CHAPTER – 4

THEORITICAL BACKGROUND
4.1 What is E-Governance?

E-governance is more than just a government website on the Internet. But what is it exactly, and what is it not? Many definitions exist for e-governance. Several other terms are also commonly used, including: e-business, e-democracy and e-government.

E-democracy refers to the processes and structures that encompass all forms of electronic interaction between Government (elected) and the Citizen (electorate).

E-government is a form of e-business in governance and refers to the processes and structures pertinent to the delivery of electronic services to the public (citizens and businesses), collaborating with business partners and conducting electronic transactions within an organisational entity.

In the current era the world becomes small and small everyday by the help of internet. We can say that today’s world is a world of internet. Especially E-Governance & E-Commerce are spread all over the world for various management tasks and to provide various services to people.

Now days some of the well known e-governance applications include E-Dhara for maintaining Land records of people of Gujarat, e-Urja for electricity board of Gujarat etc. There are so many areas available where E-Governance is applicable.

Same like E-Governance E-Commerce is much popular to spread your business all over the world in the world of globalization. Main advantage of E-commerce is that people can purchase the things online.
Definition of e-Governance

E-governance is the application of information & communication technologies to transform the efficiency, effectiveness, transparency and accountability of informational & transactional exchanges with in government, between govt. & govt. agencies of National, State, Municipal & Local levels, citizen & businesses, and to empower citizens through access & use of information.

What e-government is NOT!

Terms such as “data resale”, “digital democracy”, “e-politics” etc. are also frequently mentioned within the same breath as “e-government. Neither of these terms, however, observes the principle of leveraging the Internet to simplify government. Digital democracy is, in fact, “e-politics ”rather than e-government; that is, leveraging the Internet to simplify the election process (rather than government). It is important that these terms not muddle the objectives of e-government.

e-governance evolution: History and Present Status

Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web. The technology as well as e-governance initiatives have come a long way since then. With the increase in Internet and mobile connections, the citizens are learning to exploit their new mode of access in wide ranging ways. They have started expecting more and more information and services online from governments and corporate organizations to further their civic, professional and personal lives, thus creating abundant evidence that the new “e-citizenship” is taking hold.

The concept of e-governance has its origins in India during the seventies with a focus on development of in-house government applications in the areas of defense, economic monitoring, planning and the deployment of IT to manage data intensive functions related to elections, census, tax administration etc. The efforts of the National Informatics Center (NIC) to connect all the district
headquarters during the eighties was a very significant development. From the early nineties, IT technologies were supplemented by ICT technologies to extend its use for wider sectoral applications with policy emphasis on reaching out to rural areas and taking in greater inputs from NGOs and private sector as well. There has been an increasing involvement of international donor agencies under the framework of e-governance for development to catalyze the development of e-governance laws and technologies in developing countries.

While the emphasis has been primarily on automation and computerization, state governments have also endeavored to use ICT tools into connectivity, networking, setting up systems for processing information and delivering services. At a micro level, this has ranged from IT automation in individual departments, electronic file handling and workflow systems, access to entitlements, public grievance systems, service delivery for high volume routine transactions such as payment of bills, tax dues to meeting poverty alleviation goals through the promotion of entrepreneurial models and provision of market information. The thrust has varied across initiatives, with some focusing on enabling the citizen-state interface for various government services, and others focusing on bettering livelihoods. Every state govt. has taken the initiative to form an IT task force to outline IT policy document for the state and the citizen charters have started appearing on govt. websites.

For governments, the more overt motivation to shift from manual processes to IT-enabled processes may be increased efficiency in administration and service delivery, but this shift can be conceived as a worthwhile investment with potential for returns. Following are some of the recent e-governance projects implemented by various state governments.

<table>
<thead>
<tr>
<th>State/Union Territory</th>
<th>Initiatives covering departmental automation, user charge collection, delivery of policy/programme information and delivery of entitlements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>e-Seva, CARD, VOICE, MPHS, FAST, e-Cops, AP online—One-stop-shop on the Internet, Saukaryam, Online Transaction processing</td>
</tr>
<tr>
<td>State</td>
<td>Information/Projects</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Bihar</td>
<td>Sales Tax Administration Management Information</td>
</tr>
<tr>
<td>Chattisgarh</td>
<td>Chhattisgarh Infotech Promotion Society, Treasury office, e-linking project</td>
</tr>
<tr>
<td>Delhi</td>
<td>Automatic Vehicle Tracking System, Computerisation of website of RCS office, Electronic Clearance System, Management Information System for Education etc</td>
</tr>
<tr>
<td>Goa</td>
<td>Dharani Project</td>
</tr>
<tr>
<td>Gujarat</td>
<td>Mahiti Shakti, request for Government documents online, Form book online, G R book online, census online, tender notice.</td>
</tr>
<tr>
<td>Haryana</td>
<td>Nai Disha</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>Lok Mitra</td>
</tr>
<tr>
<td>Karnataka</td>
<td>Bhoomi, Khajane, Kaveri</td>
</tr>
<tr>
<td>Kerala</td>
<td>e-Srinkhala, RDNet, Fast, Reliable, Instant, Efficient Network for the Disbursement of Services (FRIENDS)</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>Gyandoot, Gram Sampark, Smart Card in Transport Department, Computerization MP State Agricultural Marketing Board (Mandi Board) etc</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>SETU, Online Complaint Management System—Mumbai</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>Jan Mitra, RajSWIFT, Lokmitra, RajNIDHI</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>Rasi Maiyams–Kanchipuram; Application forms related to public utility, tender notices and display</td>
</tr>
<tr>
<td>North-Eastern States</td>
<td></td>
</tr>
<tr>
<td>Arunachal Pradesh,</td>
<td>Community Information Center. Forms available on</td>
</tr>
<tr>
<td>Manipur, Meghalaya,</td>
<td>the Meghalaya website under schemes related to</td>
</tr>
<tr>
<td>Mizoram &amp; Nagaland</td>
<td>social welfare, food civil supplies and consumer affairs, housing transport etc.</td>
</tr>
</tbody>
</table>

E-government is a relatively new area of study in the Information Systems (IS) field that is concerned with use of ICT by the government agencies to electronically deliver its services (The World Bank Definition). According to Carter and Belanger (2005) the relationship of government with recipients of its electronic services is characterized as; government to citizen (G2C), government to business (G2B); government to employees (G2E); government to government
(G2G). In a comprehensive review of the e-government studies within above mentioned relationships, Titah and Barki (2006) concluded that the most e-government studies fall under five distinct categories that explore the influence of; a) managerial practices, b) individual and organizational characteristics, c) IT characteristics, d) measurement of e-government, e) government subcultures; on e-government adoption. In a G2C context, the focus of this paper is on influence of individual and organizational characteristics on e-government adoption.

There are number of empirical studies undertaken in different countries to study e-government adoption: for example, Singapore (Fuet al. 2006); The Netherlands (Horst et al. 2007); Turkey (Akman et al. 2005); USA (Carter and Belanger 2005). Each study contributes in providing a strong theoretical understanding of the factors explored in their research model. The early adoption of ICT and higher levels of awareness regarding use of technology has aided e-government research to prosper in the developed nations (Sheridan and Riley 2006). On the other hand, citizens in developing countries are far behind in adoption of ICT (Nikam et al. 2004). In India, for instance, e-government research is in its early stages (Gupta and Jana 2003) and a country with huge population can hardly afford to be left behind in harnessing the benefits of implementing e-government. Despite India’s economic prosperity and emerging influence in the development of Information Technology (IT) sector in south-east Asia, there are limited studies that have addressed adoption of e-government services in India. To the best of our knowledge, only one empirical study partially discusses the factors of e-government adoption in India (Dossani etal. 2005) and a few case studies that illustrate the merits of implementing e-government services (e.g. Bhatnagar 2002; Cecchini and Scott 2003; Rao 2004). There are number of studies that discuss the potential advantages of implementing e-government, based on a few successful regional e-government programs (e.g. Bajwa 2003; Singh 2005; Thomas 2007). These studies are conceptual, descriptive and exploratory in nature and fail to provide relevant facts regarding the current state of e-government in India. An attempt is made to identify gaps in the literature that would have implications for future research in a developing country such as India and provide better understanding of citizen beliefs and organizational characteristics of governments (local and federal) that influence adoption of ICT technologies and electronic services by citizens of India.
Gujarat Is Leading In E-Governance

Gujarat is pioneer in E-governance implementation compare to other states in India. Gujarat has implemented wide range of E-governance projects. When it comes to e-governance, there is no doubt that Gujarat is one of the top states in the country in this regard. Not only is the basket of services offered to citizens huge, but the results have also been tangible and widespread.

Be it citizen-centric services or services for businesses in the state, Gujarat is one of the few states that not only has a clear e-governance charter, but is also strong on its policy footing. The last decade has seen a gamut of e-governance activities across the state and while some of them are still undergoing the transition from implementation to utilization, others are full blown projects that are providing a variety of services to the citizens of Gujarat.
There are quite a few elements that Gujarat has got right in journey to a well e-governed state. While it has a lot to do with clear policies, it is also about having a well defined vision. Vision, for any e-governed state, necessarily has to percolate from the top. In that regard, Gujarat has been lucky as its leadership, with the CM at the forefront, has always believed in the potential of e-governance and how it can change the matrices of governing a state.

Gujarat’s E-governance

“When ICT is used in governance, things move faster as idle levels are eliminated,” said K.R. Gururaja Rao, Chairman and Managing Director, Gujarat Informatics Ltd.

The outcome of all these diverse factors has been singular and the end result is a better governed state. The difference lies in the fact that this result has been brought about in multiple and well-thought out ways. Gujarat as a state seems to have understood that e-governance cannot be brought about by applying one formula to everything and that a state data center or a SWAN network are not the answers to every e-governance need. E-governance requires more engineering in order to fit into a system. Above all, Gujarat has understood that e-governance is primarily about reach. All initiatives, at the end, need to penetrate to the furthest corners in order to make a difference.

The state began thinking about e-governance long before the Government of India woke up to the prowess of IT. Back in 1999, when governance using technology was still a concept either in minds of enthusiasts or on the planning pages of the government, Gujarat embarked on its IT journey.

The state’s initial steps towards becoming IT governed commenced with the formation of an IT Cell under the General Administration Department in 1999. A significant move in the same year was the establishment of Gujarat Informatics Limited (GIL), the nodal agency for IT development in the state. GIL has played an instrumental role is advising the government both in terms of policies and the implementation of various projects.

Then came the establishment of the Department of Science and Technology in 2002. Since then, it has been a rapid journey. The State Wide Area Network
(SWAN) was set up in 2001-2002 and it was soon followed by a server farm and the State Data Center.

With infrastructure projects well on their way, the IT Policy that was initially outlined in 1999 underwent a revamp in 2006 and it is all set to be revised again in 2011. Gujarat has managed to scale up fast.

Over the years, the state has struggled to make the e-governance transition from informative to interactive to transactional. The ultimate step, that of transformation, doesn't seem far off.

Another crucial thing that the Government of Gujarat (GoG) recognized was that initiating e-governance in the state necessarily involved a massive amount of change. Consequently, it brought into place a few enabling mechanisms to manage this change. Under this mechanism, all departments were required to prepare an IT action plan. Earlier 1% of state budget went towards IT-related activities. This rose to 3% of the state government's budget in 2005.

Another substantial step was the nomination of a Chief Information Officer (CIO) in every department. Various technical people were also deputed as systems managers to bridge the talent gap for the smooth implementation of technical projects.

**Framework approach**

“We are not following the project approach; we are following the framework approach.” This statement by Dr. Neeta Shah, Director (e-governance), GIL, is actually the success mantra behind the state's e-governance policies.

What it basically implies is that projects are not taken up in silos; rather the entire framework is taken into account before implementing a project. Most e-governance initiatives in the past have had limited impact as the projects were implemented in isolation. One department was not aware of the steps or plans of other departments and there was little or no coordination and information was stagnant.

For any e-governance initiative to be completed, the projects need to talk to each other. It is crucial to avoid any duplication of work and simplify processes for
citizens. For such an approach to be translated into implementation, you not only need a sophisticated IT infrastructure but you also need to reassemble the process through which the system operates. Apply that equation to any Indian state government and you have a mammoth task on hand.

Engineering change

For every project initiated in the state, Business Process Re-engineering (BPR) was undertaken by departments that were delivering a project. Sometimes, this BPR exercise would involve the complete strata of administration including the leadership.

This included conditioning and training departments to enable them to provide services sans glitches. More often than not, the whole set-up and earlier processes needed to be displaced but if careful assessment of the scenario required such a massive shift, then the shift did take place.

The second part of this reengineering process was training and capacity building. The GoG, to this end, introduced a number of training and certificate courses to create an IT-enabled workforce. There is a College to Career program that is being run in partnership with Microsoft and TCS. There is also Project Invite (Initiative to Nurture a Vibrant Information Technology Ecosystem) being run collaboratively by GIIL and IBM.

There are a few certification tests like the NAC Test which is NASSCOM's certifying program to identify a talent pool for the ITES/BPO industry in Gujarat.

The road ahead

Despite being among the best e-governed states in the country, Gujarat has ambitious plans on the anvil. If you peek at the pipeline you would see quite a few ambitious new projects lined up and almost all existing ones about to undergo substantial scaling up.

Be it the state data center or the SWAN network or the e-gram projects, they are already in the process of expanding both their scope and reach. Gujarat has also
doled out some unique IT initiatives like e-voting and plans on taking these things to the next level together with some new projects that are being lined up.

However, there are a few things that these projects have in common. They all are geared for one eventual result, which is the integration and seamless delivery of services to citizens through the use of technology.
E-governance evolution in India – Challenges before Stakeholders

Since 1996, I was fortunate enough to work closely with a variety of govt. and commercial concerns, investigating the continuing trends in the field of e-governance area. I can say, from my experience that although lots of efforts have been made in the creation of infrastructure and internal information handling by govt. bodies as well as public services, the diffusion of technologies in moving towards e-governance have been rather slow. This may primarily be attributed to the following reasons:

- **Lack of IT Literacy and awareness regarding benefits of e-governance**

  There is general lack of awareness regarding benefits of e-governance as well as the process involved in implementing successful G-C, G-G and G-B projects. The administrative structure is not geared for maintaining, storing and retrieving the governance information electronically. The general tendency is to obtain the data from the files (print) as and when required rather than using Document Management and workflow technologies. Lately the use of DMS and workflow technologies has been able to find its use only in those departments where there is perceptible lightening of workload of the subordinate staff.

- **Underutilization of existing ICT infrastructure**

  To a larger extent, the computers in the department are used for the purpose of word processing only, resulting in the underutilization of the computers in terms of their use in data mining for supporting management decisions. The time gap between the procurement of the hardware and development of the custom applications is so large that by the time application is ready for use, the hardware becomes obsolete.
• **Attitude of Government Departments**

The psychology of government servants is quite different from that of private sectors. Traditionally the government servants have derived their sustenance from the fact that they are important repositories of govt. data. Thus any effort to implement DMS and workflow technologies or bringing out the change in the system is met with resistance from the govt. servants.

• **Lack of coordination between Govt. Department and Solution developers**

Designing of any application requires a very close interaction between the govt. department and the agency developing the solutions. At present the users in govt. departments do not contribute enough to design the solution architecture. Consequently the solution developed and implemented does not address the requirements of an e-governance project and hence does not get implemented.

**Resistance to re-engineering of departmental processes**

Successful implementation of e-governance projects requires lots of restructuring in administrative processes, redefining of administrative procedures and formats which finds the resistance in almost all the departments at all the levels. Additionally there is lack of expertise of departmental MIS executives in exploiting data mining techniques, updation and collection of real time content onto website etc. Therefore the content as is collected or maintained by various e-governance portals is unreliable or full of gaps. In such a scenario, its difficult for any e-governance solution to achieve its intended results.

• **Lack of Infrastructure for sustaining e-governance projects on national level**

Infrastructure to support e-governance initiatives does not exist within government departments. The agony is that the government departments are not equipped to be in a position to project the clear requirements nor are there any
guidelines for involving private sector. Whatever efforts have been made by various govt. organizations may be defined as islands of computerization. The infrastructure creation is not guided by a uniform national policy, but is dependent on the needs of individual officers championing a few projects. Therefore, the required networking and communication equipment is either nonexistent in govt. departments, or if it exists at all, it does not serve any tangible purpose as far as the requirement of e-governance project is concerned. The use of connectivity options provided by govt. agencies like NICNET etc. are used in a very limited manner for data transmission purpose between various locations viz. Distt., State, Center etc. and is mainly utilized for e-mail and Internet purpose only.

Most state govts. have formed the IT task force and have their IT policies in place. Although policies may have lofty goals, much seems to have happened only in automation and computerization. The drawback is that these IT policy documents are not made based upon the requirements and inherent capabilities of the state but are based on the surveys and strategies used by other nations or other states. Though it’s very wise to take examples from the successful e-governance strategies of other states and countries, it’s equally essential that we customize our state policies after a careful study of the parameters applicable to the particular state in question. A tentative action plan is presented to help implement the e-governance initiatives as below

e-Gov Action Plan – Strategies for today; Vision for Future

Govt. leaders in India are starting 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 @ internet speed has been coming from the citizens.
In this era of accountability and performance measurement, govs. will face increasing pressure to make the services more accessible to their citizens. The pressure comes directly from the new legislatures and govt. policies to implement high-end technologies in governing the nations; but also indirectly and perhaps more intensely from citizens. The citizens now a days are not using govt. services in isolation, but are simultaneously making transactions and interacting with the corporate world. In addition to this direct or indirect pressure, governments must themselves study & realize the cost saving benefits e-Governance techniques produce With this rise in demand for e-services, it is a mandatory requirement for government budget writers that the efficiency enhancement and cost saving potential of providing online services and information be mastered.

E-governance is about more than streamlining processes and improving services. It’s about transforming Governments and renovating the way citizens participate in democracy. So how does a government agency cuts through the clutter and builds a strategy to facilitate the transition to successful online or “e” service delivery. If the govt. Waits, its perceived as being out of touch with the citizen needs and loses an opportunity to realize the tremendous benefits of online service delivery and larger citizen participation in overall service delivery. Yet if the e-governance started and implemented in haste, the are doomed to fail. According to one of the surveys conducted by a reputed agency, 75% of e-governance may fail because of poor planning.

The real challenges is how to develop and sustain successful e-governance projects and deliver state of the art e-services to citizens. Unfortunately its not as easy as adding “e” in front of your service delivery mechanism. Successful e-governance initiatives can never be taken in haste. Particularly for the democratic nation of the billion people like India, e-Governance should enable seamless access to information and seamless flow of information across the state and central government in the federal setup. No country has so far implemented an e-governance system for one billion people. Some of the requirements for implementing successful e-governance across the nation are:
- e-Governance framework across the nation with enough bandwidth to service a population of one billion.
- Connectivity framework for making the services reach rural areas of the country or development of alternative means of services such as e-governance kiosks in regional languages.
- National Citizen database which is the primary unit of data for all governance vertical and horizontal applications across the state and central governments.
- E-governance and interoperability standards for the exchange of secure information with non-repudiation, across the state and central government departments seamlessly.
- A secure delivery framework by means of virtual private network connecting across the state and central government departments.
- Datacenters in centre and states to handle the departmental workflow automation, collaboration, interaction, exchange of information with authentication.

For success of an e-governance project and superior service delivery, it is imperative that the government agency focuses on whole citizen experience. Focusing on the citizen is essential for long term success. The govt. agency needs to integrate information from all points of citizen interaction. The overall architecture for e-Governance needs to ensure that the architecture components are extensible and scalable to adapt to the changing environments. The e-Governance applications that are emerging as islands of successes have to be interoperable. Following are some of the suggestions for the successful transformation from “a” to “g”
a) Create Literacy and commitment to e-governance at high level

The most important requirement is a training program for policy makers in E-Governance (Senior Public Servants), politicians and IT task force members. The training program needs to be focused according to the requirements of the policy makers at the top. Such programs can be need based and outsourced when required. In addition it should be made mandatory for all the stakeholders in implementation and maintenance of e-governance services to have the general IT skills. There may be specific requirements for training in certain specific projects. Such programs can be need based and outsourced when required. A few suggestive programs include e-governance training, Building web interfaces for citizen interaction, Document management and workflow applications, security and PKI solutions, Office Automation, networking etc.

b) 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. There is a tremendous divergence in the extent of implementation of the concept of e-Governance. It is, therefore, not possible to come up with a framework for implementation of e-Governance which is straightaway applicable to all states and the Central Government. Therefore an e-readiness exercise should be carried out in all states, government departments to understand their level of acceptability of the e-governance.

c) Starting with implementation of pilot projects and replicating the successful ones

The pilot projects taken in various states should be accessed 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 study
should be carried out by an independent agency for the implementation agency. The study should be carried out at each stage of implementation. Bottlenecks and causes of delays should be documented, even though they are removed later. The successful projects should be replicated 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. Various bottlenecks and causes of delay should be identified.

**d) Follow the Best Practices in e-governance**

The study of Best Practices will bring forward the best practices being followed nationally and internationally. The national and international Best Practices study will give a great momentum to the process of E-Governance. The State Governments will not have to re-invent wheel every time and they can learn from the developments already made.

**e) Build National 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. Intending implementers would know who the key people in similar projects are and how to reach them. It is well known that it is much easier to replicate a solution than to evolve it the first time around. So the lead-time to implement projects can be reduced substantially.

If a project is already in operation in a similar environment somewhere in the country, acceptance by all concerned is much faster and smoother elsewhere. So change management becomes much easier and the time and effort involved in such implementations. Due recognition would accrue to the pioneers who created the successes. It would enable others to learn from them if they wish.

For implementing agencies, be they Government owned organizations like NIC, CDAC and State PSUs or private IT companies, it offers a unique opportunity to derive the full return and reward, both domestically and internationally, from their...
successes and the IPRs/ products that they have created. It would help create an archive of e-governance applications in the country.

f) **Have 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 the State level and the same into National and Global architecture. Interoperability is a major criterion while defining the architecture.

g) **Manage and Update content on govt. websites efficiently and regularly**

Content is the 'heart' of any IT project. The govt. agency has to keep in mind some of the important technical guidelines, while developing the software and computerization, to facilitate the future integration. The department also needs to address the security of transactions and messages. 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 IT System. The govt. agencies must ensure that the data on the sites is always updated and relevant.
4.2 Why e-governance is helpful for educational sector?

The purpose of implementing e-governance is to enhance good governance. Good governance is generally characterized by participation, transparency and accountability. The recent advances in communication technologies and the Internet provide opportunities to transform the relationship between governments and citizens in a new way, thus contributing to the achievement of good governance goals. The use of information technology can increase the broad involvement of citizens in the process of governance at all levels by providing the possibility of on-line discussion groups and by enhancing the rapid development and effectiveness of pressure groups. Advantages for the government involve that the government may provide better service in terms of time, making governance more efficient and more effective. In addition, the transaction costs can be lowered and government services become more accessible.

Education as a sector has remained relatively untouched by e-governance. This is most distressing, considering that education is the cornerstone of our efforts to build up the future generation.

"E-governance system deployed will have to go beyond mere computerization of records or processes"

Even in the Right to Education Act there is little mention of implementing e-governance in our education system.

As it stands today, our education system is chaotic, to say the least. It is characterized by a high dropout rate, teacher truancy, obsolete syllabi, inadequate infrastructure, unemployable graduates and the lot.

The tiny proportion of quality output that emerges from it is more a case of serendipity and the determination of the students belonging to this micro-minority.

This is because the present system lacks means of continuous monitoring, meaningful evaluation of the teacher and the taught, constant feedback to the players concerned (administrators, faculty, parents and students) and appropriate timely control and correction mechanisms.
**Improving education system**

If the quantity and quality of output from our education system have to be substantially improved, then there is no alternative to introducing e-governance in this sphere.

However, to be really effective, the e-governance system deployed will have to go beyond mere computerization of records or processes.

It has to be able to provide the management of the educational institution information about the Why of a happening or a trend besides the What, When and where, so that adequate prophylactic action can be taken. It should be able to provide answers to queries like:

Why is the performance of a class dropping in a particular subject? Why is a particularly bright student lagging in performance in the last two terms? Which teacher has produced the best consistent results for her class?

"If the Education Expert System gets linked to other national e-governance systems then the possibilities are endless"

Then again, considering the paucity of funds in our state-aided educational institutions, an e-governance system which is inexpensive to install, simple to use, easy to maintain and can be conveniently expanded will be much more acceptable.
4.3 Various fields where E-Governance is used

Especially in internet E-Governance & E-Commerce is spread all over the world for various management tasks and to provide various services to people.

Now a days some of the well known e-governance applications like E-Dhara for maintaining Land records of people of Gujarat. There are so many areas are available where E-Governance is applicable and applied.

Same like E-Governance E-Commerce is that much popular it’s an easy way to spread your business all over the world in the world of globalization. Main advantage of E-commerce is that people can purchase the things online.

As per my knowledge major areas of E-Governance are as under.

Public Grievances

- Electricity
- Water
- Telephone
- Ration Card

Rural Services

- Land Records
- Below Poverty Line (BPL) / EWS Families

Police

- FIR Registration, Lost & Found
- Valuable, Person, Dead Bodies

Social Services

- Pension
- Old Age, Widows
- Acquisition / Rehabilitation & Compensation
- Registration of Licenses & Certificates
- Ration Cards
- Birth Certificates
- Death Certificates
- Domicile Certificates
- Caste / Tribe Certificate
- Arms Renewal
- Registration of Documents
- School Registration
- University Registration
- Motor Vehicle Registration
- Driving License

Public Information

- Employment Exchange Registration
- Employment Opportunities
- Examination Results
- Hospitals / Beds Availability / Services
- Railway Time Table
- Airline Time Table
- Road Transport Time Tables
- Charitable Trusts
- Government Notifications
- Government Forms
- Government Schemes

EWS Services

- Civil Supplies
- Old Age Pension
- Widow Pension
- Handicapped Pension / Services

Agriculture Sector

- Speeds Information
- Pesticides
- Fertilizers
- Crop disease
- Weather Forecast – short range / District wise
- Market Price

Utility Payments / Billing
- Electricity
- Water
- Telephone

Commercial
- Taxation & Return Filling
- Income Tax
- Corporate Tax
- Custom Duty
- Central / State Excise Duty
- Sales Tax
- House Tax
- Property Tax
- Octroi
- Road Tax
- Company Returns

Government
- Electronic Procurement
- Education University Model for E-Governance
4.4 Impact of e-governance on citizens

Citizen Centric e-Governance in India

The rise of e-government has been one of the most striking developments of the web. As the Internet supported digital communities evolve, and assuming that they do indeed grow to incorporate individuals around the country (and globe), they present the national governments with a number of challenges and opportunities.

Governments in democratic states are primarily a representative mechanism whereby the selected few debate and enact the legislation for and on behalf of the nation state’s citizens. There are several aspects to this that might prove of importance in the context of e-governance.

Firstly, those elected representatives need access to information and communication resources. It is necessary for them to inform and listen to their constituents; it is necessary for them to communicate with one another; and at the most basis, it is necessary for them to discover and represent the wishes of those who have elected them as their representatives. While we elect individuals, we appreciate and understand that they must then balance three sometimes opposing forces: their own conscience; the philosophy of their party; and the interest of their constituency itself.

At the simplest level, the implementation of e-governance can then support this information and communication requirement. E-mail between politicians, and between politicians and departments can be easily established. Since many state govt's are providing Lap tops to their MPs and MLA’s, they can publish their home pages on Internet, to act as constituency interaction center. This then touches on the next aspect, that of communicating with the constituents. In addition to the standard channels and mechanisms, the politicians can receive the email messages from those wishing to express their views. There are
similarly endless ways to utilize Information and communication technologies (only limited by the imagination of the implementing agency) to provide efficient and transparent solutions to citizens.
4.5 E-Governance need and Advantages

The object of E-Governance is to provide a SMARRT Government. The Acronym SMART refers to Simple, Moral, Accountable, Responsive, Responsible and Transparent Government.

S - The use of ICT brings simplicity in governance through electronic documentation, online submission, online service delivery, etc.

M - It brings Morality to governance as immoralities like bribing, red-tapism, etc. are eliminated.

A - It makes the Government accountable as all the data and information of Government is available online for consideration of every citizen, the NGOs and the media.

R - Due to reduced paperwork and increased communication speeds and decreased communication time, the Government agencies become responsive.

T - Technology can help convert an irresponsible Government Responsible. Increased access to information makes more informed citizens. And these empowered citizens make a responsible Government.

With increased morality, online availability of information and reduced red-tapism the process of governance becomes transparent leaving no room for the Government to conceal any information from the citizens.

These objects of E-Governance are achievable with the use of ICT and therefore the concept is very alluring and desirable.
Advantages

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

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.

3. **Transparency** – Use of ICT makes governing profess 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.

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.
4.6 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:

A. Government to Citizen (G2C)
B. Citizen to Government (C2G)
C. Government to Government (G2G)
D. Government to Business (G2B)

A. 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).

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.
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.

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 –

   1. booking and cancellation of tickets,
   2. status of vehicles, railways, boats and flights,
   3. issue and renewal of Driving Licenses,
   4. registration and renewal of vehicles,
   5. transfer of vehicles,
   6. payment of the fees of licenses,
   7. payment of fees and taxes for vehicle registration,

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. **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.

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.
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.
B. 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.

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.

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.

C. Government to Government

G2G relationship would include the relationships between Central and State Government and also the relationship between two or more Government departments.

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.

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.
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.

D. **Government to Business**

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.

2. **E-Licensing** - Companies have to acquire various licences from the Government, similarly the companies have to acquire various registrations. ICT enablement of the licensing and registration can reduce time and cost.

3. **E-Tendering** - E-Tendering will include the facilities of online tendering and procurement. It will 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.
4.7 Objectives of E-Governance

Following are the objectives/aims of E-Governance:

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 all to every piece of information of the Government and of public importance is one of the basic objective of E-Governance.

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.

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.

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.

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.
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) **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’s problems are basically Government's problems as Government is for the people.
4.8 Challenges in E-Governance

The governments both—the Union and the states must make earnest efforts to complete the daunting, but formidable task of quicker and effective E-government programs by:

• making a policy choice in favor of computerization to overcome radically the even if it requires huge investments for the purchase of hardware and software;

• serious efforts would be required to mobilize resources for this arduous job. One way to deal with the situation could be that governments enter into arrangements for leasing of computers. This would reduce initial heavy capital investments. There are a large number of agencies which would like to fund the leasing to the departments. Ministry of Finance can be asked to provide concessions to these agencies;

• establishing complete connectivity between various ministries and departments so that transfer of files and papers could be done through Internet thereby choosing efficacious speed as an alternative to manual labour. To make this really effective, there is a need to make databases of various departments compatible with one another. Thus, interoperability of e-governance projects is of vital importance if the citizens are to feel the benefit of IT in day to day life;

• supplying information to the public in a language that they understand and are comfortable with, and generally, it is the local language. As, technology is available by which transliteration from English into other languages can be made. Therefore, the problem is manageable provided there is enough motivation to do this onerous task;
• changing the mindset of the government employees who are used to working only in the manual mode. This is a big task and needs patience and careful planning. Workshops, seminars, and training programmes are required to be organized to spread awareness among the employees at all levels;

• making cyber laws available to the public as early as possible so that the IT systems and information documents stored in the systems has the same legal validity as the documents stored today on paper; and

• build supporting infrastructures of power and all weather surface transport system to bridge the digital divide between the rural and urban India

Last of all the Government must address on urgent basis: the two major concerns in the IT implementation- the security and privacy. Steps must be initiated to generate confidence among the individuals and organizations to conduct on-line transactions and communications.