Emerging ICT Tools for E-Governance

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ABSTRACT
In Developing Countries the use of E-Governance is increasing in full swing. E-Governance is defined by various ways by many experts. Though the definitions varies from each other the content of them are same like "E-Governance is a process which function automatically and provide interaction with the Government and Citizen through Information Communication Technology (ICT)". E-Governance brings initiatives of development to the common people. The rise of E-Governance, therefore experienced not only in all developed countries but also developing and under-developed countries, it is bringing the changes in all over the world, i.e. a global change. E-Governance can offer economical, social and cultural opportunities for developing countries with the help of Information Technology (IT). Information Communication Technology (ICT) is playing a vital role in the mediation or bridging of IT and E-Governance together. Even though the role of E-Governance is significan in development, it requires certain amount acceptability from the end user i.e. the common people. Apart from the acceptance of the general public, a large number of organizations also play an active role in the emerging new technologies of E-Governance. This paper explains what is E-Governance and why the E-Governance is required for a developing country. The ICT also helps the E-Governance to give services between Government and Business (G2B), Government and Citizens (G2C), Government and Employees (G2E) and Government and Government (G2G). The Government through the E-Governance services is made available to the citizens in a convenient, efficient and transparent manner. It also suggests some new methods of E-Governance to maintain relationship between G2B, G2C, G2E and G2G. There are a number of programs initiated by various Governments to help each other through Government-to-government (G2G) programmes. By enabling the IT, the government can process citizen to government transactions such as the filing of tax returns, death and birth registration, land records, etc. State governments are working fast, recognizing the benefits of an IT-enabled working environment. An efficient & speedy decision making can contribute significantly for overall development of the country. The E-governance is good and beneficial for country, as it may reduce substantial time required, for information transfer. Central Government and many State Governments initiated various E-Governance programmes at Central and State level in the recent past. Gujrat, Kerala, Haryana, Madhya Pradesh, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu States have to tell many success stories of E-Governance. This paper also gives light to the picture of various communication technologies used for implementation of E-Governance in India and describes the possibilities of E-Governance in the future. Since the E-Governance has a vital role in reducing the digital divide, it fascinates not only the contemporary level but also promises a better future.

KEYWORDS
IT, ICT, Digital Divide, E-Governance, E-Government, G to B, G to C, G to E and G to G.

1. INTRODUCTION
In the present world, Computers, IT and ICT have completely revolutionized the world of communication. Since this technology has no Geographical boundaries and Barriers, the prominence is enjoyed by one and all. Thereby, it becomes imperative that some effects of this phenomenon on the governance practices also. All these technologies comprise and the new term or technology derived in the name E-Governance [1]. It is clear that without the involvement or implementation of these technologies E-Governance is impossible. In Fig 1 we had shown the use if E-governance and its significance in peoples life. The significance of the E-Governance has proved that it become the best way for governments to provide people with more convenient access to government information and services. We can see our E-Governance future with the help of diagram:
An E-Government generally uses Information technology with Internet to deliver public services in a much more convenient, cost effective and better & easy manner. The E-Government's E-Governance system will help to meet citizen expectations by improving the relationship with them in cheap cost in an efficient manner which leads to the economic and other development of the area specified. The E-Government's E-Governance by using the Internet not only cut the cost of processing transactions to reduce the use of paper and printing, mailing and personnel, but also emerges online transactions.
which streamline the processes and lead to greater efficiencies with less human interaction.

![Diagram showing Youth, Family, Student, Old Age, Employment Services, Registration, Private License, Passport visa, School Admissions, E-learning, Examination Results, Agriculture, Land record, Property, registration, Marriage certificate, taxes, utility service, Pension, Insurance, Health Care, Death Certificate, Birth certificate]

**Fig. 1**

**2. ICT FOR GOOD GOVERNANCE**

ICT stands for information and communication technology and is defined, for the purposes of this primer, as “a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.”[2] ICT refers to a broad use of computers, communication equipment and its services related with them. Apart from computer, the Telephone system is required to broadcast or communicate the information through networking. Hence the networking plays a major role in the part of Communication to spread and utilize the Communication Technology. And this comprises the Information Communication Technology which influences the social life of human being and thus the entire Society. For a smooth delivery of Government Services, exchange of information, communication transactions and to integrate various systems together in E-Governance, Information and Communication Technology (ICT) is applied [3]. The ICT also helps the E-Governance to give services between Government and Business (G2B), Government and Citizens (G2C), Government and Employees (G2E) and Government and Government (G2G). The Government though the E-Governance, services will be made available to the citizens in a convenient, efficient and transparent manner. Due to this, the Government motivates the employees for delivering the services through ICT and promotes IT.

Enabling E-Governance through ICT for Good Governance, Smooth Administration, the development of individual and Nation, to empower the awareness and welfare of Citizens and finally to prove the efficiency and transparency of the Government. All these are achievable with the help of IT and ICT only. E-Governance is defined by various ways by many experts. Though the definition varies from each other, the content of them are same like “E-Governance is a process which function automatically and provide interaction with the Government and Citizen through Information Communication Technology (ICT).” Many people think that E-Governance is solely about delivering government services over the Internet and they anecdote without internet E-Governance is impossible. To certain extent it is true that the internet has a significance role in the implementation of E-Governance, when it is depended only on Computer based E-Governance. Some measures and models are suggested in this paper that without the usage of internet, E-Governance is defined by various ways by many experts. Though the definitions varies from each other the content of them are same like “E-Governance is a process which function automatically and provide interaction with the Government and Citizen through Information Communication Technology (ICT)” is possible. [4]

**3. INEVITABILITY & IMPLEMENTATION OF E-GOVERNANCE**

People expect the latest or updated level of services from government as they do from other private organizations increasingly. The agencies of government, business and civil society functions and extend the services to the general public they perform. Hence, throughout the world, governments, businesses and NGOs working together to adopt E-Governance, this interacts citizens and allows them to participate in their functions. [5] E-Governance inevitably also embraces new models like policy formulation, new forms of citizenship, new patterns of relationship and power, new options for economic development etc. Moreover, E-Governance, has evolved as an information-age model of governance that seeks to realize processes and structures for connecting the possibilities of Information and Communication Technologies (ICTs) at various Governments, public sector and NGO’s to enhance good governance. Information Technology (IT) is becoming the critical agent of change, the availability of a new digital infrastructure and the Internet’s impact also changing set of public expectations. The technologies bridge each other and help to create a more transparent government, if required an opinion poll in implementing new policies, allowing voters to immediately evaluating their representation in the policy making, ministerial decisions and ultimately the E-Governance. In the election process also the E-Governance may be incorporated. E-Governance helps voters better decide whom...
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to vote to elect the public servants. This procedure may help the public servant to be more service orient and dedicated to the general public. The Government can move towards a true democracy with the application of E-Government. [6]. This will establish the flow of information between the government and citizens of a nation through the implementation of E-Governance only. When the citizens become informative about the activities of Government, then they can enjoy faster, effective and timely government services. This will help to sprout up the culture of self-service wherein citizens can help themselves wherever and whenever required in an intelligent or meaningful manner. This will lead the government to take decision on policy matters only in the benefit of the citizen but also in favor of the government itself. Hence the government could focus its resources where they are needed the most.

The primary goal of E-Government is Government to Citizen (G to C) which facilitates citizen interaction with government easily. Thus, the G to C initiatives is better government through improved efficiency and more reliable outcomes and these attempts to make transactions, such as payment of taxes, renewing licenses and applying for certain benefits, less time consuming and easy to carry out. G to C initiatives strive to enhance access to public information through the use of websites and kiosks also. Government to Business (G to B) sector includes both the procurement of goods and services by the government as well as the sale of surplus government goods to the public on line i.e. using the electronic means. G to B is being encouraged by the governmental agencies. Government-to-employees (G2E) is the real time interactions through fast communication tools between government units and their employees. G2E is an effective and instant way to provide E-learning and information to the employees. G2E bring them together and to promote knowledge sharing among them. It makes the employee aware about the compensation and benefit policies, training and learning opportunities and many other important things related with them.

A clear cut and well defined Information Technology policy is required what is to be made available and what not to the public. Right to Information (RTI) in India can be an example for this. The emphasis of good E-Governance should be on creating a more equitable society by reducing the gap between the rich and the poor.

4. PAY BACK & DRAWBACK OF E-GOVERNANCE
E-Governance aims to enhance access to and delivery of government services to benefit citizens. It aims to help strengthen government’s drive toward effective governance and increased transparency to better manage a country’s social and economic resources for development. E-Governance offers a new way forward, helping improve government processes, connect citizens, and build interactions with and within a civil society. A good E-Governance for development achieves Automation of all types of transmitting information, Informatisation of current human-executed processes involving transmitting information like the automation of existing clerical functions. Finally, Transformation of old methods to new methods for public service delivery.

Increased contact between government and its citizens goes both ways. Once E-Government begins to develop and become more sophisticated, citizens will be forced to interact electronically with the government on a larger scale. Use of paper documents should be reduced which also saves the environment. [7]. Individuals with disabilities or conditions no longer have to be mobile to be active in government and can be in the comfort of their own homes. Presently, government Web sites provide customers with access to government information, allow simple transactions, and provide links to other relevant agencies.

There is no any disadvantage of E-Governance as such to be mentioned. But some people point out that due to the increased contact between government and its citizens it may harm the citizen. Once E-Government begins to develop and become more sophisticated, citizens will be forced to interact electronically with the government on a larger scale. This could potentially lead to a lack of privacy for civilians as their government obtains more and more information on them. Gradually With the speed that technology continues to increase, it has become economically feasible for government agencies to implement all measures of surveillance.

Hyper-Surveillance has become a part of our everyday lives. It is commonly found in the form of traffic or red light cameras in the more busy intersections. There isn’t a day that goes by where we aren’t monitored with some form of technology. Security cameras in our local supermarket are recording our presence; the firewall at our work is monitoring the web sites we visit, and in some cases, emails are monitored for key words that could be considered offensive.

5. E-GOVERNANCE CHALLENGES IN INDIAN PERSPECTIVE
E-Governance in India is in the growing stage. In India E-Governance started doing successively since 80’s the main applications areas were defense, economic monitoring, elections, census, tax administration etc. The efforts of the National Informatics Center (NIC) to connect all the district headquarters during the eighties was a watershed. From the early nineties, E-Governance has been used urban and some rural areas taking inputs from NGOs and private sector as well. DFID, G-8, UNDP, WB are the major agencies who promoted E-Governance for development in India. Central and many State Governments are implementing E-Governance for their easy governance and to involve the business class and the citizens policy making etc.

In the initial stage, the importance has been given on automation and computerization. Various Government departments have been commenced to promote E-Governance. Central and State endeavors used networking, setting up systems for processing information and delivering services etc. These individual departments established innovations in the area of electronic file handling, access to entitlements, public
grievance systems, service delivery, transactions such as payment of bills, tax collection etc. The Central and State administrations, customs, ports, the public tax system and education system were the pioneers in E-Governance India. A number of state governments implemented E-Governance initiatives aimed at cost effectively taking various facilities to citizens. The National E-Governance Plan of The Indian Government is providing the impetus for long-term growth of E-Governance within the country.

In India Central and State Governments are already introduced many online projects under the E-Governance scheme. Some of the important projects include Income Tax, Passport, Central Excise, Pensions, Land Records, Road Transport, Gram Panchayats, Employment Exchange and E-Courts. Chief Ministers like Chandrababu Naidu and S.M. Krishna, has promoted E-Governance in their term at maximum level. They used E-Governance for political success.

More than 80 percent of the world population lives in developing counties including India. India is a developing country with a population of about 1.2 billion spread over 28 geographically uneven states. People speak different languages and dialects; have different literacy levels and distinct socio-cultural attitudes that have affected not only economic progress but all development. Broad outcome of E-Governance like transparency and citizen-centric government is not new to India. In the conventional method, people are forced to move from one department to another, from one table to another in order to get their work done. While initiatives for E-Governance have been initiated from various directions, they are often at cross-purposes and so repetitive and wasteful.

The fundamental strategic challenge faced is e-Readiness for E-Governance by the rural people. Literacy, e-Literacy and digital divide are the major challenges which choke the development of the nation. For any E-Government and its E-Governance, Internet plays a vital role in the path of development. Even though the Internet has significant role in the E-Governance, the development is possible without Internet also. As stated earlier Literacy, that too e-Literacy level influence these programme in wide manner. The Central and State government has been working to bridge the wide "digital divide" between urban and rural areas caused by imbalances in Internet access and information literacy. In India's underdeveloped countryside, the lack of popularity of the Internet, which has long been recognized as a critical base for E-Governance, has presented considerable challenges to the government in delivering effective public services.

More than 60 percent of the populations are rural residents, accounting for over more than half the country's total population. Despite several efforts in recent years, weak infrastructure and poor education levels of the rural population have continued to hamper the promotion of the Internet in the countryside. Therefore, the government was now exploring different and more pragmatic methods to improve E-Governance in these areas, rather than merely trying to spread the use of the Internet. It is being encouraged that our local sectors to make the best use of telephones and televisions. The difficulties in accessing the Internet have slowed down rural residents from enjoying the public services provided by the government in comparison with urban areas. The governments are trying to set up a service centers equipped with computers and instructors to teach rural people with the basics of the Internet and computer and trying to ensure the easy access of Internet in rural area as in urban areas to promote E-Governance. Reduction in the digital divide gap will surely promote the hurdles of E-Governance.

6. E-Governance - Achievements and Breakdowns

"The most power weapon on earth is public opinion – never forget that” [8] is a famous quote of Paul Courser who has always given preference for the public opinion before coming to any conclusion. Recent government policy updates have seen a shift away from E-Government towards a much more radical focus on transforming the whole relationship between the public sector and users of public services. This new approach is referred to as Transformational Government. Transformation programmes differ from traditional Government programmes. E-Government projects in developing countries are usually driven by individual government departments that frequently depend upon on the aids from other donors. When the financing ends up, the project also comes to a halt. Most of the people in developing courtiers do not have access to information and communication technology, even they have complete infrastructure with them. This is also one of the important cause for digital divide causing a large gap between the educated who can afford technology where the undedicated poor who cannot.

A study conducted through a questionnaire by the researchers in Multai district and nearby villages of Madhya Pradesh revealed that 100% people are using TVs, the use of mobile is 84% but only 42% people are using Computer. Only one third computer user has the internet connection. On the other hand the level of awareness for E-Governance is only 19%. But 76% people are interested to learn about E-Governance and its services.

An efficient & speedy decision making can contribute significantly for overall development of the country. The E-governance is good and beneficial for the country, as it may reduce substantial time required, for information transfer. Central Government and many State Governments initiated various E-Governance programmes at their level in the recent past. Maharashtra, Gujrat, Kerala, Haryana, Madhya Pradesh, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and some few States of Northern and Eastern India have to tell many success stories of E-Governance. These States have failure stories also. Some of the State governments of India gave poor response to the initialization of Centre's E-Governance proposal. However, according to a survey, done in few years back, on E-Government initiatives in developing/transitional countries only 15 percent of E-Government projects can be termed as
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successful with 35 percent as total failures and 55 percent as partial failures. SAI India, over the last four years, has conducted numerous audits of E-Governance projects with the scope ranging from evaluating the system development methodology to the overall performance in terms of the achievement of objectives. The yielded results focus that the issue of E-Governance is much more than a technological initiatives. There were a number of reasons for E-Governance projects falling short of expectations [9].

7. MAJOR REASONS FOR BREAK DOWN

The digital divide is one major cause of the failure of the E-Governance in India. There is always the risk of the implementation of E-Governance projects being so prioritized as to benefit only a certain section(s) of the society. Additionally E-Governance delivery mechanism may not account for the existing digital divide. This would cause even the most well intended initiatives not achieving the objectives. The fact remains that without bridging the digital divide E-Governance projects may not gain critical mass to be effective. The main components of successful E-Governance implementation are end-users need identification, Business Process Modification, Use of Information Technology and finally committed government. Deficiency in any of these would lead in the failure of E-Governance projects and their objectives. E-Governance project failed in India because of lack of proper IT education. More than 60% people live in rural areas that do not have e-literacy, and they can not understand and operate E-Governance system. Main reason for failure of E-Governance is lack of education among people. A variety of reasons exist for the failure of projects include lack of Proper IT Education, e-awareness, Time Frame, Training and support after the completion of the atomization, No proper vigilance on the phase wise developments by the competent authorities. Indian Politics, lack of interest in taking training by the Government employees also a major reason for the failure of E-Governance project in India.

8. E-GOVERNANCE POLICIES OF MP.

Madhya Pradesh Government has also implemented various schemes and policies supporting E-Governance in the State. A good motto for E-Government is think big, start small and scale fast. Gyandoot, Gramsampark are some of the successful e-projects initiated by the Madhya Pradesh Government. There are many other small projects also initiated by the Government.

The Gyandoot [10] project was initiated in Dhar district of Madhya Pradesh in January 2000, as an e-governance activity. The objective of the project is providing useful information to people in rural areas, and also to act as an interface between the government and people. The Gyandoot project is based on a computer network project. A total of thirty-five Gyandoot cyber kiosks operated in the entire Dhar district which is known as Soochanalayas. Every Soochanalaya has telephone connectivity working under the Intranet system.

Gramsampark [11] is a flagship ICT product of the state of Madhya Pradesh. A complete database of available resources, basic amenities, beneficiaries of government programmes and public grievances in all the 51,000 villages of Madhya Pradesh can be obtained by accessing the website www.mp.nic.in/gramsampark/. Gramsampark has three sections-Gram Paridrashya (village scenario), Samasya Nivaran (grievance redress) and Gram Prahari (village sentinel).

CONCLUSION

While E-Government is often thought of as "online government" or "Internet-based government," many non-Internet "electronic government" technologies can be used in this context. As specified earlier, for E-Governance internet is not only the back bone, but other non-Internet forms of Information Communication Technologies like TV, Cable Services, CCTV, Telephone, Fax, PDA, SMS text messaging, MMS, wireless networks and services, Bluetooth, tracking systems, RFID, biometric identification, road traffic management and regulatory enforcement, identity cards, email, online community facilities, newsgroups and electronic mailing lists, online chat, and instant messaging technologies etc. are also perform significant role in E-Governance. By availling the above service to the public, with details of government activities and providing them with venues to actively participate in these activities, E-Government can compel officials to be more transparent and accountable for their actions and decisions, as well as to improve not only the delivery of services but also the quality of these services

The study proposes to use both primary and secondary sources of information. The notified policies, reports and published research work would be used in the study as a secondary source of information. The present research is an attempt to identify and establish linkages between the factors responsible for creating a conductive environment for effective and successful implementation of E-Governance and factors relating to Good Governance Issues & Challenges. The paper focused on the availability and frequency of use of the Services, and priority for improving the service through computerization, use of IT through ICT for E-Governance. The Government may adopt these models for easy E-Governance:

- **Television with Internet:** Through this it will be easy to contact all residents very easily. Digital TV technologies have direct contact to its customers directly who can interact through satellite.

- **ATM like Information Distribution Machine (IDM):** To reduce the use of paper and to save the environment Information Distribution Machine (IDM) may installed at various places like the ATM used for banking. Through this machine, people can access the data or information from the screen for reading which can be noted by the user or a brief format of the information may be printed summarily as the mini statement made available in the as
in the ATM with or without charging which may applicable.

- **Tele Density using Mobile Network:** In the near future, Telephone Communication Technology (Tele Density) may used as the best media to convey the individuals through SMS text messaging, MMS etc. The general public can also reply back easily to the Government through Telephone System.
- **UID:** The Universal Identification Card is also a good media to know the opinion of general public very easily.
- **Usage of GIS technology:** The GIS technology may be very much useful to the farmers to collect various informations for their agriculture products.

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