

# An Impact Study on E-Governance in India (Applications and Issues)

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**Abstract**—It is extensively believed that information and communication technology (ICT) enables organizations to reduce costs and enlarge capabilities. Technology in the system of the government and for the betterment of the society. It provides solutions for e- Governance implementation and its issues. E-Governance is an important part of ICT. It is the most recent trend in the governance enlargement all over the world. E-Governance is defined as “the public sector’s use of information and communication technology with the aim of improving information and provide services to the citizen and helps them in decision making process to make government more accountable, transparent and effective. This literature review is about applications and issues of E-governance.

**Keywords:** ICT, Electronic governance, Applications and major issues

## I. INTRODUCTION

ICT is “Information and Communication Technologies.” ICT refers to technologies that make available right to use to information throughout telecommunications. It is parallel to Information Technology (IT), but focuses primarily on communication technologies. ICT having number of communication channels like wireless networks, cell phones, Internet and other. The rapid development and implementation of the Information and Communication Technology is transforming every aspect of human life [1].

According to Robert E. Davis “Developing and implementing IT governance design effectiveness and efficiency can be a multidirectional, interactive, iterative, and adaptive process [2]”. ICT has opened up new avenues and opportunities for growth and development around the world, ICT have a valuable prospective to help meet good governance goals in world. It spread information to the user for widen their choices for Economic and social privileges. The E-Governance is the application of Information and Communication Technology (ICT). The word “govern” derives from the latin word “gubernare” which means “to direct, rule, guide,” originally “to steer” (<http://dictionary.com>). “Fundamental aspects of governance” are: graft, rule of law, and government

effectiveness. Other dimensions are: voice and accountability, political instability and violence, and regulatory burden (Kaufmann, Kraay and Zoido-Lobaton 1999) [3]. The five principles of sincerity, contribution, liability, helpfulness and uniformity exercised within this framework support democratic governance. The concept of e-government started with the advent of government websites in the early 1990s. Before the development e-governance the status of government was rigid, static hierarchical regulated, while web is energetic, smooth and unfettered.

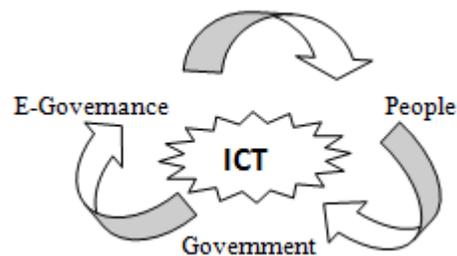


Figure 1: ICT

E-governance navigating the social system, through which organization can be directed, controlled.

In simple words we can say Governance is new style of leadership with new ways of deciding policy and investments, new ways of organizing, new ways of education. E-Governance has become an essential part of any government program in India and other countries. However its application in India is a challenging and enormous task. But the potential opportunity is large benefit are varied and can be quite significant. Successful implementation of e-governance require ability and willingness to reengineer the working department the skills of managing large scale change in addition to the technical infrastructure. It includes the capacity and the willingness of the public sector to deploy ICT for improving knowledge and information in the service of the citizens (Global e-govt. readiness report 2005). The impact or outcomes of e-

Government are better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. There are four basic elements in E-governance are:



Figure 2: Elements of E-governance

## II. APPLICATIONS OF E-GOVERNANCE

These days, over 1000 e-governance services can be accessed athwart the length and breadth of the country through NeGP. Since Jan 2013, over 237 crore e-transactions have been delivered. E-Governance offers many reimbursement and recompense across the country for the government, corporate sector and society. E-Governance facilitates better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. It simplifies internal operations and improves performance of government departments while helping all sections of society to avail government services at lower cost with maximum ease of use. E-governance means that government is taking advantage of the new technology development to provide people with better government services. The basic aims of e-governance are to improve the ability of all people to participate in democracy and to enhance the efficiency and effectiveness of all kinds of government services. E-government/governance can be directly linked to the main

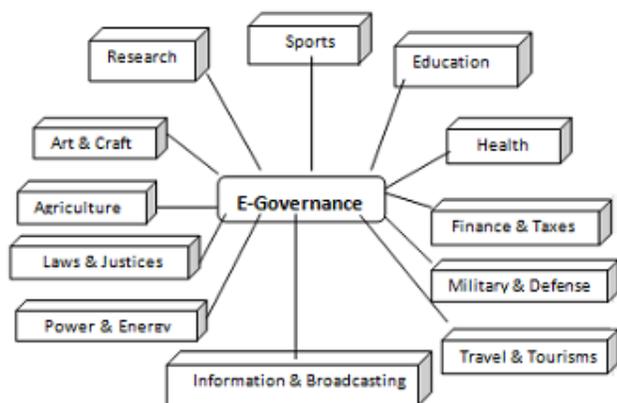


Figure 3: Applications of E-governance

dimensions of “good governance” (Leitner, 2003), especially. Success of e-Governance initiatives would depend on capacity building and creating awareness within government and outside it. “Robust interoperability platform is the key to successful delivery of e-governan ce services especially when multiple government departments are involved in catering to the needs of the same set of citizens.” Krishna Markande Principal Technical Architect Product Engineering Group Infosys Technologies Limited. There are following applications:

## III. E-INFORMATION & BROADCASTING

Broadcasting is the distribution of video and audio content in all directions at the same time. It is a program that is transmitted over airwaves for public reception by anyone. For example radio, television, films, press and print publications. Advertising and traditional modes of communication plays an important role in helping people to access information. Users can find information about the broadcasting, community radio stations, Prasar Bharti, Doordarshan, Conditional Access System (CAS), DTH and IPTV etc and check online services provided by government like [16]:

1. Check status of title registration for fresh and duplicate cases with Registrar of Newspapers for India
2. Check online status of newspaper title registration application
3. File complaints with Press Council of India
4. Get official videos and photos of Prime Minister of India
5. Check month or year-wise press releases of Ministry of External Affairs
6. Check and search for registered titles with Registrar of Newspapers for India
7. Check press releases shared by Information and Public Relations Department of Meghalaya

## IV. E-AGRICULTURE

E-governance is useful to the agricultural sector. It provides products and services which are of use to the agricultural community, including farmers, livestock breeders, herders, dairy workers, agriculture extension workers, traders, scientists, middlemen, and NGOs working in the agriculture sector. There are a range of interventions that are useful for the agrarian community. For example, those aimed at increasing crop productivity, reducing crop damage due to weather and pests, improved livestock management, improved access to credit and government schemes, better market rates for farm products, providing food security, conservation of bio-diversity, reduce in use of chemicals, and access to better seed varieties and

technology. The government provides online facilities for farmers like Agriculture License, Fertilizer & pesticides, Organic farming, Horticulture, seeds, soil and water conservation etc. There are some online projects based on agriculture:

1. Gyandoot: In the State of Madhya Pradesh it is an Intranet-based Government to citizen (G2c) service delivery initiative.
2. BELE:- It is a web-based application with 3-tier architecture for capturing and monitoring the major activities and services.
3. AGMARKNET: - It is a project approved by Department of Marketing & Inspection (DMI), Ministry of Agriculture, and Government of India.
4. SEEDNET:-It is a SEED informatics network under ministry of Agriculture, Government of India. The project was started in Chhattisgarh in the month of July' 2008 for Kharif season.
5. Mustard Procurement Management System:- It is started by Haryana government. It Conducted the Survey of mustard sown by the farmers and feed this data in to the database of the system. This data is then processed and generate coupons having information of dates on which farmer may visit in the mandi to sale his mustard.

#### IV. E-SPORTS

The Department of Sports under the Ministry of Youth Affairs and Sports seeks to support the development activities and programmes in the field of sports by using E-governance [4]. Users can find detailed information on the national policies, support organizations, beneficiaries, government observers, awards and awardees etc. Details of various schemes and national code against age fraud in sports are given. Information is provided on the Sports Authority of India training centers in the States and Union Territories. Users need to select a state, district, regional office and sport discipline from the drop down list to access information on the training centers of that district or state. There are many official websites to give information to the user: schemes of ministry of youth affair and sports, citizen charter of ministry of youth affairs and sports, information of SAI Training center etc. In July 7, 2013, IeSF was selected as counterpart for the Electronic Sports discipline of the 4th Asian Indoor and Martial Arts Games. This was a big breakthrough for e-Sports and the IeSF, as the branch was introduced in an Olympic event for the first time [5].

#### V. E-HEALTH

The most important revolution in healthcare is e-health. E-Health uses the information technology and telecommunications to distribute health information and services more successfully and proficiently. The main objective of the government is to improve the health care facilities. The proper Electronic Health Record of citizens makes easy to achieve the goals of Public Health and Family Welfare. There are many Information Systems for Improved Health Care Service Delivery. e-health includes telemedicine, online access to medical records and drugs prescriptions etc.

The government of India has launched "National Rural Health Mission" aiming to provide the best health care. There are number of projects which are launched by the government like DIGHT (Distributed Information store for Global Healthcare Technology) project. There are some online services provided by the government of India [10].

1. Register as Blood Donor with Department of Health and Family Welfare of Odisha
2. Check blood availability status in Government Medical College & Hospital of Chandigarh
3. Register complaint with Government Medical College of Jammu
4. Lodge your complaint or send suggestion to Medical Council of India
5. Licensing and registration system of Food Safety and Standards Authority of India
6. Check district wise Jansankhya Sthirata Kosh health facilities data
7. Blood donors directory of districts in Kerala
8. Online service portal of Central Government Health Scheme

#### VI. E- EDUCATION

E-governance is very useful in improving the Education system. It can improve efficiency and effectiveness of the overall of education system. It provides new ways of communicating to the students, and innovative ways for imparting education like using smart boards, educomm for delivering information. An integrated Higher Education Service System (HESS) at a national level can be one of the key ICT initiatives to help India become a provider of world-class education [13]. There are some important projects started by the government like:

1. CASCET:-This project is started by the Karnataka government for Education Department.

2. Online Scholarship Management System:-It is meant for the purpose of distribution of scholarships and fees reimbursement.
3. AISES (All India School Education Survey):- this project is started by Assam government. This project is used for surveying the number of schools in district. Census
4. CAPnic:-This is for the Centralized seat allotment process for professional courses and come under Kerala.
5. VHSE Examination Management System:-it has been developed to handle pre-examination related activities of the vocational higher secondary education.

#### VII. E- MILITARY & DEFENCE

The main objective of the military is to protect the nation. The military is to protect the autonomy, and keep the people and borders safe. With the help of E-governance government provide very useful websites for people to get information related to Website of Indian Navy Career and Opportunity, Check case status of Armed Forces Tribunal, Check Daily Orders of Armed Forces Tribunal, Information on career opportunity in Indian Air Force, Register with Army Welfare Placement Organization. For example there are lots of upcoming projects on Military and defense they could be change the world forever. The Defense Advanced Research Projects Agency (DARPA) gets a ton of funding to develop the science and technological future of the military. The Pune based engineering technology focused Kalyani Group Expands Defense Activities, into ARTillery, Systems Modernization and Upgrading, India's indigenous defence projects and Arjun MBT [7]. There are number of services provided by the government for public are [8]:

1. Website of Indian Navy Career and Opportunity
2. Check case status of Armed Forces Tribunal
3. Check Daily Orders of Armed Forces Tribunal
4. Information on career opportunity in Indian Air Force
5. Register with Army Welfare Placement Organisation

#### VIII. E- TRAVEL & TOURISM

Tourism has become a trendy global leisure activity. The World Tourism Organization defines tourists as people "traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes India has become a popular tourist destination with thousands of people visiting different parts of India each year". According to provisional statistics 6.29 million foreign tourists arrived in India in

2011, an increase of 8.9% from 5.78 million in 2010. This ranks India as the 38th country in the world in terms of foreign tourist arrivals [9]. It is the largest service industry that provides heritage, cultural, medical, business and sports tourism. With the help e-governance, government provides information about various tourist destinations, modes of travel, accommodation and approved travel agents. These services are Book online tour packages of Delhi Tourism, Search for travel agents approved by Ministry of Tourism, Search for Grand Heritage hotels approved by Ministry of Tourism, Search 3 star hotels approved by Ministry of Tourism, Search state wise approved restaurants by Ministry of Tourism ,Book train tickets with Indian Railway Catering and Tourism Corporation Limited ,Book hotels online in Tamil Nadu, Search for domestic tour operators approved by Ministry of Tourism.

#### IX. E-BANKING

E-banking means to conduct the financial transactions on a secured websites which are conducted by the institutions (Bank). The user can avail the online services like to view account balances, print and download account statements, Downloading applications for M-banking, E-banking, viewing recent transactions. The first internet banking service in U.K was launched by Nottingham Building Society in 1983. E-banking system includes : Internet Banking System : Funds transfers ,Downloading transaction information ,Loan applications ,Investment activity

#### X. E-LAWS & JUSTICE

E-law and justices is a specific field under the e-governance. ICT is very useful in improving access to justice, escalating cooperation between legal authorities and strengthening the justice system. There are some benefits of ICT in E-Laws and justices are: It can be increases efficiency and diminishes operation costs, reduces the length of procedures, thus saving both time and money, It provides the best information obtainable and a better understanding of both the way the courts work and the legal information to the citizens to know their rights and it also provide better transparency in legal systems, Recording of court proceedings, high resolution remote video to identify fraudulent documents, live fingerprints scanning and verification, remote probation monitoring, electronic entry of reports and paper work will further speed up the court proceedings Government provides important information like: Judicial Directory Service by Andhra Pradesh High Court ,Lodge your complaint with National Commission for Women ,Daily cause lists of Delhi High Court ,Search customized cause lists of Delhi High Court ,E-filing of cases in Cyber Appellate Tribunal ,Register to file your case online in Supreme Court ,Check case status of Armed

Forces Tribunal, Check Daily Orders of Armed Forces Tribunal.

The Gujarat Government adopted **the model of “e-court” way back in 2002 and in making technology a vital component of justice** [17]. This model features a Comprehensive Case Information System (CCIS) which coordinates the daily activities of the High Court and Lower Courts. The most interesting aspect of this model is that it handles the entire proceedings of a case from inquiry, entry of judgment to issue of process. The pilot project has been successfully operational in the City Civil Court, Ahmedabad.

#### XI. E-ART & CULTURE

Art and Culture represent the peak of mental and emotional evolution of mankind. They denote the aesthetic dimension of progress. The culture of India refers to the way of life of the people of India. India's languages, religions, dance, music, architecture, food, and customs differ from place to place within the country. The arts and culture field includes visual, and fine arts, applied arts architecture and graphic design, crafts, film, digital media and video and historic maintenance, literature and other innovative activities. The Indian National Trust for Art and Cultural Heritage (INTACH) is a non-profit organization set up in 1984 to involve its members in protecting and conserving India's vast natural, built and cultural heritage. Government provides detailed information on various organizations involved in promotion and propagation of Indian art and culture [11]. There are lots of web sites they provide online information about art and Culture like: <http://www.anonlineindia.com/information/artscrats.htm>

#### XII. E-POWER & ENERGY

Today's governments are up to the growing needs of the citizens and scaling to reach their mission. Power and energy is basically needed for improving the life style. Some 600 million Indians do not have access to electricity and about 700 million Indians use biomass as their primary energy resource for cooking [6]. Chief Minister of Gujarat state Narendra Modi said, “We have to focus on generating more power from our abundant renewable energy resources [12]. Government provides following online services for consumer are:

1. Online electricity bill payment for North Delhi Power Limited customers in Delhi
2. Direct Benefit Transfer for LPG consumer by Ministry of Petroleum and Natural Gas
3. Check details of your electricity bill in Tamil Nadu

4. Feedback form of Central Power Distribution Company of Andhra Pradesh
5. Check your electricity consumption with Central Power Distribution Company of AP
6. Apply for high tension electricity connection in Bangalore
7. Online electricity bill payment for BSES customers in Delhi

#### XIII. E- FINANCE & TAXES

Finance is a task of providing the necessary funds (money) required by the business of entities like companies, firms, individuals and others on the terms that are most constructive to achieve their economic objectives. The economic development of the country based on finance and taxes. Government provides information related to finance and taxes insurance, banking, economy like [18]:

1. Online registration of dealers for commercial sales tax of Tamil Nadu
2. Register for updates of Commercial Tax Department of Uttar Pradesh
3. Register to avail online services of Department of Sales Tax of Maharashtra
4. E-file your commercial tax return online for Uttar Pradesh
5. Avail online services of Commercial Tax Department of Chhattisgarh
6. Pay your commercial tax online to Delhi Government
7. Gratuity calculator for post-2006 civil pensioners
8. Avail online registration services of Directorate of Commercial Taxes of West Bengal

#### XIV. RESEARCH DIRECTIONS IN E-GOVERNANCE

This section contains specific research directions of e-governance. Good governance means is providing better services and self-governing processes. E-governance is the one of the best area in research and in practice field. The Government of India approved the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects and 8 components, on May 18, 2006. In the year 2011, 4 projects - Health, Education, PDS and Postswere introduced to make the list of 27 MMPs to 31 Mission Mode Projects (MMPs). Under the Income Tax MMP, over 2.12 crore returns were filed electronically in FY 2013-14 as on 31st December 2013. Under the Passport Seva Project, all 77 Passport Seva Kendras are operational. The related business processes have been re-engineered to provide a seamless experience to the citizens. Under the new scheme, approximately 1 lakh passports are being issued every

week. Currently, citizens have benefited from over 227 crore transactions under various e-governance projects in the country during 2013 alone and it is expected that this will increase to approximately 250 crores by March 2014. In the FY 2012-13, over 75,000 rural village level entrepreneurs (VLEs) provided services to almost one crore citizens each month through CSCs. Approximately, 65% of transactions completed at CSCs are G2C services, around 40% of transacting CSCs provide financial services and around 30% of transacting CSCs provide educational services, making this the world's largest, Government approved ICT enabled network for online service delivery.

TABLE I

State	Research Directions
Uttar Pradesh	Bhulekh, Lokvani, E-suidha, e-Districte-Gov Initiative in Uttar Pradesh e- scholarship, Koshwani, Court case information system, Online Transport Services, Niyukti Online Seva, GIS based Planning Atlas
Karnataka	Bhoomi, Khajane, Kaveri
Rajasthan	"RajNidhi": Information kiosks, raj-SWIFT, Mechanism of Single Window Clearance System,
Kolhapur and Sangli districts of the state of Maharashtra	Warana, SETU, Online Complaint Management System—Mumbai
Haryana	E-Governance Centre at Haryana Secretariat
Dhar district of Madhya Pradesh	Gyandoot, Gram Sampark, Smart Card in Transport Department, Computerization MP State Agricultural Marketing Board (Mandi Board)
Andhra Pradesh	e-Seva, CARD, VOICE, MPHS, FAST, e-Cops, AP online—One-stop-shop on the Internet, Saukaryam, Online Transaction processing
Kerala	e-Srinkhala, RDNet, Fast, Reliable, Instant, Efficient Network for the Disbursement of Services (FRIENDS), Village Documentation and Community Computing Centers (VDCCs),
Bihar	Sales Tax Administration Management Information
Chhattisgarh	Chhattisgarh Infotech Promotion Society, Treasury office, e-linking project
Delhi	Automatic Vehicle Tracking System, Computerisation of website of RCS office, Electronic Clearance System, Management Information System for Education etc
Gujarat	Mahiti Shakti, request for Government documents online, Form book online, G R book online, census

online, tender notice.
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## XV. ISSUES FOR E-GOVERNANCE

A number of issues, some old and some new have arisen in e-governance applications. Countries like India people are poor and infrastructures are not up to the mark. Under such condition it becomes very difficult to provide government services to the people. Some obstruction in the path of implementation, like security, uneven access to the computer technology by the citizen, high initial cost for setting up the e government solutions and confrontation to change. Some Common problems are [14]:

1. There is lack of skilled people to handle the ICT.
2. Due to the lack of technical knowledge, administrators do not amuse external expertise.
3. No effective and sufficient infrastructure available in government organization to implement e-Governance project.
4. Most of the organizations has unpredictable internet connectivity
5. The government policies about implementation of e-governance are not strict so the employees always have the second choice. This causes ineffective implementation.
6. Most of the officers lack leadership qualities. So they can't make the people understand the benefits of this project.
7. Most of the employee do not understand the language used in interactive software that causes reluctance in using new technology
8. Funds allocated & provided by the Government for implementing –governance project is inadequate
9. Literacy rate is around 60% and rest 40% are dependent on farming, labor works and can't even read or write and hence the online activities are not in approach of the illiterate public.
10. Lack of privacy, protection, confidentiality, online documents and other transactional activities of some applications are creating doubt
11. Lack of financial elements like affordability with public, telecom rationing system, free browsing centers etc is limiting the progress.

12. There is lack of training centre for the employees. Due to lack of adequate Management Information Systems, e-governance project dose not function properly
13. There is difficulty of connectivity between districts place and village

So there are different types of Problems while implementing e-Governance. Without support of technology, Government and citizen we cannot fully apply e-governance in our life.

## XVI. CONCLUSION

In this paper, we have given an overview and application of E-Governance along with a list E-Governance projects run by state and central governments. Ultimately, the success of an e-Governance initiative lies in how efficiently it has enhanced people's participation in government functioning through wide ICT access, bringing government and the services it offers closer to its citizens, promoting accountability, transparency and responsiveness in government functioning and ensuring that government works better at lesser costs. E-Government is to be able to offer an increased portfolio of public services to citizens in an efficient and cost effective manner. E-government allows for government transparency. For successful implementation Standards, Infrastructure, Legislations, Strategy all needs to be in place. The paper will be incomplete without giving a direction to our Strategy and this direction comes in words of , Dr. APJ Abdul Kalam, former President of India and a visionary in the field of e-Governance has aptly summarized the basic challenge lying before the country in this regard:

“E-Governance, has to be citizen-friendly. Delivery of services to citizens is considered a primary function of the government. In a democratic nation of over one 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 set up. No country has so far implemented an e-Governance system for one billion People. It is a big challenge before us [15].”

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