

ICT for Rural Development: Opportunities and Challenges

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Abstract

The Information and Communication Technologies (ICT) are gradually more used by the governments to distribute its services to all the parties - citizens, businesses, and governments. The calculated purpose of e-governance is to maintain and make simpler governance for all parties (government, citizens and businesses). The rural ICT applications try to present the services to citizens at their village access stepladder. These applications use the ICT in present for better and reasonable connectivity and processing solutions. The ICT provide the services to different modes like government to citizen (G-C), government to business (G-B), government to government (G-G) to get better the reach, increase the support, decrease the processing expenses, increase clearness, and drop off the sequence times. The ICT plays a vital role on e-governance for providing better services and proposal for exchanging information, and managing with citizens, businesses, and other arms of government. E-Governance provides a superior approach to reinforce overall governance mainly in the rural areas. By the use of ICT government enhanced their speed for better launching their project to all over the country. Basically ICT provides healthier services to all citizens but it also faces some challenges that can be discussed on this paper.

Keywords: ICT, E-governance, challenges;

INTRODUCTION

The rural ICT applications aim to present the services to citizens at their village access stepladder. The E-governance uses the ICT in present for better and reasonable connectivity and processing solutions. The emergence of ICT has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments. With all these opportunities ICT also have some challenges which is also being discussed below. The concept of e-government started with the advent of government websites in the early 1990s. The system of government is fixed, static hierarchical regulated, whereas web is dynamic, flat and unregulated. Government's function is like enormous, where one hand does not know what the right hand is doing [23]. With the development of Information Technology and increased dependence on the internet as a transaction medium and the development of adequate infrastructure and regulations, government websites soon developed into a highly potential channel for supporting a frontend and back end applications [3].

The emergence of Information and Communications Technology (ICT) has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments.

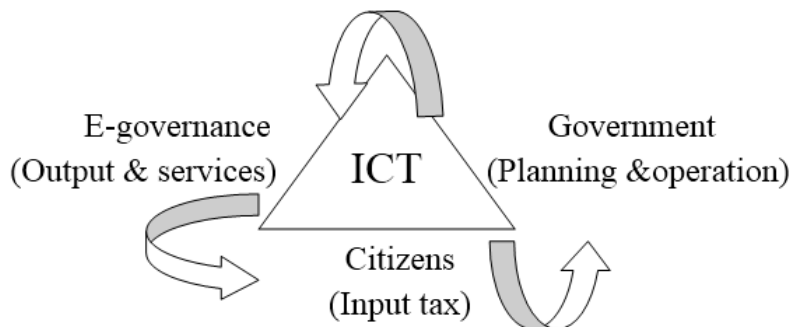


Fig: model of e-governance [7]

These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/ or cost reductions.

BRIEF LITERATURE REVIEW-

Professor Bhatnagar S. Research (2004) has been focused on ICT for development, e-government and e-commerce. He is interested in issues of corruption and how can

help reduce it in the delivery of services on “E-Government : From Vision to Implementation.

Satyanarayana J.(2004), published book “E-Government .. The Science of the Possible”, here he analyzes and define the important principles on e-governance and ICT.

Dr. Sanjay Kumar Dwivedi, Ajay Kumar Bharti(2010) studies the Governments and public sector organizations around the world are facing to reform their public administration organizations and deliver more efficient and cost effective services. E-governance is the effective use of Information & Communication Technology (ICT) to improve the system of governance that is in place, and thus provide better services to the Citizens. e-Governance is considered as a high priority agenda in India, as it is considered to be the only means of taking IT to the “Common Public” and discuss about the basic problems and acceptability of e-Governance in India.

Arijit Ghosh(2011),This paper presents a brief review of the innovative projects in Information and communication technologies for rural development and how far it has contributed. The other aim is to ponder over the achievements and the failures of ICT in the sustainable development march. The analysis also indicates communication related initiatives and projects for development before media liberalization and post media liberalization.

Dr. Pardeep Mittal, Amandeep Kaur(2013), studies the emergence of Information and Communication Technology (ICT) has provided means for faster and better communication, retrieval of data and utilization of information to its users. e-Governance is basically the application of ICT to provide government services to the citizens through internet. This research paper highlights the main challenges related to the implementation of eGovernance in India.

A.Padmapiya (2013),studies to focuses on the initiatives taken by India, ways to build and deliver electronic government services, ways to develop and ensure interdepartmental collaboration and service delivery and critical factors required for successful implementation of egovernance.

Dr. V. Ranga Rao, (2014) proposed a framework for e-government data mining application and presented a case study on common and department’s specific applications of egovernment. The eGDMA is divided into two category first is common application that include grievance management, citizens ID, HRM & project management and second is department’s specific that include agriculture, health, law transport, education and police. This paper also examined various issues and challenges using Data Mining techniques for decision making within the government organizations.

Hosein Jafarkarimi^{1, 2} , Alex Sim² , Robab Saadatdoost^{2,3} , Jee Mei Hee⁴(2014) studies the role of ICT and social media on democratic activities. Some overview of political systems is presented to show its impact on governments’ decision making. At the end of research we suggest some recommendations to enhance the quality of online democratic activities.

ICT AND E-GOVERNANCE:

ICT plays a key role in e-governance, and so it becomes essential that ICT reaches rural masses. This will lead to good governance which in turn will lead to better administration, better interaction, less corruption and more transparency in the government [21].

The government of India recognizes that some good e-Initiatives like e-Governances provide an excellent opportunity for improving governance. It is a trigger for introducing various administrative reforms. This could not only go a long way in improving the quality of life of various sections of society, but could actually provide them more equitable access to economic opportunities ever before. In this context, the Government of India views e-Initiative as a strategic tool for transforming Governance and improving the quality of services provided by the government to its people. The experience in e-Governance/ ICT initiatives has demonstrated significant success in improving accessibility, cutting down costs, reducing corruption, extending help and increased access to un-served groups.

E-Governance is in essence, the application of Information and Communications Technology to government functioning in order to create Simple, Moral, Accountable, Responsive and Transparent (SMART) governance. The types of services possible through e-Governance can be broadly classified into three categories (1) providing information (2) improving processing efficiency and (3) facilitating transactions [15]. E-governance is stand for electronic government and by the use of ICT it provide the interaction between government and citizens (G-C), government and businesses (G-B), and government to government (G-G). In all these modes government applied different policies and rules for completing the task related to the field.

Government to citizen (G to C) facilitates citizen interaction with government, which is primary goal of e-government. This attempts to make transactions, such as payment of taxes, renewing licenses and applying for certain benefits, less time consuming and easy to carry out. Government to citizen initiatives also strives to enhance access to public information through the use of websites and kiosks [14]. 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. There are two motivating forces behind G to B. Currently; the business community prefers to carry out its activities such as sales, procurement, and hiring through electronic means. There are large numbers of software companies, which are producing number of products focusing on performing routine business activities on line[14].

The government to government (G to G) sector represents the backbone of e-government. It is felt that governments at the union, state and local level must enhance and update their own internal systems and procedures before electronic transactions with citizens and business are introduced. Government to government e-government involves sharing data and conducting electronic exchanges between various governmental agencies [14].

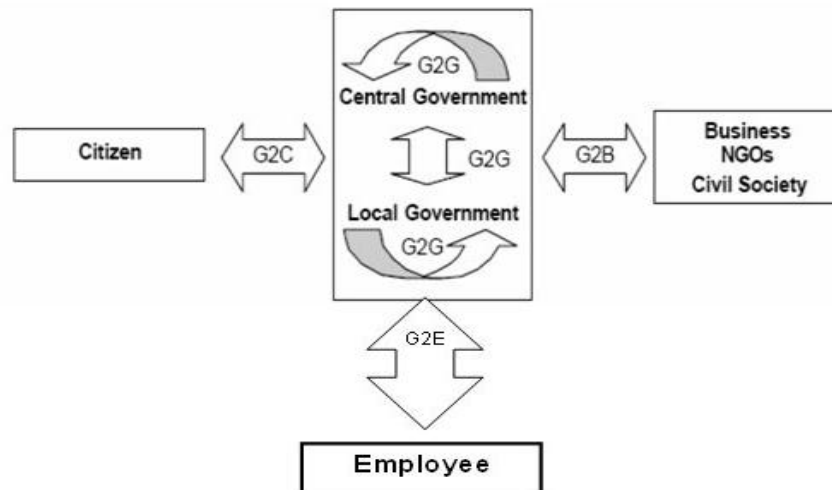


Fig: services of government

CHALLENGES FOR ICT IN RURAL AREA:

Illiteracy:

In India the literacy rate of the rural population is much less than the urban population. The government is creating attempt to growing the literacy rate in rural population but still a large amount of needs to be done as it is far less than the literacy rate in urban population.

Literacy rate in rural areas stand at 68.90% with rural male literacy rate 82.1% and rural female literacy rate 65.5%.Whereas literacy rate in urban areas stand at 85.0%with urban male literacy rate at 88.76% and urban female literacy at 79.11% ^[4].

Technical illiteracy:

There is need of technical literacy as well as literacy in India; there is a connection between education level and use of electronic means or Internet. This is a major drawback in which the users are not technically literate to use the technology. in India, where many of the projects launched by the government like Gyandoot, Bhoomi etc. for rural people but because of the lack of technical awareness they are not capable of using the services provided by the government.

Poverty:

In India the poor people who does great effort for their daily living. To whose accessing the Internet is a costly issue for necessary communications in the form of installing the required telephone lines needed for internet or email access is similarly too exclusive in developing country.

Limited citizens' awareness:

There is common lack of awareness concerning advantages of E-Governance as well as the process mixed up in executing successful G-C, G-G and G-B projects.

Infrastructure:

There is the shortage of required infrastructure like electricity, internet technology and methods of communications will influence the speed which postponed the implementation process.

Discrimination:

There is too much dissimilarity in fast access to public sector services between various divisions of citizens, mainly among urban and rural communities, among the educated and illiterate, and among the rich and poor.

Cost:

Cost is one of the most important exclusive factors that arrives in the path of e-governance success mainly in the developing Country India where majority of the people of whole population living under the poverty line. They do not have the funds for the operating expense of telephone line, internet connections etc.

Hesitate to revolutionize:

People are disinclined to change. As e-governance means transform of the system from manual to computerize based, it is generally disliked by the employees and the general public. People generally hate it as they require to learn new things in it for which they necessitate to give in additional time and effort.

Speed:

On the time of internet accessing, speed plays an important role. But because of the infrastructure, there are the major dissimilarities between the rural and urban area, that's why the speed of internet connectivity is not same to all over the India.

Lack of Participations of Society, Public and Private Sectors:

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 meet the requirements of an e-governance project and hence does not get implemented ^[8].

Privacy and Security:

There will be three basic levels of access exists for e-government stakeholders: no access to a Web service; limited access to a Web-service or full-access to a Web service, however when personal sensitive data exists the formation of the security access policy is a much more complex process with legal consideration ^[26]. On the time of execution of e-government projects successful procedures must be taken to guard receptive private information. A lack of comprehensive security standards and protocols can limit the development of projects that contain sensitive information.

Language Dominance:

The dominance of English on the internet bounds the access of non-English-speaking population. In the case of India, mostly population does speak Hindi. Due to such irresistible domination of English over these communication channels, computers and the internet are relatively useless in Indian villages' populations.

Funding issues:

All over the world, governments provided fund for the select pilot projects on E-governance, including projects such as public works, government services, and human resources. The actual challenge for the government is to set off regarding funding the complete variety of schemes in order to achieve the goal of E-governance. One idea is that the related department has to come up with sufficient fund by themselves. Other issue is utilizing the available resources both in the plan sector and outside it. In the next stage every village will be connected via wireless and dial up access. Accordingly, each state government is imagined to make stronger the infrastructure in this way for the project of E-governance.

Trust:

Trust can be defined along two dimensions: as an assessment of a current situation, or as an innate personality trait or predisposition [8]. The implementation of public administration functions via e-government requires the presence of two levels of trust. The first is that the user must be confident, comfortable and trusting of the tool or technology with which they will interact. The second dimension of trust pertains to trust of the government [16]. There has to be a balance between ensuring that a system prevents fraudulent transactions and the burden that extensive checks can take place on people who are honest. [22]. recently, confidential information on military veterans was compromised when a computer containing their personal information was lost. This type of incident can erode trust and user confidence in government systems. Trust, along with financial security, are two critical factors limiting the adoption of e-government services [10].

Resistance to change:

The innovation diffusion theory states that over time an innovation will diffuse through a population, and the rate of adoption will vary between those who adopt early - referred to as -early adopters and to those who adopt the innovation much later, referred to as laggards [17]. The resistant to change phenomenon can explain much of the hesitation that occurs on the part of constituents in moving from a paper based to a Web-based system for interacting with government. Citizens, employees and businesses can all have their biases with respect to how transactions should be processed. However, government entities and public policy administrators cannot ignore the changes that occur as a result of the implementation of information and communication technology (ICT). In the early 1990s [9] identified the important role that ICT would have in shaping public policy, and cautioned both rich and poor governments about neglecting its significance. Education about the value of the new systems is one step toward reducing some of the existing resistance. It can also be particularly useful for a leader or manager, to buy into the new system at an early stage in the adoption process [16].

Digital Divide:

The digital divide refers to the separation that exists between individuals, communities, and businesses that have access to information technology and those that do not have such access [16]. Social, economic, infrastructural and ethno-linguistic indicators provide explanations for the presence of the digital divide [2]. Economic poverty is closely related to limited information technology resources [20]. An individual living below poverty line does not afford a computer for himself to harness the benefits of e-government and other online services. As the digital divide narrows, broader adoption of e-government in the public domain becomes possible. Economic poverty is not the only cause of digital divide. It can also be caused by the lack of awareness among the people. Even some of the economic stable people don't know about the scope of e-governance. Awareness can only help to bring users to that service delivery channel once. It cannot guarantee sustained use of the system unless the system is also designed in such a way as to deliver satisfactory outcome. Procedures need to be simplified to deliver concrete benefits and clear guidelines provided to encourage their use by the actual end users and reduce users' dependence on middlemen/ intermediaries [22].

CONCLUSION:

E-Governance not only provides information about various activities of a Government but also involves citizens to participate in government's decision making process. The ICT provide the services to different modes like government to citizen (G-C), government to business (G-B), government to government (G-G) to get better reach. As we know that India had lots of award winning projects but behind this it also faces the no. of challenges for better delivery of information on rural areas which can be

discussed in this paper. According to Skoch consultancy New Delhi [13], 81% citizens report reduction in corruption, 95% find cost of e-governance affordable and 78% favors fast of delivery of services. Therefore we can say that e-Governance is the explanation to the “Good Governance” for the developing country India to minimize corruption provides efficient and effective services to their citizens. ICT acting as a main responsibility in e-governance. This paper describes the use of ICT tools such as internet, mobile computing, and phones by government to streamline processes and transactions, which resulting the no. of impacts for e-governments and citizens like make the working of government more efficient and effective, broadcast the information about government procedures and rules, improve service delivery to citizens and business and other arms of government, and save cost and capture profits.

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