BARRIERS IN GOOD GOVERNANCE:
A STUDY OF VARIOUS E-GOVERNANCE PROJECTS IN INDIA

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ABSTRACT
E-Governance is the use of Information and Communication Technology in automating the Government functions and to enable interaction with other departments, Citizens, Business organizations and employees (G2G, G2C, G2B and G2E). The Government has initiated several Projects for rural development, Poverty eradication, health services etc. Such schemes are managed through E Governance applications. The objective is to make administration and the delivery of services effective and leak proof. Such projects are facing numerous challenges due to incompetent implementation strategies. Projects like the E-Governance project of West Bengal and “Gyandoot” in Madhya Pradesh were not so successful. The challenges like bureaucratic delay, inadequate span of attention, lack of accountability and transparency in functions, difficulty in monitoring performance due to the absence of bench-marking are encountered in different areas during different phases of implementation. Resistance to office automation required for E Governance implementation, occurs due to factors like lack of patience and knowledge, excessive consumption of time, volumes of data to be processed, procedure complexity, lack of citizen awareness and training, the complexity of Indian Government and business procedures, frequent interaction required between government departments, inability to provide information in time and integration of internal and external processes. This paper discusses different issues and challenges and suggests a framework to be adopted along with various technologies needed for successful implementation of E-Governance projects and to overcome the barriers.

Key Words: ICT, E-Governance, MIS, PERT, CPM, DoS
INTRODUCTION

E-Governance or Electronic Governance refers to the use of ICT (Information and Communication Technology) to improve effectiveness, accountability, transparency and efficiency of a government. It also benefits the citizens in terms of efficient services in the field of health, employment, welfare and finance.

E-Governance system consists of a Management Information System or MIS and services related to Network management for reliable information sharing. It focuses on designing, development, implementation of a comprehensive computerized and web enabled information system for effective monitoring and evaluation of the project.

World Bank (www.worldbank.org) defines (Asia Oceania Electronic Marketplace Association report): “E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.”

ICT ENABLED GOVERNANCE

The governments all over the world are running before the E-Governance in order to have betterment in their services. Everybody understands the need for internal efficiency for becoming successful in E-Governance implementation. The evolvement of ICT and related tools has given different dimension to the Government. The Government is blessed with enormous prospect to broaden its reach and to develop various processes along with its bureaucratic procedures rapidly. As quoted by (Allen et al. 2001), the emergence of E Governance goes beyond the mere adaptation of technologies to encompass novel patterns of managerial decision making, power-sharing, and coordination. It also includes the induction of
adaptive structures, innovative leadership styles, and even a redefinition of business purpose, all of which are made possible and necessary through IT or Information Technology. This becomes a reason for the greater impediment in the success of the Governance processes because of ICT.

SERVICES THROUGH E-GOVERNANCE

E-Governance uses multiple channels to link specified groups with the Government for enabling various types of transactions by connecting all transaction points, decision points enforcing implementation points and repository of data using ICT. The transaction points include other Government departments, Citizens, Business Organizations and employees in the form of G2G, G2C, G2B and G2E. By G2C the government shares information with the citizens. It also provides different services to the citizens. Example: Filing Income Tax, downloading forms online etc. G2B refers to two way interaction and transaction between the government and the business organizations. Example, e-procurement, auctioning etc.. In the other way B2G or Business to Government refers to the deal where the Business organization sells different products and provides various services to the government.G2G enables different kind of interaction and transaction between government departments and agencies. G2E facilitates the interaction between the Employees and the Government whenever necessary.

Table 2: Overview of E-Government Solutions

<table>
<thead>
<tr>
<th>Phase</th>
<th>External: G2C</th>
<th>Internal : G2G</th>
<th>Knowledge base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Local/Departmental Information (mission statements and organizational structure)</td>
<td>Business information (addresses, opening hours, employees, telephone numbers, laws, rules and regulations)</td>
<td>Knowledge base (static intranet)</td>
</tr>
<tr>
<td></td>
<td>National Information</td>
<td></td>
<td>Knowledge management (LAN)</td>
</tr>
<tr>
<td>Phase</td>
<td>Interaction</td>
<td>Transformation</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Downloading forms on websites, Submitting forms, Online help with filling in forms (permits, birth / death certificates), Intake processes for permits etc. E-mail, Newsletters, Discussing groups (e-democracy), Polls and questionnaires, Personalised web pages</td>
<td>Personalised website with integrated personal account for all services</td>
<td>Personalised website with integrated business account for all services</td>
</tr>
</tbody>
</table>

*Source: (Backus, M. (2001), E-Governance and Developing Countries, Introduction and examples, Research Report, No. 3, April 2001)*

The above figure indicates different phases, through which the E-Governance provides solutions to its different dimensions. Solutions to different problems are provided through three phases; Information, Interaction and Transformation phase.
In order to make the E Governance System more effective, it is required to understand the Government system and the Governance process altogether. The objective of E Governance is good governance by competent IT initiatives. “E Governance consists of Change management, Resource Management, Process Reforms, Administrative Reforms, Organization Re-structuring, Information Management, Knowledge Management, Legal Reforms, Technology Management and many more components (Sameer S, 2006)”. Therefore for implementation of a project in E-Governance required the transformation in the Government processes and it is possible by the help of software, hardware and IT tools.

E-GOVERNANCE PROJECT MANAGEMENT IN INDIA

India is the largest democratic country in the world. It has got numerous government organizations working in various departments. Therefore it is required to have better E-Governance for effective governance procedures. By using the same it will be possible to increase the efficiency of the governance in terms of both internal and external operations.

The Government tries to fulfil its objective to address its role for development of the society through various centrally sponsored schemes. Such schemes are managed through various E Governance applications. These schemes are usually not so successful due to inefficient plan for project implementation. As a result the benefits of such projects are out of reach of the citizen. It is required to develop an effective framework in order to solve the problem. The framework will enable the project implementation team in implementing the project successfully.

GOVERNANCE PRACTICE IN INDIA

(Prasad, S. 2005) describes: In Government of India the work undertaken by the various departments is work-flow intensive. There is a flow of huge volumes of data inside and outside the office in the form of files and formats. The physical movement of documents and processing of the same through the hierarchical structure of government offices requires much time and become very complex.

Such manual work-flow creates several complexities. Everybody depends much on the paper works done in predefined procedures. There is substantial delay due to movement of the required documents manually. Absence of continuous review reports on the status and management statistics create problems. Information interchange and inter departmental consultation becomes the reason for unreasonable delays.
If somebody wants to know the status of the application submitted by him, he has to wait for a long time. The delay happens in the procedures due to complicated process and non-transparent regulations.

Numbers of employees are recruited to do the core work-flow of government offices. Government has set number of rules, regulations and procedures in order to recruit, pay, manage them and retire them. Since the job is purely manual it is very difficult to monitor the status and accountability of individuals. There is also a requirement to manage the paper work related to finance and accounts, procurement of materials along with the administrative paper work. Officials face hardship in browsing and waiting for the information required for their operations. This badly affects the Indian government organizations.

**E-GOVERNANCE CHALLENGES**

In order to make administration and delivery of services effective and leak proof the Government has launched several projects managed through E Governance. But due to incompetent implementation strategy such projects are facing numerous challenges. Some projects like the E-Governance project of West Bengal and “Gyandoot” in Madhya Pradesh were not so successful. The challenges are encountered in different areas during the phases of implementation. Bureaucratic delay, inadequate span of attention, lack of accountability and transparency in functions, difficulty in monitoring Performance due to the absence of bench-marking also creates problems. Resistance to office automation required for E-Governance implementation occurs due to factors like lack of patience and knowledge, excessive consumption of time, volumes of data to be processed, Procedure complexity, lack of citizen awareness and training, the complexity of Indian Government and Business procedures, frequent interaction required between government departments, Inability to provide information in time and integration of internal and external processes.

**a. Project implementation challenges**

In order to have betterment in E-Governance projects it is required to automate or computerize the back office job of the Government offices first. Objective is to make workflow online and completely paper less work environment, which is very difficult in reality. Back office automation requires much time and the government have no patience to wait since it is for a term of five years only.
(Prasad, S. 2005) states that the E-Governance initiative in Madhya Pradesh “The Gyandoot” and the E-Governance initiative of West Bengal is not so successful due to the ineffective internal automation procedures. These projects have failed to become successful due to the lack of proper power supply, connectivity and back end support. Hence these parameters are also very essential in E-Governance projects.

The following are some of the problems encountered during the phase of implementation of E-Governance projects according to (Nayak, G.K 2005),

- Inability to spend required money in project implementation. The process of spending money delays till the end of the financial year due to bureaucratic un-willingness. In the end of the financial year they are in a hurry to spend the budgeted fund. The intricacy in the bureaucratic process delays approval of the project and the completion too.

- Success of a project needs to be determined through certain matrices. In fact there are no such premeditated matrices to evaluate the performance of project. The concerned people only take the time of completion and the amount spent in to consideration in order to do so. This unripe way of performance evaluation becomes a challenge to success of the project.

- During the project implementation phase, mainly focus is on the financial dimensions. In general the other dimensions of the project are either ignored of less stressed upon. This debars the complete understanding in the success level in different phases and the final outcome of the project.

- The main objective of such E-Governance projects is to benefit the society in terms of various services. But due to more focus on ICT and its several tools and less on the governance procedures it becomes difficult to meet the objectives. Due to the lack of transparency the impact on individuals are unfeasible to judge.

- The government aims at the benefit to the users. But due to absence of responsibility of the government officials in providing various services to the users, the users roam in darkness. They failed to know the benefits related to the project and the accessibility patterns. In order to solve the problem the government have to work out a feasible and effective framework and implementing the same through efficient ICT tools.

- Most of such projects are implemented in remote areas. Getting valid information and consolidation becomes very tedious. Therefore it becomes difficult to maintain correctness and reliability. Delay in availability in data and collation leads to unsuccessful project (Nayak, G.K 2005).
b. Operational challenges

(Nayak, G.K 2005) suggested that, in order to implement the project successfully, it is required to understand different dimensions of the project management.

- Accounting dimension: There is a huge monetary transaction in the projects. Therefore it is required to have a competent accounting procedure. Instead of using the Cash book based accounting that ignores many vital aspects of financial accounting, it is desirable to have Double entry accounting procedures. A Double entry accounting procedure provides easy access, error free entry, easy debugging and easy integration with other organizational systems.

- Budgeting dimension: For each project there are predefined components or budget heads. Allocated fund need to be spent under the budget heads with proper care and control. As per the government systems such budget is prepared annually. The frequency of budgeting, monitoring and control is done by managers. Since the budgeting is done on annual basis, it becomes too difficult to control it managerially.

- Physical activity dimension: The projects are executed by undertaking many physical deeds. Example, A project to provide a special education requires physical activities like conducting required training programmes. Therefore growth of a project must be seen in the framework of the amount of physical deeds embarked on for the project.

- Location dimension: It is project is expected to distribute its benefits to different places on globe. Therefore it is required to account for location dimension which will assist in reliable sharing of project benefits.

- Citizen dimension: Some projects focus on a particular category citizen. Example, employment scheme for people under BPL (Below Poverty Line). Therefore it is required to take account of the citizen dimension.

c. Technical challenges

Most widely used techniques for evaluating E-Governance projects are CPM\(^7\), PERT\(^8\), GERT\(^9\). CPM takes the Activities and Time constraints into account and helps in finding the critical activities; delay in
which delays the completion of the project. PERT evaluates the critical activities in a stochastic activity line environment. GERT allow for conditional and stochastic behaviour of logical associations where some activity may not be performed. Though these techniques are very effective in evaluating E-Governance projects but they also suffer from various demerits. The models are based on plans where the objective is only can be predicted. It is not possible to keep an eye on various activities of the project through the techniques. It is not possible to integrate all dimensions of the project.

For being a good project management tool it is essential to understand different features of project management. It is also required to consider dimensions like a better process of data collection, carefully planned project management procedures and effective integration of different dimensions of the project.

We can get different IT tools for developing various applications, primarily accounting and budgeting. These tools when used in project implementation couldn’t come with satisfactory outcomes when evaluated. When used for accounting procedures, it fails to suit to the needs due to the hierarchical structure of the project management. Since the accounting system is meant for smaller organizations and project management is for integrated environment, various features like invoicing do not work.

In terms of IT, for better project implementation it is required to have capacity for integration at different levels. Database inconsistency happens due to data redundancy that needs to be removed. There is a need to have central database having facility for remote access. Here the number of checks and controls need to be reduced in order to make the data access faster and reliable.

[7Critical Path Method, 8Program Evaluation and Review Techniques, 9Graphical Evaluation and Review Techniques]

d. Stake holder challenges

There are number of challenges stir up due to several factors related to Stake holder management. As stated by (Kanungo, V.2006): Lack of IT Literacy and proper awareness about benefits of E-Governance, under utilization of existing IT infrastructure, absence of proper attitude of government departments and officials towards E-Governance implementation, Lack of coordination between government departments and Solution developers, Resistance to reengineer the government departments and related processes and lack of proper infrastructure for sustaining E-Governance projects at the national level are bigger challenges associated with E-Governance project implementation.
e. Security and Privacy challenges

E-Governance projects also suffer from various security and privacy challenges like Virus attacks, Fraud, DoS\textsuperscript{10}, Monetary theft, Cyber hacking, Phishing, Unauthorised disclosures, Breach of anonymity and accountability, Misinformation and propaganda, Failure to recover business information, Integrity threats, Communication channel threats, Web server threats, database threats, CGI\textsuperscript{11} threats. Such threats need to be answered with no time in order to have a better E Governance project.

f. Challenges in complex Indian Business and Eco System

Indian government ecosystem includes government organizations and departments, State government departments, Research and development organizations, Central government organizations and State government organizations. It is required to have an alignment to all the departments with the citizens. Due to the number and complexity of procedures in the departments it becomes very difficult to manage the projects. It is in terms of data capturing, data storage, data warehousing, data mining and data distribution as and when required.

\textsuperscript{10}Denial of Services, \textsuperscript{11}Common Gateway Interface
E-GOVERNANCE PROJECT EVALUATION

It is required to set clear project specifications and objectives first. Then the project need to be evaluated basing on these parameters. The degree of achievement of the parameter will determine the success level of the project. Once the basic objective is achieved then other parameters like ROI (Return on Investment), project sustainability, kind of service delivery, Reliability, kind of technology used, and attribute replicability would also be checked, in order to ascertain the quality of the project. Once the testing is satisfactory then it is time to implement the same. There is a need to evaluate the project in run
time to ensure continuous improvement in the process. The problems or shortfalls need to be identified flawlessly in each phase of the implementation process and must be documented for problem solving and future references. By the process project quality would be enhanced. The project and the implementation methodology need to be implemented every where it is desired. The same team members may be referred by looking into the feasibility. Documentation is also required for recording the various failures and the reason for the same in case of the projects which are failed to achieve desired results. This will guide to the future project implementation team in identifying the possible errors and the reasons for the same in advance.

OVERCOMING THE CHALLENGES

(Kanungo, V.2006): Suggests that for successful implementation of E-Governance projects it is required to take several initiatives like creating Literacy and Commitment to E-Governance at high level, conducting usability survey for assessment of existing E-Governance projects, starting with implementation of pilot projects and replicating the successful ones, following best practices in E-Governance, building national resources database of E-Governance projects, having clearly defined interoperability policy, managing and updating the contents on government websites efficiently and regularly.

(Sameer S, 2006), suggest that the E-Governance can be successfully implemented with due legal reformation in various fields like E-Governance legislation, Rights to information, Data protection, Privacy legislation, E Commerce legislation, E Communication legislation, E Identity legislation, E Procurement legislation and Data base legislation.

Feedback on the performance of the project would be of great benefit when it is done on continuous basis. Feedback may be collected about the expectation from the project in the prospective of the Stake holders, Project implementation team, Users. This is in return will develop the satisfaction level of the Citizens, which is the prime objective of such projects.

(Mittal , P.A., et al., 2004) has suggested different solution components in the E-Governance framework.
Table: 1 (Model for E-Governance solutions)

<table>
<thead>
<tr>
<th>Information services</th>
<th>Revenue</th>
<th>Law and order</th>
<th>Health and basic education</th>
<th>Public works</th>
<th>Planning controls (licensing and permits)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public information</td>
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<td></td>
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<tr>
<td>Personal data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction for compliance</td>
<td></td>
<td>Police advisories</td>
<td>Educational material</td>
<td>Postings for RFP/RFQs (tenders)</td>
<td>Rules and regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interaction with judiciary</td>
<td>Contract awards</td>
<td></td>
<td>File tracking</td>
</tr>
<tr>
<td>Transactional services</td>
<td>Payments for permits, licenses</td>
<td>Online complaints</td>
<td>Patient health records</td>
<td>Procurement contracts</td>
<td>Driving license renewal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tracking progress in investigation</td>
<td>Appointments for public hospitals</td>
<td></td>
<td>Birth and death registration</td>
</tr>
<tr>
<td>Data mining and analysis</td>
<td>Regional compliance trends and enforcement measures</td>
<td>Trends in crime and violations; deployment of resources</td>
<td>Early warning of epidemics; deployment of control measures</td>
<td>Fraud detection in contract awarding and procurement</td>
<td>Population growth forecast and related control measures</td>
</tr>
</tbody>
</table>


Table: 2 (E-Governance framework-Solution Components and Technology)

<table>
<thead>
<tr>
<th>Information services</th>
<th>Transacational services</th>
<th>Data mining and analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution environment</td>
<td>Message between heterogeneous systems</td>
<td>Change management</td>
</tr>
<tr>
<td>Services</td>
<td>Collaborating across various departments</td>
<td>Data models and government record services</td>
</tr>
<tr>
<td></td>
<td>Workflow spanning multiple agencies</td>
<td>Data integration</td>
</tr>
<tr>
<td>Tools</td>
<td>Multilingual content management</td>
<td>Data analysis</td>
</tr>
<tr>
<td></td>
<td>Authentication and privacy</td>
<td>Data attributes</td>
</tr>
<tr>
<td></td>
<td>Business object creation</td>
<td>Mapping for record virtualization</td>
</tr>
<tr>
<td></td>
<td>Multiple device management</td>
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</tr>
</tbody>
</table>

Table-1 explains the solution components work in three tiers. First tier indicates information services, second indicates transactional services and the third shows Data mining and analysis that indicates the future of E-Governance solutions. It clearly indicates the applicability in different sector where E-Governance solution is desired. Table-2 indicates the way different tools or enablers, services or middleware and solution environment assists for the various E-Governance solution components in all tiers mentioned in Table-1. The objective is to simplify the development, deployment, and management of E-Governance solutions.

CONCLUSION

E-Governance is an emerging trend today. The government of India is facing lots of problem in answering the need of the age. Each moment the government has to prove the true meaning of democracy by setting good examples by action. For this the government has to build up a strong base which includes several operations related to better structuring of the governance or government operations. Then to see that the structure is perfectly constructed by the help of ICT. Each day the expectation from the government is changing, giving birth to new dimensions to be explored. Each day technology upgrades itself, which also increases the expectations in a qualitative way. This creates continuous challenges for the government. Project management is a domain where cent percent accuracy is desired since it is directly connecting to the stake holders. Existing government procedures are not so viable both internally and externally. Along with it there are other issues and challenges in different fields like operational, Technical, related to stake holders, maintaining security and privacy, complex systems of the government and business and other fields. Therefore it is suggested to have proper evaluation methodology in order to understand the degree of the problems, ROI, sustainability, reliability etc. Auditing and feedback can be taken as a productive tool for the project evaluation. Once the cause is known it is required by the government to take immediate initiative to resolve the issue. Depending on the type of problem different frame works or models may be devised with proper analysis. When a project is on implementation phase it is suggested to check the progress minutely. Anytime a problem arises it is required to take immediate initiatives in order to resolve it. By this approach we can minimize the barriers in E-Governance and hence a good governance system.
REFERENCES


