

Bridging the Digital Divide: E-governance Initiatives in India

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Abstract

Advancement in Information and Communication Technology (ICT) and its spread has brought in the concept of digital age. But the inequality in ICT access creates an information gap, termed the digital divide, among those who can access ICT and those who cannot. Indian government has taken many initiatives to bridge the digital inequality in India. E-governance is one of such initiatives which help the poor or disadvantaged people to access the ICT. This paper discusses the concept of digital divide and the major factors contributing to digital divide. It also discusses some of the e-governance projects implemented in India and the role of these projects in bridging the digital divide, thereby explaining how e-governance can actively participate in reducing the digital divide.

Keywords

Digital Divide, Information and Communication Technology, E-governance

Introduction

Advances in Information and Communication Technology (ICT) have completely changed the socio-political landscape of the contemporary society. Applications of new ICT and its ever increasing availability to more and more people have completely transferred the living pattern of the society. It can enhance the interaction among people at local, national and international levels. Also, it can provide new opportunities for those who are literate, having a good education and possessing adequate resources.

Advancement in ICT and its increasing spread has brought the concept of digital age. However, there is a disparity in the level of accessibility to ICT.

Some people have been left out of the information revolution in the digital age. These are the people who have either no access to, or are not equipped to use ICT. The unequal access to the digital information creates a digital gap among the people. Digital gap implies the gap between the people with effective access to information technology and those with very limited or little access (Loan, 2011).

Digital divide

As mentioned above, the gap existing among the people or countries for accessing the digital content is termed as digital divide. Even though, the term digital divide is of recent origin, the phenomenon is definitely not new especially for developing countries like India where the concerns for knowledge gap, inequity of access, highly skewed distribution of ICT in different regions, unequal access to different age groups and the wide gap in use by women and men have long been debated extensively (Joshi, 2001). The term digital divide describes the fact that the world can be divided into people with and without access to ICT as well as their capacity to use modern ICT, such as telephone, television, or the Internet. Thus digital divide exists between people in cities and those in rural areas. It can also exist between the educated and the uneducated, between different economic classes, between genders and even between the more and less industrially developed nations.

Organization of Economic Co-operation and Development (OECD) has given two definitions for the term digital divide as:

1. The gap between individuals, households, business and geographic areas at different socio-economic levels with regard to both their opportunities to access ICT and their use of the Internet for a wide variety of activities".
2. Academic definition of the term digital divide is "the disparity in accessing the technologies and resources of the Information and Communication. The digitization of the economy and the society may produce differences and gap amongst individuals, households, business and geographic areas, rich and poor countries".

The digital divide may exist among institutions in an area who use ICT and those who don't. However, the focus of attention has been on segments of population seen as under-served or socially disadvantaged, low income, rural and multicultural communities and women (Janet Jyothi & Tadasad, 2012).

Factors contributing to digital divide

Barriers to universal access of information are not only about the national availability of technological infrastructure, but also economic, educational and socio cultural. The Indian population consists of different ethnicities, cultures, languages, religions, socio-economic levels and historical experiences. The situation of digital divide in India, is of paramount importance fundamentally because it is a large and pluralistic country. In our country the penetration of ICT also shows enormous disparities due to different factors which are described below.

Infrastructure facility

The people who are in remote and rural areas lack the commercial incentive for undertaking the huge investments required to extend telecommunication infrastructure to power the technology and upgrade and retain advanced infrastructure to keep the technology working, both technically and economically.

Economic factors

New ICT and the human resources to run them cost a great deal of money. The cost for these services is essentially charged from the end users, which in turn makes these inaccessible to most poor people. Cost of new ICT equipments also may not be affordable for low income families.

Education

In India, access to new ICT is dominated by tiny educated, urban elite. Lack of education forms a formidable barrier for an estimated 50% of the population of low income countries. Direct use of modern ICT usually requires higher literary skills and better English language. Currently only a very few percentage of schools in India possess IT labs. Thus illiteracy forms a major factor contributing to digital divide.

Socio-cultural barriers

Socio-cultural barriers refer to the factors that can cause individuals (or society) to 'self-exclude' themselves from participation in ICT. These factors can encompass everything from how machines are perceived, to perceptions of accessible space and insecurities based on social category or even age. [Pannu & Tomer, 2010]

Language

The number of Indians fluent in English language has increased steadily over the last decade or so. However, the overall per cent of Indians knowing English well remains a minuscule. As most of the content in the Internet is in English language, it remains inaccessible to a large number of people in India.

Gender difference

In India, new technologies like the Internet, mobile devices and electronic sources are utilized largely by men. The status of women is improving only among the middle class in urban society. Progress for the lower class is rather very slow. Men, in general, are more comfortable with the technological innovations while women follow and take over the position vacated by men. Further, the male dominated society often makes prejudices regarding the ability of women to learn and use the new technology.

Psychological barriers

Lack of motivation or interest towards technology also results in the gap in digital access. Some people often show negative attitude towards technology. Technophobia and the anxiety towards using technology can lead to hesitation in accepting new technological innovations among some people.

Geographical barriers (rural/urban division)

Spreading of new ICT is usually adopted first in central parts of more populous cities and then slowly disperses to its peripheral regions and then to rural areas. The major issues in providing new technologies to rural areas are the high infrastructure costs, lower average wages and a lower likelihood of jobs in rural areas using computers. Among the urban population the usage of the Internet is significantly higher than among the population in rural areas.

Generation gap

Generation gap is also playing a major role in digital divide. Today millions of people are communicating through the Internet. The youngsters are using the Internet early in their lives and are regular users of modern technology, while aged people saw the Internet in later stage of their professional lives and their Internet use is limited or rather poor (Chopra, 2010).

Bridging the digital divide in India

Many projects are initiated to bridge the digital divide in the country. Government of India promotes Telecom services to rural people in order to provide accessibility to public telephone service by World Wide Web technology. Now all states have a sudden resurgence in thinking and are coming to vital decisions to boost their IT sectors. Government has also declared IT as one of the thrust areas for the country's development. One of the major initiatives taken by the Government to bridge the digital divide is the implementation of e-governance.

E-governance

There are many barriers for free flow of Information to and among the common people. There are also restrictions to the efficient working of a democratic state. People are not aware of what they want to know about it. In such a scenario, e-governance plays a significant role to take IT to the common public. The reconfiguration of public sector governance with the assistance of ICT has led to the development of e-governance. It can deliver efficient and cost effective services to citizen, using most innovative technologies in ICT. There are different roles played by ICT: such as delivery and standards of government services, facility to provide access of such services to citizen and finally the participation of citizen in the governance sphere.

E-governance is comprising of processes and structures involved in deliverance of electronic services to public, viz. citizen. It is the application of electronic means in the interaction between government (G) and citizens (C) both ways (G2C and C2G), government and business (G2B and B2G), and internal government operation (G2G). The fundamental motivation for the campaign of e-governance in India and elsewhere is a slogan – to provide SMART government - “SMART” being an acronym for simple, moral, accountable, responsive and transparent, a laudable ideal, though it may be difficult to achieve quickly in reality (Prabhu, 2004). Some of the e-governance projects initiated to bridge the digital divide are detailed below.

Bhoomi

Karnataka initiated e-governance service through the Bhoomi project, implemented by its revenue department. This system works with a software by the same name, which is designed by National Information Centre, Bangalore, helping government to provide better management of land records with the help of IT. Major part of this project is funded by the Government of India while some critical components are developed by funding from the state government. This software makes printing of land records as and when required. Bhoomi enables the administrators to generate various reports based on the type of soil, size of land holding, type of crops grown etc. With the help of this information, the administrators can arrive at policy decisions quickly and reliably. It is a fully on line system to carry out mutations on land record data (Prabhu, 2004).

E-seva

The Government of Andhra Pradesh has taken several initiatives in the area of e-governance with a view to take benefits of IT to the common man. E-Seva, one of e-governance initiatives, offers a wide spectrum of citizen friendly services to save citizen the trouble of running around various departments. It provides a one stop venue for services of various state and central government departments in an efficient, reliable, transparent, and integrated manner by easy access through a chain of computerised Integrated Citizen Service Centres (ICSCs). This project renders services to the Citizen through ICSCs and through the Internet. It is a new paradigm in citizen services, to provide online transactions processing of payments along with issue of certificates, permits, licenses and many other services. Thus E-seva Kendras minimise substantially, if not eliminate completely, personal contacts between citizen and bureaucracy.

CARD

Computer Aided Administration of Registration Department (CARD) developed by National Informatics Centre, Hyderabad, is directed at altering the age-old procedures that govern the registration system affecting transfer of immovable properties by way of sale, gift, lease, release, exchange, partition, mortgage and so on. CARD is designed to eliminate maladies affecting the system of registration through electronic delivery of all associated services. Through the CARD project electronic document writing is introduced thereby substantially improving the citizen interface. It enables the registration department to complete registration deeds and return the documents to the public in just a matter of hours. It can also make transparent system of valuation of properties as data are easily accessible to every citizen. Millions of documents have been processed by the system to date (Prabhu, 2004).

APSWAN, Sourkaryan

These are facilities set up by the Government of Andhra Pradesh put forward for enabling its citizens to use IT for their convenience. APSWAN (AP State Wide Area Networks) uses data, voice and video conferencing facilities for

administrative reviews and conferences, distance and online training for government officials, demonstrations of best practices from various departments and even supports fast adaptation of technology from lab to land. This is expected to provide a robust backbone for all government services through voice, data, and video content. Around 6000 government offices spread across the state are now connected to APSWAN. This project also facilitates broadband penetration to rural areas of the state. (ap.gov.in)

Another project implemented by the Andhra Pradesh government is Sourkaryan, which is operational in the port city of Visakhakhpatnam. This project primarily provides facility for citizen to pay property tax online and also to view details of plans and projects of the government and local bodies.

Gyandoot

Literary meaning of Gyandoot is 'knowledge messenger'. It is the first ever projects in India for a rural information network. Gyandoot is an Intranet in Dhar district, Madhya Pradesh connecting rural cyber cafes catering to every day needs of the masses. Its aim is to make use of ICT to rural masses with minimum cost. The model is designed to be economically self reliant as well as self contained so that replicating multiple centres across the state becomes feasible. It also ensures equal access to emerging technologies for the oppressed and exploited segments of the society. The important features are as follows:

Soochanalaya: Every village has a computer centre or 'Soochanalaya' at prominent places. Each Soochanalaya can provide services to about 10-15 Gram Panchayats, 20-30 villages, catering to 20,000-30,000 population. This facility now covers five out of 13 blocks and three out of seven tahsils in the district. Soochanalayas are located at Block head quarters, haat bazaars, village and bus depot centres. For the convenience of general public, these are also located on roadsides. They together serve a population of over half a million.

Multigrade teaching: Through the intranet e-governance programme, some innovative interventions like self learning tools, academic assistance to teachers and students are implemented and made available to the general public, in order to address the problem of multi-grade teaching (Prasad, 2004).

Akshaya

It is a e-literacy project of the Government of Kerala. It is implemented jointly by the Kerala IT mission and Department of Science and Technology, with tie ups with local bodies and voluntary agencies. This innovative project addresses the issues of ICT access, basic skills and availability of relevant content. It can also involve in empowerment of rural areas and economic development of society. This project has a great impact on social, political and economic scenario of the state. It can facilitate online services such as e-vidya online exam, e-krishi, e-payment service, e-district etc. (www.akshya.kerala.gov.in).

The pilot project in Malappuram district had multi-purpose community training centres to train people to handle computers, data entry, desktop publishing, Internet browsing, web based match making, real estate, placements,

etc. (Prasad, 2004). It can also facilitate different transactions between government and its citizen and is implemented across the entire state of Kerala.

FRIENDS (Fast, Reliable, Instant, Network for Disbursement of Services)

It is a project initiated by Kerala state IT mission. FRIENDS centres offer one stop solution thorough front-end approach with IT enabled payment counters accepting different payments to facilitate citizens. These centres are equipped to handle thousands of bills out of different public sector departments and agencies. FRIENDS centres allow the citizens to make payment of utility bills for water, electricity, revenue taxes, license renewal fee, motor vehicle taxes, university fee, etc. Citizens, state government, staff of FRIENDS, participating departments and agencies along with self groups are stake holders of FRIENDS (Neena Singh, 2007).

IT@School and ViCTERS

It is a project of the Department of General Education, Government of Kerala, setup in 2001, helps to foster the IT education in schools and which on a longer term would facilitate ICT enabled education in the state. This project functions on free software platform since it provides freedom to an individual to study, copy, modify and redistribute any content, a process which would ultimately benefit the whole society. The main aim of this project is to empower all school teachers with ICT enabled teaching-learning system. The mission of this project is to create ICT literate community, to improve the quality of education via latest ICT technology, to improve the effectiveness of the entire department through proper e-governance mechanism and to train the teachers in latest ICT innovations. Being the nodal agency for implementing EDUSAT network for education it runs an exclusive channel for education called ViCTERS (Virtual Class-room Technology on Edusat for Rural Schools) which is aired for 17 hours a day- from 6am to 11pm (www.kerala.gov.in).

ViCTERS is running from January 1, 2011. Lakhs of students in the state as well as those in Lakshwadeep and Gulf region who studies the state syllabus can make the benefit of this channel. Any individual from any part of the world can watch and learn through ViCTERS due to its availability on Internet. It is the only channel in Kerala to air specific curriculum based programmes: International programmes on Science and Technology prepared by Deutsche Welle, the German Broadcaster and BBC, and classic India films produced by NFDC. [www.keralaitnews.com]

Lokavani

Lokavani means “voice of masses”. It was started in November 2004 in Sitapur district of Uttar Pradesh. It is a public-private partnership programme in improving governance which facilitates citizens to interact with government without physical involvement. The main aim of Lokavani is to create transparency in decision making and system administration. This project is mainly based on Gyandoot and Janmitra (Rajasthan government initiative). It can also provide an opportunity to technology based jobs and other avenues of employment. It has

provisions for people to inform the government about their grievances/ complaints (Tripathi, 2007).

Vidya Vahini Project

Department of IT and Ministry of Communication made initiative to start this project towards bridging the digital divide. In 2003, the Government launched a school computerisation programme aimed at connecting 60,000 government and aided schools. The main objective of this project is to connect government and government aided or secondary schools for their own intranet and Internet facilities for information exchange. The programme provides the school with computer labs to facilitate IT education, access to Internet, online library, academic services, web broadcast and e-learning (Neena Singh, 2007).

Technology Development for Indian Language Programmes (TDIL)

The Benefit of ICT can get to the common man in India, only after providing the digitized content in their local language. There are 22 official languages and 10 scripts in India, In such a situation, Indian government has to develop tools for processing information in local languages and make available at low cost to common man to participate in a world of digital economy. Government has taken a number of initiatives towards designing proper software, tools, and human machine interface system in Indian languages which can reduce digital divide among illiterate rural population.

E-governance in bridging the digital divide

E-governance can be act as a defining factor in reducing the digital divide in following ways.

1. Regional, national, global integration.
2. Developing legal framework and regulation.
3. Accessing a minimal package of interconnected and interoperable e-services.
4. Developing ICT competency/ Digital competency in a non-discriminatory manner.
5. Providing adequate literacy/ education of less developed regions for the information society and preparing e-readiness.
6. Implementing e-services in under developed regions together with proper technical assistance.
7. Promoting e-learning and developing suitable ICT content.
8. Use of mobile communication as infrastructure for promoting e-service.
9. Increasing transparency and involving public in all aspects of local and national administration process.

10. Improving the quality of life in all its aspects through better e- services and access to knowledge (Stoiciu, 2011).

Conclusion

The major issues in implementation of e-governance are the bridging the digital divide and effective participation of stakeholders. In India, a large number of efforts are taken by both government and non government organisations to provide ample examples of how the ICT can help in bridging the digital divide. Along with the spreading of appropriate technology, there must coexist facilities for training and development in order to provide individuals with appropriate tools and skills to continuously learn and improve. Government must assist the public with access to affordable Internet services to use more e-governance services, so that the extent of digital divide can be minimized. By implementing e-governance in a proper manner, common man, or the neglected class, gets an opportunity to access the vast resources of global information networks to acquire greater wealth and prosperity and can enable them leapfrog over the information gap to get ready for the global networked economy.

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