

# E-Governance Reforms In India: Issues, Challenges And Strategies - An Overview

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## Abstract

Government and public sector organizations around the world are facing to reform their public administration organizations and deliver more efficient and cost effective services, as well as better information and knowledge to their stakeholders. In developing countries like India, where literacy level is very low and most are living below poverty line, people are not even aware about the benefits of e-Governance activities and people do not use Information and Communication technologies much, there exist a number of problems to implement e-Governance activities. E-Governance is considered as a high priority agenda in India, as it is considered to be the only means of taking IT to the "Common Public". Developments in e-Governance provide opportunities to harness the power of ICT making the business of governance inexpensive, qualitatively responsive, and truly encompassing. This paper highlights the E-Governance reform in India with special reference to the issues, challenges and strategies of E-Governance.

**Keywords:** *ICT, interoperability, reforms, social issues, digital divide, privacy.*

## 1. Introduction

With the advent of government websites in the early 1990s, the concept of e-governance started. The web is dynamic, flat and unregulated, whereas the system of government is fixed, static hierarchical regulated. Government functions like mammoth, where one hand does not know what the right hand is doing<sup>[1]</sup>. The government websites soon developed into a highly potential channel for supporting a frontend and backend applications with the development of Information Technology and increased dependence on the internet as a transaction medium and the development of adequate infrastructure and regulations<sup>[2]</sup>. Besides fast delivery of services, internet technology brings more transparency to the governance and many benefits to the e-governance community. With the advent of

internet and related technology, the government services can be extended to all geographical segments in the country round the clock, all days in a year. In addition to better and fast monitoring of government tasks, e-governance generates more revenue through online delivery of services<sup>[3]</sup>. India is ranked 54th in the global e-government readiness ranking of 2009<sup>[4]</sup>. This indicates significant room for improvement. E-Governance involves ICTs, especially the internet, to improve the delivery of government services to citizens, businesses and government agencies. It is not limited to the public sector only but also includes the management and administration of policies and procedures in private sector as well. The use of internet not only delivers the services faster but also brings more transparency between the government and the citizens. But in developing countries like India, where literacy level is very low and most of the people are living below poverty line, it is very much difficult for the government to provide its services to such citizens via means of internet<sup>[6]</sup>. Proper use of e - governance is helpful to run the democracy smoothly. But it has many issues and challenges which are to be faced by the government and the people as well<sup>[5]</sup>.

## 2. Definition of e-governance

E-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework.<sup>[20]</sup>

## 3. Conceptual Model of E-Governance

Good governance has eight major characteristics i.e. *Participation, Transparency, Effectiveness and efficiency, Responsiveness, Accountability, Equity and inclusiveness, Rule of Law*, as in [7] for the effective and efficient governance. If all these properties revolve around, the ICT will explain innovative definition of e-governance as in figure1. This means e-Governance has all the above properties as well as innovative Information and communication Technology for the effective and efficient governance in any sector which assures that corruption is to be minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsible to the present and future needs of society. A conceptual model for e-Governance is shown in figure-1 which explains about the interrelation between citizens, government and the services accessed by the citizen's through information and communication technology followed by the major characteristics of good governance.

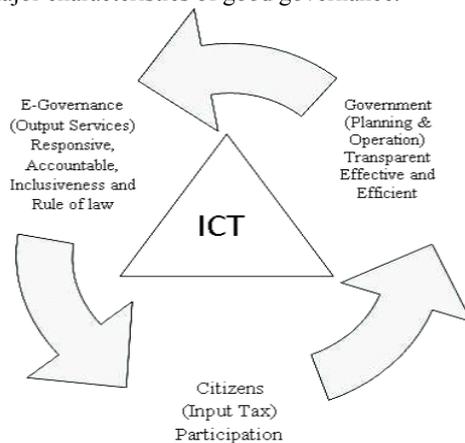


Fig. 1: Conceptual model of E-Governance

#### 4. E-Governance v/s E-Government

The term 'Governance' is wider than 'Government'. Governance may be an activity of governing/controlling a country by its Government, controlling of an organization or a company by its CEO or Board of Directors or controlling of a house hold by the head of the house, Accordingly E-governance may also involve governing of a country, organization, company or a household, however with the help of Information and Communication Technology (ICT).

But when we talk of E-Governance in the popular parlance we only refer to the governing of a Country/State using ICT. E-governance therefore means the application of ICT to transform the efficiency, effectiveness,

transparency and accountability of exchange of information and transaction:

- between Governments,
- between Government agencies,
- between Government and Citizens
- between Government and businesses
- E-governance also aims to empower people through giving them access to information.

E-Government i.e. Electronic Government is the use of Information and Communications Technology (ICT) to run or carry on the business of the Government of a Country. However the term E-government is misleading, as it implies an electronic substitute for the physical government. Electronic substitution of a government is not possible as Government is a unit of people coming together to administer a country.

A Government is a group of people responsible for the administration and control of a Country/State. It involves people like the Heads of States, Ministers, Government Employees, etc. It also involves public participation. So, electronic substitution for a Government is not possible. Therefore, E-Government may only refer to a Government using in conducting its business.

#### 5. Scope of E-Governance

Governance is all about flow of information between the Government and Citizens, Government and Businesses and Government and Government. E-Governance also covers all these relationships as follows:

- Government to Citizen (G2C)
- Citizen to Government (C2G)
- Government to Government (G2G)
- Government to Business (G2B)

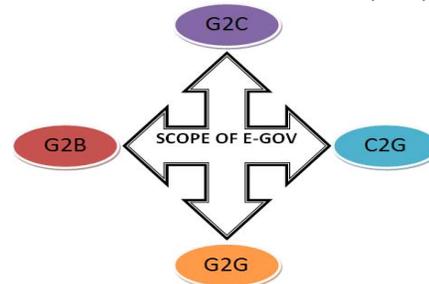


Fig. 2: Scope of E-Governance

##### 5.1 Government to Citizen

Government to Citizen Relationship is the most basic aspect of E-Governance. In modern times, Government deals with many aspects of the life of a citizen. The relation of a citizen with the Government starts with the birth and ends with

the death of the citizen. A person transacts with the Government on every corner of his life. May it be birth registration, marriage registration, divorce or death registration.

The G2C relation will include the services provided by the Government to the Citizens. These services include the public utility services i.e. Telecommunication, Transportation, Post, Medical facilities, Electricity, Education and also some of the democratic services relating to the citizenship such as Certification, Registration, Licensing, Taxation, Passports, ID-cards etc. Therefore E-Governance in G2C relationship will involve facilitation of the services flowing from Government towards Citizens with the use of Information and Communications Technology (ICT).

#### 5.1.1 E-Citizenship

E-Citizenship will include the implementation of ICT for facilitation of Government Services relating to citizenship of an individual. It may involve online transactions relating to issue and renewal of documents like *Ration Cards, Passports, Election Cards, Identity Cards*, etc. It will require the Government to create a virtual identity of every citizen so as to enable them to access the Government services online. For the same, Government would need to create a Citizen Database which is a huge task.

#### 5.1.2 E-Registration

E-Registration will cover the online registration of various contracts. An individual enters into several contracts during his life. Many of these contracts and transactions require registration for giving it legality and enforceability. Such registration may also be made ICT enabled. E-registration will help to reduce a significant amount of paperwork.

#### 5.1.3 E-Transportation

E-Transportation services would include ICT enablement of services of Government relating to Transport by Road, Rail, Water or Air. This may involve online –

- booking and cancellation of tickets,
- status of vehicles, railways, boats and flights,
- issue and renewal of Driving Licenses,
- registration and renewal of vehicles,
- transfer of vehicles,
- payment of the fees of licenses,
- payment of fees and taxes for vehicle registration,

#### 5.1.4 E-Health

E-Health services would be ICT enablement of the health services of the Government. Under

this interconnection of all hospitals may take place. A patient database may be created. A local pharmacy database may also be created. All this can be done.

#### 5.1.5 E-Education

E-Education would cover the implementation of ICT in imparting of education and conducting of Courses. Distant as well as classroom education will be facilitated with the use of ICT. Use of internet can reduce the communication time required in Distance education; Internet may also help in conducting online classes.

#### 5.1.6 E-Help

E-Help refers to facilitation of disaster and crisis management using ICT. It includes the use of technologies like internet, SMS, etc. for the purpose of reducing the response time of the Government agencies to the disasters. NGOs help Government in providing help in situations of disasters. Online information relating to disasters, warnings and calls for help can help the Government and the NGOs coordinate their work and facilitate and speed up the rescue work.

#### 5.1.7 E-Taxation

E-Taxation will facilitate the taxing process by implementing ICT in the taxing process. Online tax due alerts and online payment of taxes would help transact faster.

### 5.2 Citizen to Government

Citizen to Government relationship will include the communication of citizens with the Government arising in the Democratic process like voting, campaigning, feedback, etc.

#### 5.2.1 E-Democracy

The true concept of Democracy includes the participation of the citizens in the democratic and governing process. Today due to the increased population the active participation of the citizens in governing process is not possible. The ICT can help enable the true democratic process including voting, public opinion, feedback and Government accountability.

#### 5.2.2 E-Feedback

E-Feedback includes the use of ICT for the purpose of giving feedback to the Government. Lobbying is pursuing the Government to take a certain decision. Use of ICT can enable online feedback to the Government, online debates as to the Government services.

### 5.3 Government to Government

G2G relationship would include the relationships between Central and State Government and also

the relationship between two or more Government departments.

### 5.3.1 E-administration

E-administration would include the implementation of ICT in the functioning of the Government, internally and externally. Implementation of ICT can reduce the communication time between the Government Departments and Governments. It can substantially reduce paperwork if properly used. E-administration will also bring morality and transparency to the administration of Government Departments.

### 5.3.2 E-police

The concept of E-police is little different from Cyber-Police. Cyber Police require technology experts to curb the electronic/cyber crimes. E-police refers to the use of ICT for the purpose of facilitating the work of the Police department in investigation and administration. The concept of E-police includes databases of Police Officers, their performances, Criminal databases – wanted as well as in custody, the trends in crimes and much more. ICT can help reduce the response time of the Police department and also reduce cost by reducing paperwork.

### 5.3.3 E-courts

The concept of E-Court will include the ICT enablement of the judicial process. Technology may help distant hearing, online summons and warrants and online publication of Judgments and Decrees.

## 5.4 Government to Business

### 5.4.1 E-Taxation

Corporate sector pays many taxes, duties and dues to the Government. Payment of these taxes and duties will be made easier by E-Taxation. Online taxing and online payment of taxes can help reduce cost and time required for physical submission of taxes. ICT can also help crosscheck the frauds and deficiencies in payment, further bringing accuracy and revenue to the Government.

### 5.4.2 E-Licensing

Companies have to acquire various licenses from the Government, similarly the companies have to acquire various registrations. ICT enablement of the licensing and registration can reduce time and cost.

### 5.4.3 E-Tendering

E-Tendering will include the facilities of online tendering and procurement. It will issue online

alerts as to new opportunities of business with the Government and also online submission of tenders and online allotment of work. It will reduce time and cost involved in the physical tendering system.

## 6. Advantages of E-Governance

Following are the advantages of E-Governance:

6.1 Speed – Technology makes communication speedier. Internet, Phones, Cell Phones have reduced the time taken in normal communication.

6.2 Cost Reduction – Most of the Government expenditure is appropriated towards the cost of stationary. Paper-based communication needs lots of stationary, printers, computers, etc. which calls for continuous heavy expenditure. Internet and Phones makes communication cheaper saving valuable money for the Government.

6.3 Transparency – Use of ICT makes governing process transparent. All the information of the Government would be made available on the internet. The citizens can see the information whenever they want to see. But this is only possible when every piece of information of the Government is uploaded on the internet and is available for the public to peruse. Current governing process leaves many ways to conceal the information from all the people. ICT helps make the information available online eliminating all the possibilities of concealing of information.

6.4 Accountability – Once the governing process is made transparent the Government is automatically made accountable. Accountability is answerability of the Government to the people. It is the answerability for the deeds of the Government. An Accountable Government is a responsible Government.

## 7. Objectives of E-Governance

Following are the objectives/aims of E-Governance:

7.1 To build an informed society – An informed society is an empowered society. Only informed people can make a Government responsible. So providing access to every piece of information of the Government and of public importance is one of the basic objectives of E-Governance.

7.2 To increase Government and Citizen interaction - In the physical world, the

Government and Citizens hardly interact. The amount of feedback from and to the citizens is very negligible. E-Governance aims at build a feedback framework, to get feedback from the people and to make the Government aware of people's problems.

7.3 To encourage citizen participation - True democracy requires participation of each individual citizen. Increased population has led to representative democracy, which is not democracy in the true sense. E-governance aims to restore democracy to its true meaning by improving citizen participation in the Governing process, by improving the feedback, access to information and overall participation of the citizens in the decision making.

7.4 To bring transparency in the governing process - E-governance carries an objective to make the Governing process transparent by making all the Government data and information available to the people for access. It is to make people know the decisions, and policies of the Government.

7.5 To make the Government accountable - Government is responsible and answerable for every act decision taken by it. E-Governance aims and will help make the Government more accountable than now by bringing transparency's and making the citizens more informed.

7.6 To reduce the cost of Governance - E-Governance also aims to reduce cost of governance by cutting down on expenditure on physical delivery of information and services. It aims to do this by cutting down on stationary, which amounts to the most of the government's expenditure. It also does away with the physical communication thereby reducing the time required for communication while reducing cost.

7.7 To reduce the reaction time of the Government – Normally due to red-tapism and other reasons, the Government takes long to reply to people's queries and problems. E-Governance aims to reduce the reaction time of the Government to the people's queries and problems, because problems are basically Government's problems as Government is for the people.

## 8. E-Governance reform in India

Currently, the major thrust areas of governance reforms in India are self-governance and decentralization (strengthening Panchayati Raj institutions); Right to Information (RTI); and, community participation and monitoring of

development activity. In addition, social inclusion is a high political priority, which, in terms of reforming governance systems, involves reaching out – both in servicing and participation – to the disadvantaged sections of the society who, it is feared, may be left out of the current economic surge being experienced by a significant part of India. Governance reforms towards greater social inclusion can be expected to seek, on one hand, increased reach and capacity for serving disadvantaged sections, and on the other hand, developing means of improving accountability to them, as well as enhancing their participation. Overall, a greater move towards citizen-centric orientation and structures has also been a governance reforms priority, though, unlike some other reform areas listed above, in this case, very little necessary institutional or any other significant structural changes have been made to lead the necessary changes. Some of the priorities of governance reforms in India are aligned to the NPM thinking – citizen-centricity (especially in terms of citizen's identity as a customer of government services), emphasis on performance measurement, increased internal efficiencies, private sector like management practices – using public-private partnership wherever appropriate and possible, and reducing costs. However, it is important to note that NPM thinking only represents one side of India's governance reform priorities – mainly pertaining to, as mentioned, the customer identity of the citizen, and internal efficiencies of the government system. Most of the above described governance reform priorities and thrust areas in India pertain to the citizen's identity as the 'owner' of governance systems, and accordingly deals with issues related to processes of participation (self-governance) and accountability (RTI and community monitoring). Equity and citizens' participation and ownership are as much a concern as efficiency in current governance reforms in India, and these issues should have a central importance in developing e-governance strategy and frameworks. However, these all important considerations have mostly been neglected or under-emphasized in the current e-governance frameworks.

## 9. Issues of E-Governance

### 9.1 Technical Issues

9.1.1 In interoperability: The interoperation of various state governments, the various ministries with in a state government is a critical issue. Integration of data is main problem, how to capture the data in web based form and how to transfer it in common format for processing and sharing the information.

9.1.2 Privacy: Privacy of any transaction or information provided by the citizen to the government agency must be ensured. Otherwise the information can be misuse by the private sector or competitors and the users may be reluctant to access the services provided.

9.1.3 Security: Transaction security is another major problem in e-governance. The tax, fine and bill payment must be secured and the system design should be full proof.

9.1.4 Authentication: The authentication of citizens requesting services needs to be verified before they access or use the services. The digital signature plays an important role in providing the authenticity but this is expensive and requires frequent maintenance.

## 9.2 Economic Issues

9.2.1 Cost: Implementation, operations and maintenance cost of service provided should be low enough for high cost benefit ratio.

9.2.2 Maintainability: IT has been continuously evolving and software are frequently upgraded. Thus the system must be compatible and maintainable for easily fulfillment of emerging needs.

9.2.3 Reusability: E-governance should be considered as nationwide plan and the implemented modules must be reusable by other administrations.

9.2.4 Portability: The primary requisite for portable applications is independence of components from hardware or software platforms, to help in possible reuse by other administrations.

## 9.3 Social Issues

9.3.1 Accessibility: E-governance service should be accessible for anybody from anywhere at any time. Even if internet population is growing exponentially, there is a very big portion of the population who may not able to access e-governance for various reasons.

9.3.2 Usability: All the users may not be expert of ICT transactions or the technology used for e-governance. Therefore the service provided must be usable or user friendly. To make the system usable, the guidance of operation may be provided to the users.

9.3.3 Acceptance: E-governance requires reconfiguration of internal and external structure of public sectors. The main aim is to improve the system efficiently and to provide high quality services to the citizens. E-governance is for citizen convenience, instead of convenience of government. The power conflicts over the departmental and functional boundaries become more prominent in integration process.

9.3.4 Use of local languages: The access of information must be permitted in the local languages for user comfort. There should be language software or some other technologies to translate the information from English to local languages.

9.3.5 Awareness in rural areas: In India, there are very high percentage of villages where awareness of e-governance is required since large portion of rural populations are not aware of new technologies and computer educations.

## 10. Challenges of E-Governance

There are large numbers of potential barriers in the implementation of e-Governance. Some hindrance in the path of implementation, like security, unequal access to the computer technology by the citizen, high initial cost for setting up the e government solutions and resistance to change<sup>[6]</sup>. Challenges identified as trust, resistance to change, digital divide, cost and privacy and security concerns.

### 10.1 Trust

Trust can be defined along two dimensions: as an assessment of a current situation, or as an innate personality trait or predisposition<sup>[10]</sup>. The implementation of public administration functions via e-government requires the presence of two levels of trust. The first is that the user must be confident, comfortable and trusting of the tool or technology with which they will interact. The second dimension of trust pertains to trust of the government<sup>[17]</sup>.

There has to be a balance between ensuring that a system prevents fraudulent transactions and the burden that extensive checks can take place on people who are honest<sup>[12]</sup>.

Recently, confidential information on military veterans was compromised when a computer containing their personal information was lost. This type of incident can erode trust and user confidence in government systems. Trust, along with financial security, are two critical factors limiting the adoption of e-government services<sup>[11]</sup>. The innovation diffusion theory states that over time an innovation will diffuse through a

population, and the rate of adoption will vary between those who adopt early—referred to as —early adopters— and to those who adopt the innovation much later, referred to as —laggards<sup>[19]</sup>. The resistant to change phenomenon can explain much of the hesitation that occurs on the part of constituents in moving from a paper based to a Web-based system for interacting with government. Citizens, employees and businesses can all have their biases with respect to how transactions should be processed. However, government entities and public policy administrators cannot ignore the changes that occur as a result of the implementation of information and communication technology (ICT). In the early 1990s<sup>[18]</sup> identified the important role that ICT would have in shaping public policy, and cautioned both rich and poor governments about neglecting its significance. Education about the value of the new systems is one step toward reducing some of the existing resistance. It can also be particularly useful for a leader or manager, to buy into the new system at an early stage in the adoption process<sup>[17]</sup>.

## 10.2 Digital Divide

The digital divide refers to the separation that exists between individuals, communities, and businesses that have access to information technology and those that do not have such access<sup>[17]</sup>. Social, economic, infrastructural and ethno-linguistic indicators provide explanations for the presence of the digital divide<sup>[15]</sup>. Economic poverty is closely related to limited information technology resources<sup>[13]</sup>. An individual living below poverty line does not afford a computer for him to harness the benefits of e-government and other online services. As the digital divide narrows, broader adoption of e-government in the public domain becomes possible.

Economic poverty is not the only cause of digital divide. It can also be caused by the lack of awareness among the people. Even some of the economic stable people don't know about the scope of e-government. Awareness can only help to bring users to that service delivery channel once. It cannot guarantee sustained use of the system unless the system is also designed in such a way as to deliver satisfactory outcome. Procedures need to be simplified to deliver concrete benefits and clear guidelines provided to encourage their use by the actual end users and reduce users' dependence on middlemen/intermediaries<sup>[12]</sup>.

## 10.3 Cost

Cost is one of the most important prohibiting factor that comes in the path of e-governance implementation particularly in the developing countries like India where most of the people living below the poverty line. Elected officers and politician don't seem to be interested in implementing e-governance. Its return is not visible in the near future. In 2004, the United Kingdom and Singapore respectively spent 1 percent and 0.8 percent of their gross domestic product (GDP) on e-government. India is spending 3 percent of GDP<sup>[4]</sup>.

## 10.4 Privacy and Security

There will be three basic levels of access exists for e-government stakeholders: no access to a Web service; limited access to a Web-service or full-access to a Web service, however when personal sensitive data exists the formation of the security access policy is a much more complex process with legal consideration<sup>[14]</sup>. With the implementation of e-government projects, effective measures must be taken to protect sensitive personal information. A lack of clear security standards and protocols can limit the development of projects that contain sensitive information such as income, medical history.

# 11. Implementation Aspects of E-Governance

The implementation of e-governance system has many aspects. For e.g. normally e-governance services are non-profit making services and most of the time, their payback period is very high which makes them capital intensive. The 7-C model aptly indicates various implementation aspects of e-governance. The 7-Cs is as under.

**11.1 Capital:** E-governance services meant for providing faster and effective services to the citizens and profit considerations are not very prominent aspect of these services. Many services which were implemented long ago are yet to break even due to high cost. The operational cost with a subsidy to users makes it tough to generate operational profit.

**11.2 Connectivity:** Success of e-governance service depends on its reach to the people. A good system can be good, only when it can benefit a large section of the connectivity till the last mile.

**11.3 Commitment:** As e-governance is no viewed in terms of accounting profits and shorter payback period and even one of the great motivators, money, is absent, it is at the different

hierarchy of the system. It is needed to push, through the project, to its logical end.

**11.4 Competence:** Competence is required to gather the intelligence at the grass root level. Understanding of people's problem as well as those who are going to provide e-governance services (mainly operators and clerks) needs more than understanding of software engineering.

**11.5 Content:** In India the lack of customized content is one of the hurdles in implementation of the e-governance services. The content is not available in local language, which can capture understanding of people at the gross root level.

**11.6 Citizen interface:** Interface should be illustrative and easy-navigating, so that even native users do not find it tough to avail of the services.

**11.7 Cyber law:** Services should be backed by cyber laws to make the documents or information legally valid. Indian IT act 2002 was one of the endeavors towards this, which made e-mails and other digital documents valid as a legal document.

## **12. Strategies of E-Governance**

### **12.1 To build technical infrastructure or framework across India**

India lacks a full- fledged ICT framework for implementation of e-governance. Complete implementation of E-governance in India will include building technical Hardware and Software infrastructure. It will also include better and faster connectivity options. Newer connectivity options will include faster Broadband connections and faster wireless networks such as 3G and 4G. The infrastructure must be built by Government, Private Sector as well as individuals. Infrastructure will also include promotion of Internet Cafes, Information and Interactive Kiosks. However while building technical infrastructure, disabled persons must also be considered. The technology implemented, shall incorporate the disabled persons.

### **12.2 To build institutional capacity**

Apart from building technical infrastructure, the Government needs to build its institutional capacity. This will include training of Government employees, appointment of experts. Along with the Government has also to create an Expert database for better utilization of intellectual resources with it. Apart from this, the Government has to equip the departments with

hi-technology and has also to setup special investigating agency.

### **12.3 To build legal infrastructure**

For better implementation of e-governance, the Government will need to frame laws which will fully incorporate the established as well as emerging technology. Changing technology has changed many pre-established notions; similarly the technology is growing and changing rapidly. It is important, that the Government makes laws which incorporate the current technology and has enough space to incorporate the changing future technology. These IT laws need to be flexible to adjust with the rapidly changing technology. Currently India has only the IT Act, 2000 which is mainly E-Commerce legislation. India has also modified many laws to include electronic technology; however it is not sufficient to cover e-governance completely.

### **12.4 To build judicial infrastructure**

Overall technological awareness in current Judges is very low. The judiciary as a whole needs to be trained in new technology, its benefits and drawbacks and the various usages. The judiciary may alternatively appoint new judges with new judges and setup special Courts to deal with the matters relating to ICT. The Government can also setup special tribunals to deal with matters relating with ICT.

### **12.5 To make all information available online**

The Government has to publish all the information online through websites. This can be facilitated through centralized storage of information, localization of content and content management. The information of government is public information, therefore the citizens are entitled to know every piece of information of the Government, because the Government is of the People, by the People and for the People.

### **12.6 To popularize E-governance**

Literacy percentage in India is alarming. The whole world is moving towards e-governance, but India still lacks in the literacy department. The people need to be educated and made e-literate for e-governance to flourish. There are very few e-literate people in India is very low. The Government needs to campaign for e-governance, increase people's awareness towards e-governance. Government can only encourage people to go online if it can make people feel comfortable with e-governance. This can be done through educating the people about the advantages of e-governance over physical governance. This can also be done through

raising awareness of the leaders who can motivate the people to go online.

### 12.7 Centre-State Partnership

Indian setup is quasi-federal. Therefore Centre-State and inter-state cooperation is necessary for smooth functioning of the democratic process. This cooperation is also necessary for successful implementation of e-governance. This cooperation shall extend to Centre-state, inter-state and inter-department relationships. For the same the Government can setup a Central Hub like the current Government of India portal, for accessing the information of all the organs of the central government and also all the state government. The states can cooperate with the Centre to create a National Citizen Database.

### 12.8 To set standards

Finally it is important to set various standards to bring e-governance to the quality and performance level of private corporate sector. The Government of India is currently working on standards management and has various drafts prepared for the same. These standards include following: Inter-operability standards, Security standards, Technical standards, Quality standards. Government websites in India currently have no uniform standard. Many Government of Maharashtra websites differ in standards within even two of its web pages. There is no set standard as to quality of the information, document, the formats, etc. It is very important for the Government to set uniform national standards to be followed by all the Governments and agencies.

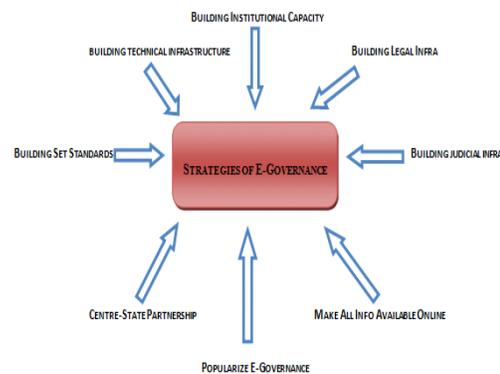


Figure 3: Strategies of E-Commerce

## 13. Reasons for Failure of E-Governance Projects

E-governance projects may fail due to multiple reasons [8]. The reasons usually listed are neither comprehensive nor complete. Some of these reasons are as under.

13.1 Planning to fail or Failing to plan: The first step in any project is planning. The success of the project will depend on the skill and expertise with which it is planned and conceptualized. The plans are finalized without clear objectives, unclear roles and responsibilities. There are no parameters for financial controls. Areas like risk assessment, feasibility assessment, prioritization and strategy are not even thought about. Whereas no plan exists in some projects, in others, the plan is doomed for failure.

13.2 Mission Impossible: Another cause of project failure is to visualize the impossible. The project consultants hired by various government departments generally promise the moon to the dep. They expect that whatever they suggest will be implemented by the government without realizing the fact that the government has its own limitations. The reality and the vision gap is the second step towards e-governance failure.

13.3 Misunderstanding governance: The consultant hired by the government at times totally misunderstands the governance process and the institution of the government. They do not realize that the government will be governed by the constitution and the laws therein. Consultants feel that the government will change according to the solution suggested by them. They have an impression that the government has to fit into their solution and not vice versa. In reality they have no ensure that their solutions fit the government needs. Further the consultants do not realize that the government is the complex structure which has existed over the years and any big changes are very difficult to implement. Misunderstanding the government and governance is the third step leading to the failure of e-governance projects.

13.4 Bottleneck is at the top of the bottle always: The various departments in the government of India are mostly headed by individuals who are nearing their retirement. The top officials are lovers of status quo and develop resistance to change. With no support from top leadership, the e-governance projects do not get any encouragement.

13.5 Focus on 'e' rather than 'governance': Every seminar, every author, every government officer stresses that e-governance is more about governance than 'e'. However the implementers in the government have not realized the importance of the same. The team for this program management unit must comprise individuals with experience in diverse

government background. Focus on IT and electronics is the most important cause of failure of e-governance.

13.6 Employees as stakeholder universe: Majority of the projects take government employees as the only stakeholders. The consultation process happens with the senior government employees and rests of the stakeholders are neglected. The government departments feel that they know all the requirements of the stakeholders and therefore it is useless spending time on such projects. The stakeholder universe being limited to employees is another cause of failure.

13.7 Let's build Rome in a day: Most of the e-governance projects are given unachievable timelines. Most of the time ministers or leaders make announcements and the deadlines, and then the quality becomes the key challenge in project implementation. It may take time for an e-governance project to actually be ready to be launched and it may take time for training and adoption of the project by all stakeholders. A change is not easy to implement and we must be patient in implementing change via e-governance. The time taken will further help to improve and rectify the project. Unachievable timeless and the race to achieve them is a further cause of failure.

13.8 Individual projects: Most of the e-governance projects are individual-driven. The approach of individualizing the project is not appropriate and this leads to failure. The projects which are driven by individuals die after the individuals leave the organizations. But project which have been institutionalized stay forever.

13.9 Procedural loops: The procedural loops are another hindrance in the e-governance project implementation. All projects need to go through a competitive bidding process which may take even more than the implementation of the project. Sometimes even, the project approval time is more than the implementation time. The project files keep on moving from one department to another and from one table to another. This causes to failure.

13.10 From office vs. back office e-governance: Unless the backend integration of systems takes place, the frontend efforts may not lead to any success. The true e-governance applications will be achieved only when the front office is integrated with the backend application. Creating front offices without any back office

integration is another cause of e-governance failure.

#### 14. Suggestions for Success

For success of an e-governance and superior service delivery, it is imperative that the government agency focuses on whole citizen experience. The government agency needs to integrate information from all points of citizen integration. The e-governance applications that are emerging as islands of success have to be interoperable. Following are some suggestions for the successful transformation.

14.1 Create literacy and commitment to e-governance at high level: The most important requirement in e-governance is training programmed for policy makers, politicians and IT task force members. The training programmed needs to be focused according to the requirements of the policy makers at the top.

14.2 Conduct usability surveys for assessment of existing e-governance projects: There is a varying degree of development of e-governance among the different states. A few states have leapfrogged into a digital era, whereas a few are yet to start with any initiative. Therefore an e-awareness exercise should be carried out in all state government departments, to understand their level of acceptability of the e-governance.

14.3 Starting with implementation of pilot projects and replicating the successful ones: The pilot projects taken in various states should be assessed for their achievement levels. They should be classified as success or failure according to the desired output written down before implementation of the projects. The successful projects should be replica over the nation with members drawn from the implementing team. The projects, which could not achieve the desired outcome, should be documented for possible causes of failure.

14.4 Follow the best practices in e-governance: The study of the best practices will bring forward the best practices followed nationally and internationally. The national and international best practices study will give a great momentum to the process of e-governance.

14.5 Build nation resource database of e-governance projects: This would allow any organization planning an IT project to instantly ascertain whether any such project has already been implemented anywhere in the country. And intending implementers would know who the

people in similar projects are and how to reach them.

14.6 How clearly defined interoperability policy: The e-governance architecture needs to ensure that the components are scalable and adaptable to the future requirements. It has also to ensure that the local architecture fits into state level and the same into national and global architecture. Interoperability is a major criterion while defining the architecture.

14.7 Manage and update content on government websites efficiently and regularly: Content is the 'heart' of any IT project. The process of content development encompasses a whole range of activities starting with a comprehensive study of the system and identification of the objectives. It ends up with delivery of the intended benefits to the citizens or other users of the system. The government agencies must ensure that the data on the sites is always updated and relevant.

## 15. E-Governance - The Way Ahead

With the great scope of Information Technology it can be very well said that it has a very bright and prosperous future. Government of every nation spends a good part of its GDP in e-Governance [9]. Future e-Governance research agendas can be built around future visions for government and society. Certain themes that will shape the future have world-wide import, but will play out and interact in both expected and unexpected ways in different places. Therefore, no one future is best or ideal in all contexts. The themes provide a parsimonious analytical framework for planning and evaluating e-Governance practice, and for designing e-Governance research in any context. The framework itself needs assessment and validation [16].

Government of India is now beginning to realize that e-governance is the key to drive today's economy with an increased participation from citizens. Providing services online is no longer going to remain optional for local and central government, as demand for providing services at internet speed has been coming from citizens. The real challenge is how to develop and sustain successful e-governance projects and deliver state of the art e-services to citizens. Some of the requirements for implementing successful e-governance across the nation are as under.

1) E-governance framework across the nation enough bandwidth to service a population of one billion.

2) Connectivity framework for making the services reaches rural areas of the country or development of alternative means of services such as e-governance kiosks in regional language.

3) National citizens database which is a the primary unit of data for all governance vertical and horizontal applications across the state and central governments.

4) E-governance and interoperability standards for the exchange of secure information with non-repudiation across the state and the central government seamlessly.

5) A secure delivery framework by means of virtual private network connecting across the state and the central government departments.

6) Data centers in the state and the central government to handle the departmental workflow automation, collaboration, interaction, exchange of information with automation.

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