sent online for getting copies of their khasra documents every kharif and rabi season which the farmers require for getting loan against the crops.
- Online public grievance redressal for filing complaints regarding both physical and social infrastructure.
- Village auction site for auctioning of land, as well as agro-based consumables and durables.
- Other information like beneficiaries of social security pension, rural development schemes, government grants given to village committees, public distributions, data on families below the poverty line etc.
- Applications can also be put to get their driving license
- Under the e-education initiative 34 kiosks have been set up at the high schools and higher secondary schools and local educational content is provided. Internet facility is also provided for enhancing the educational contents. Career guidance, general awareness, and information about the Syllabus etc. is also available. The school children can also interact with other schools and can get their queries answered through the kiosks.
- Advisory modules are also there which helps the rural people to get their problems solved. Rural newspaper, rural Market Information, Employment news and below poverty line peoples' list can also be found through the Gyandoot network.

Other services include online matrimonial advertisements, information regarding government programmes, e-mail, a forum for school children to ask questions, expert advice etc. some kiosks also have added STD/ PCO, photocopy machines and horoscope services.

These questions, applications and complaints in printed version are sent to the appropriate authority twice a day and the reply is forwarded to the kiosk manager

While most e-Governance schemes are individual state government initiatives, they lack a national perspective.

within 7-10 days and if any complaint cannot be addressed it is intimated to the kiosk manager. Action is taken in the field within 7-10 days.

Implementation issues

- The mismatch between local rural telephone exchanges with the optical fiber cable causing poor or no connectivity which reduces the economic viability of the kiosk and decreases the motivation level of the kiosk manager.
- Unavailability of telephone lines in many village areas.
- Small time politicians and bureaucratic hindrances causing disruptions fearing loss of power and feeling sidelined.
- Alternative power supply for the kiosk is a must looking to the poor status of power supply in the state.
- Supplying regularly updated information to attract villagers to the kiosks.
- Increasing the type of transactions that can be handled.
- High backup and emphasis on backend operations.

Benefits

- Increased computer literacy
- Less queues which result in reduced work load and more time available with the employees.
- Faster complaint handling
- Easier auctions and easier market access to secure better deals
- Faster welfare measures
- Reduced role of middlemen which has resulted in reducing the corruption

Source: authors



A 'VOICE' kiosk at Vijayawada

VOICE: Online delivery of municipal services in Vijayawada

VOICE project was launched in June 1998 and implementation was completed in December 1999. There are two components of the VOICE system:

- Work stations distributed in key departments where the work of the department has been automated
- Some information can be accessed from an Interactive Voice Response System. Those with an internet connection also can connect to the Web Server and retrieve information.

The hardware components include four servers located in the municipal office and 18 clients distributed amongst various departments networked in a LAN. Each kiosk has two terminals with multilingual software. Application software such as Lotus Notes for grievance work and a GIS are used actively. Some of the automated functions include town and country planning, taxation, public health, estate, engineering, municipal budget allocations, birth and death certificates and registration of complaints.

Implementation issues

Apart from the huge volume of data that was required to be put in, the local officials resisted the move, fearing that an automated system would prevent all scope of bribery – which constituted a substantial part of their income.

Besides, it would take a while to tweak the system to the precise working requirements of the officers – so as to reduce time required for transition.

Benefits

The system has effectively reduced corruption, increased responsiveness of public officials within the municipality. Besides, the system offers ready access to statistics pertaining to population and municipal assets. Overall, it has been able to increase efficiency of the urban local body at large.

Government of Karnataka

The Government of Karnataka in its e-Governance initiatives covering almost all the aspects of citizen centric e-Governance. The government is training its employees in basic information technology with the help of expert services such as C-DAC, CMC, EMC, ECIL which are also being used to connect the state in a big way. The state employees are encouraged to flash visiting cards that have their e-mail IDs imprinted and the departmental examinations – a mandatory for state governmental employees – are also being managed through computers. The state government has also tied up with Microsoft, and Compaq in the process.

Another initiative named Yuva.com, attempts to take IT to the students and underprivileged youth, by building 225 training centres all over the state. It also targets women and families earning an income of less than Rs 36,000 per annum. The government has already identified these centres and allotted them IT institutes like Aptech, NIIT, SSI etc. Apart from this, the government had also taken up a project to inject IT-based education from Classes 8 to 10 in about 1,000 schools in the state.

Another initiative is online tax returns. The finance department has computerized

the payment of taxes, filing of returns, dealers registration, vigilance and intelligence activities. The public works Finance Cell and the Zilla Panchayat units are computerised for monitoring monthly grants and releases. The government also plans to connect the budget information systems, work on which had already begun in 1992, to the treasury system soon.

The treasury department has computerised payments and receipts in 20 of the 31 districts and 184 sub-treasuries dealing with transactions worth about Rs 20,000 crore.

A network center has also been developed to handle a central database in Bangalore and disaster recovery centre at Dharwad. Computerised driver's licences are being issued at one of the RTOs in the state as a pilot project and is planned to extend this to other Regional Transport Offices as well.

In conclusion

From the aforementioned examples, it is seen how routine administrative work – or maintenance of status quo ante of facilities has been facilitated by incorporation of ICT's into the same.

However, the question that often arises is whether or not the propagation of e-Governance initiatives is dedicated solely at either computerisation or deployment of a 'computerised interface'. For one, the Government of India promises to deliver an online alternative or 'front' to at least a third of its citizen-centric interface services by 2006. Under such circumstances, it might be wise to ask if there is sufficient computer literacy in the first place to make optimal use of such interfaces. Fact is, while at one end the government is focusing on service delivery or 'governance' per se, on the other hand, several of its programmes, as well as counterparts from civil societies, have concentrated efforts on making the citizen more conducive to these new interfaces and mechanisms of delivery. It is unlikely to be a sudden sea-change from vicious cycle of corruption and bribery, not to mention inherent distrust towards new and untried forms of technology. There are bound to be teething troubles as well – but, slowly as it may be, e-Governance is on its way and here to stay. ■

