Dimensions of Digital Divide and Digital Opportunities:
An Indian Scenario

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Abstract
It is undisputed that digital divide is ubiquitous. Despite the constant attempts made to
emerge the gap between information poor and information rich, the digital gap still
exists in India. The present paper at the outset illustrates India’s position in use of
internet and computer technology. Some initiatives taken by Indian government, Non-
Governmental Organisations (NGOs) and library and information centres in India to
help bridging the gap are emphasized. The study also describes the importance of e-
governance implementation to promote digital opportunities. The responsibilities of
library and information professionals are acknowledged and a proposal for libraries to
proactively involve in setting up the directions to overcome digital divide is outlined.

Keywords: Digital divide, Virtual libraries, Role of libraries, E-governance, Internet,
Information and communication technology.

Introduction
India is well known for its unity in diversity. Being a developing country India has a
worldwide reputation in the field of science and technology and socioeconomic development
to a remarkable extent. The present society lives in the “information age” which demands for
information and makes use of information for its development to which India is not an
exception. It is realized that in the modern world, without robust information technology
socioeconomic development of any country would be a mirage. In contrary, there is gap
extending its horizon between information have and have not and this gap is called digital
divide. National Telecommunication and Information Administration (NTIA) outlines such
as, the Digital Divide refers to any inequalities between groups, broadly construed, in terms
of access to, use of, or knowledge of information and communication technologies (NTIA).
According to Information and Communication Technology for Development (ICTD)
definition, Digital divide refers to the gap or imbalance that exists between those who have
access to Information and Communications Technology and also to the unequal access of
resources. The digital divide can exist between those living in rural areas and those living in
urban areas, between the educated and uneducated, between economic classes, and on a
global scale between more and less industrially developed nations (CARICOM).

Objectives
1. To understand the severity of digital divide in India.
2. To review the initiatives taken by government and NGOs in India.

3. To evaluate the role of library and information centres in bridging the gap.
4. To suggest suitable actions to overcome digital divide.

Digital divide is always assessed in terms of the differences in the number of telephones, internet users or computers per head between rich and poor countries. Addressing the roots of the problem that cause digital divide would add more meaning to this study.

In the world’s population, India (1189.17 millions) stands at second position which is 17.17% of the world’s population. Though it is a developing country there are many issues which curb the development of the society. The governments have been striving in futile to provide fundamental needs such as food, shelter, clothing, education which are top priority issues of the impoverished society. The other social problems like unemployment, population explosion, poor communication, and natural calamities have exacerbated the situation.

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**Table 1.** Top 20 Internet users of the World

This undoubtedly has a correlation with the prevalence of digital divide. The situation where people have not been able to get education is leading to disparity in information access. Among the top 20 countries of the world internet users, India is positioned at third place (4.7%) where as China stands first (23%) and United States at second (11.6%) (Table 1). Out
of 1189.17 million of Indian population 68.84% of population is spread over in rural areas. India has 74.04% (Maps of India) of literates in its population according to 2011 census which has been increased by 9 percent comparing with 65.38% in 2001. Among this population the ratio of English literates and computer literates in India is 6% and 6.15% respectively.

**Review of Literature**

The earlier works regarding digital divide gave attention to study it from a socioeconomic view. Cullen (2001) examined to understand the level of digital divide in different countries. The researcher found out the factors caused the disparity in accessing information. Aqili & Moghaddam (2007) in their research gave different dimensions of digital divide. The work signified the role of libraries and information centres in contributing to eradicate digital divide. The work also emphasized the need of unity among information professionals at national and international levels to conquer digital divide. In the study, Huang & Russell (2006) depicted the influential role of technology which was indeed the important part of learning in schools. The results of this work showed how schools can involve technology to enhance the academic achievement. The schools considered for the study demonstrated the need for adoption of technology in curriculum. A number of studies examined the role of libraries and information centres in closing the digital divide. Russell & Huang (2008) attempted to record a new dimension of how substantial role the libraries can play to alleviate digital divide by suggesting a number of dynamic ideas to meet the needs.

Mutula (2005) assessed the status of digital divide in Africa. It discussed the need for the libraries to collaborate with government. The work hoped that, libraries associating with e-government would bring progress in enlarging the access to information. Community Information Centres’ (CIC) vital role in the process of educating on use of information is undeniable. A study described the implementation of such plans in Bangladesh with the help of indigenous CICs. It also brought a thought provoking concept of Community Internet Access points in Bangladesh (Islam & Tsuji, 2011). Gamage & Halpin (2007) extracted a meticulous report on the impact of e-Sri Lanka’s Telecentre Development Programme. The report found that the language was a key hindrance in implementation of digital provision. The work carried out by Singh (2007) gave an outline of the initiatives taken in India to bridge the digital divide. The work also investigated the barriers in Indian society for digital opportunities.

**Is digital divide an inescapable reality?**

Right from the first instance when human realized his own capacity of thinking; the world has been seen from different paradigms. Over thousands of years the modern human has reached the well called ‘knowledge era’. The knowledge era drifting towards the adoption of contemporary technological inventions to match the pace with the uptake of new technologies has become an ongoing process. Even so, there are groups of communities which are deprived from the main stream of the society. It is a reality that even civilized people and educated people are lagging behind to keep themselves upgraded with the latest updates of
technology. It is because of ever existing obsolescence of technology. The newly invented technologies are becoming outdated in a very shorter span of time than it was a few decades ago. The more we pursue to discover the more the leftover portion of knowledge to be discovered.

Over the last six decades there has been a considerable increase in the literacy rate in India. According to 2011 census the literacy rate of the total population is 74% which was just 18.3% in 1951 (Figure1). The discovered possibilities indicate that there would be an escape from the digital divide to achieve which, it requires the convergence of government, NGOs and information professionals. Though the literacy rate in rural India is not very convincing, in a few upcoming years it is expected to fill the gap.

![Figure 1. Literacy Rate in India (1951 - 2011)](image)

**Barriers to bridge the digital gap**

The barriers for the information access and digital literacy are the issues which are essentially to be addressed when talking about digital divide. Even in this digital age we still get to see many Indian villages without electricity and telephone line due to which, wiring the remote places and building vigorous infrastructure are unsuccessful. Because of the over population explosion, it has been difficult for governments to provide the required fundamental facilities and education. Even geographical factors and transport divide have separated the communities living in remote places from mainstream of the society. As most of the information sources across the world are recorded in English language, people who are not English literates are likely to be deprived from information literacy. The linguistic diversity has been a crucial impediment in balancing information access. English is the most used (26.80%) language in the internet (Figure 2).
Merely being educated does not make an individual a technological savvy and there is a requirement of providing knowledge and training on Information and Communication Technology (ICT) skills for the successful equalization to information access.

Economic divide has made particular part of the society unable to have information access as they cannot afford it. The equipments and facilities for accessing information through computer are not as inexpensive as the other mode of information. Printing divide and access divide on the other hand are being obstacles for an equitable system for information purvey. Lack of political stability contributes to sustain the digital divide where as lack of government initiatives indirectly help increasing the digital gap. According to a study (Ravi, 2008), digital divide is the result of many other divides existing in the human society. The
digital divide is the tip of an ice berg and the core problems (Figure 3) lie in the root that of many other inequalities to be tackled.

**Virtual libraries as barrier breakers**

The concept of virtual libraries plays a substantial role to overcome digital divide as the “library without walls” gets opportunities from all the directions for the users to have access to information irrespective of geographical areas. There is a need for redesigning the library services in a digital environment according to the understanding levels of underprivileged users at different phases. To attain this, trained Library and information Science (LIS) professionals expected to play the role not only as an information manager, but also as a technological educator. The advent of digital contents has the affect of narrowing the digital divide rather than exacerbating the information divide (Obeidat & Genoni, 2010).

In the information era, librarians have been responsible to play an influential role in bridging the gap between wired citizens and technologically destitute. As Rainie (2006) articulates, the upcoming years will be the librarians’ age for the following reasons:

1. Nobody knows better than librarians how to manage and track down the information.
2. Nobody knows better than librarians about the importance of information standards – common ways to categorize, sort, and act on things.
3. The information given by librarians has more credibility than any other sources in the society.
4. Nobody is in a better position than librarians to teach people about information and media literacy.
5. Nobody is in a better position to be a watchdog of new systems of sorting information than librarians.
6. Nobody is in a better position than librarians to teach the world about the history and built-in wisdom of credibility-assessment systems.
7. Nobody is in better shape to play a thoughtful, constructive role in debates about the value of information “property” and the meaning of copyright in an age where it takes a couple of minutes to download a brand new movie on Bit Torrent – for free.
8. Nobody can be as constructive in helping society think through the new norms and even new laws it needs to develop about what information is public and what is private.

**How e-governance helps?**

The concept of e-governance has the ability to support to alleviate digital divide. The application of e-governance helps to reduce costs, inefficiency, inconvenience and ineffectiveness in service delivery (Mutula, 2005). Though e-governance is gaining importance to a great extent in the recent years, due to many reasons like delays and changes in functionaries, shortages in money, lack of motivation, lack of coordination between departments of government, projects tying to election cycles and so on, many of the Indian government projects are not being successful to the expected level (Bist, 2007). The essentiality of e-governance can be defended for the following reasons:
• The more the government implements technology its everyday work, the more the citizens’ involvement will be in learning and using technology.
• The associated activities of government such as recruitment, online examination, surveys and tax payment happen through computer and internet technology brings more accuracy in work and considerably shortens the process time and cost.
• E-bill, e-commerce and e-banking are giving new dimensions to the banking sector with great easement for the customers.
• Democratic countries like India have a great benefit through e-governance where the administration and decision making take place transparently. Involvement and integration of people in crucial decision making for the enhancement of socioeconomic development has been easier than ever through ICTs as they provide a common platform for all to be able to partake.
• E-governance intensifies the direct communication between bureaucrats and common citizen. Makes the different integration of information from different corners of the society.
• With e-governance Right to Information Act (RTI) which has become a right of Indian citizen may be implemented without obstructions.

Some initiatives taken in India to bridge the digital divide

Soukaryam
It is a project initiated by Andhra Pradesh (A.P.) government at district level which has enabled the citizens to pay property taxes online. As an extended facility it also gives details of plans and projects of the government and local bodies. e-seva is another online real time integrated service delivered through several counters to deal with utility payment of electricity and water, property tax, registration of birth and death, issue of birth and death certificates & reservation of Andhra Pradesh State Road Transport Corporation (APSRTC) tickets.

Computer aided Administration of Registration Department (CARD) project includes about 387 computerized sub-registrar offices of A.P. are delivering services with land registration and getting encumbrance certificates, market value assistance. E-procurement is a project of A.P. through which the process of procurement activities between government and vendors/suppliers happen electronically. Citizen Friendly Services of Transport Department (CFST), a project of A.P. government provides easy, rapid and transparent services by issuing learning licenses, driving licenses and registering vehicles (CSDMS).

Bhoomi Project
It is a project by Karnataka government with the technical assistance from National Informatics Centre (NIC), Bangalore for managing online delivery and management of land records. The BHOOMI has computerized 20 million records of land ownership of 6.7 million farmers under this project. Each and every land record in the state can be viewed through this
facility. This project has made the process transparency and avoids delay for the farmers that could happen to get in touch with bureaucratic hierarchy.

**Kisan Call Centre (KCC)**

KCC, a call centre, conceived by Department of Agriculture & Cooperation (DAC), Ministry of Agriculture, Government of India (GOI), launched in 2004 across India. The project is delivering tremendous services by addressing the queries related to agriculture and providing information to farmers through call centres in their local language (Bansode & Patil, 2011). The KCC has involved agricultural specialists to answer the queries round the clock. The farming communities are indeed benefited from KCC as it proceeds with the escalation of the matters to the core specialised teams which are highly competent enough to answer critical queries, when the farmers are not satisfied with the available information.

**Gyandoot**

Gyandoot is a pioneer project implemented in Dhar district of Madhya Pradesh (M.P.). Through Gyandoot intranet, rural cybercafes are placed at certain places like market and major roads where people can obtain information pertaining to agriculture. The information is also made globally accessible on an official website. The computers in the network have been established in Gram Panchayats (Village Committee). Kiosks called “Soochanalayas”, offer user-charge-based services to the rural people. The attempts are also being made to make the land records accessible through intranet for the review, which is already in pipeline. The project encompasses many computer based services like rural e-mail facility, assistance with online auction of agricultural equipments, e-education where content developed for rural school children based on their curricula, provision of employment news and so on (Gyandoot).

**Fast Reliable Instant Efficient Network for Disbursement of Services (FRIENDS)**

Through a single-window facility under FRIENDS project citizens of Kerala can make Government related transactions at ease and comfort which saves the time of the citizens. All kinds of utility bills including tax payment are now made easy through FRIENDS. Some of the braches of FRIENDS even provide railway ticket booking facility. It is a noteworthy attempt that has earned the benchmark International Organisation for Standardisation (ISO) 9001:2000 certifications for encouraging the citizens of Kerala to transact through ICT for their daily needs. Most of the departments of Kerala government have adopted ICT applications in their services with the help of Kerala State Information Technology Mission (KSITM) which is an autonomous nodal of Department of Information Technology set up for implementation of e-governance and to support to the various initiatives (IT Mission, Kerala).

**Lokamitra**
Lokamitra has been a successful project implemented by Himachal Pradesh government as a part of e-governance. It facilitates the citizens to get the latest government information at their door steps through “soochanalayas”, the information centres sponsored by National Bank for Agriculture and Rural Development (NABARD) located at all major parts of the state including remote areas (Lokamitra).

**Technology Development for Indian Languages (TDIL)**

To develop Information Processing modules for facilitating human-machine interaction to overcome language barrier, this programme was conceived by Department of Information Technology, Ministry of Communication and Information Technology, GOI. It aims to create access and integrate multilingual knowledge resources through novel user products and services. As an extension of the programme, language technology standardization at national and international levels is being achieved with the association of ISO, UNICODE (Unique Universal and Uniform character encoding), World-wide-Web consortium (W3C) and BIS (Bureau of Indian Standards) (TDIL).

**Initiative B@bel**

It is an initiative by United Nations Educational, Scientific and Cultural Organisation (UNESCO) to provide access to information by promoting linguistic and cultural diversity in Cyberspace. This concept uses ICTs to support to protect and preserve the languages in danger of disappearance by promoting multilingualism on the Internet. Initiative B@bel is a step towards reducing linguistic barriers to information and is promoting universal information access, which intern caters the needs for bridging the digital divide (Initiative babel).

**E-Chaupal**

E-Choupal is one of the largest initiatives by Indian Tobacco Company (I.T.C.) Limited in 2000 which has been productively reaching its goal by providing information to farming community about market prices, scientific farm practices in their local languages. Sale of farm inputs and purchase of farm produce from the farmers’ doorsteps are the other aspects which e-chaupal assists the farming community with. The service is rendered over 40,000 villages through 6,500 kiosks across ten states of India viz. M.P., Haryana, Uttarakhand, Karnataka, A.P., Uttar Pradesh, Rajasthan, Maharashtra, Kerala and Tamil Nadu. It is learnt that about four million people are benefitted out of this project (E-Chaupal).

**Some efforts made by library and information sector**

Library networks such as Kolkatta Library Network (CALIBNET), Information and Library Network (INFLIBNET) and Developing Library Network, Delhi (DELNET) are giving new dimensions to resource sharing and collection enhancement by broadening the prospects of accessibility. The modern libraries are equipped with professionally trained library staffs who are well technology literates. Governments can utilise such information professionals to implement the designed plans for providing digital opportunities to the technologically
deprived. The process also requires the NGOs’ support for the implementation. Government as the head of the process with the help of NGOs and library professionals takes initiative at the first level to design the program and providing entailed infrastructure and sources. NGOs and libraries will continue the process where the actual implementation will take place. Libraries have a special responsibility to proactively approach the governments and help them to set their directions. The forth coming specific paragraphs describe some initiatives by library and information organisations.

- As the result of the planning commission 1984, the pivotal role of libraries were comprehended thus as a component of seventh five year plan, the government took initiative to network the libraries. Consequently the biggest library network, the INFLIBNET came into the picture by the university grants commission (UGC). Since then, UGC has been encouraging the universities to computerise their libraries by providing sufficient funds through National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research (DSIR). Due to the constant endeavours by UGC many successful projects like CALIBNET, MALIBNET (Madras Library Network), DELNET, PUNET (Pune Library Network), BONET (Bombay Library Network) and Ahmadabad Library Network are now in existence (Sing, 2007).

- In a project initiated by GOI in association with Centre for Advanced Computing (C-DAC), it was aimed to bring about one million digital books to the doorsteps of common citizens through a mobile van with satellite Internet connections, printers, scanners, cutters and binding materials for providing books in bound form to the underprivileged. The ultimate intention of this project was to help to avert the digital gap.

- Muktabodha Digital library project intends to preserve rare Sanskrit manuscripts and texts in multiple digital formats which are intern accessible through website worldwide. Bringing the tacit knowledge into global access has been a reality through this project. The huge catalogued repository of digitized Vedic manuscripts is made searchable through online public access catalogue (OPAC) (Muktabodha).

- Gaudiya Grantha Mandira is a similar project started by a number of volunteers aims to collect, edit, and make available online the important and often rare Sanskrit and Bengali texts that belong to the Caitanya Vaisnava tradition. The repository contains carefully edited and proofread editions of the whole corpus of Caitanya Vaisnava texts and many other important Sanskrit texts from other traditions and fields of study. The website even provides forums where the users can participate in the discussion for the knowledge enhancement. Any user who has the knowledge of Sanskrit and Bengali can contribute to build the knowledge repository (Granthamandir).

- Vidyanidhi has been a remarkable project sponsored by NISSAT, DSIR, GOI. Vidyanidhi is being able to provide about 100,000 Indian theses metadata and 5,000 full-text doctoral records. The speciality of this project is to provide theses in a few Indian languages like Kannada, Hindi, Telugu and Urdu over the website (Vidyanidhi).
As per the government initiation, the National Science Digital Library Project (NSDL) was envisaged in 2004 to provide inexpensive access to interactive resources of science and technology contents to students and educators. NSDL's contents are constantly refined by professionals and subject experts through an extensive network called STEM (Science, Technology, Engineering and Mathematics). In recent years NSDL has been attempting to provide bilingual documents as one of its services (NSDL).

Vidya Vahini is a project conceived by the Department of information technology, GOI in 2002. The project intends to provide computer education to 60,000 schools across the country. In its extended mission, the project has an objective to provide internet, intranet and television to facilitate video-conferencing, web-broadcasting and e-learning for the schools to communicate effectively and share information sources. This project was initially started in seven districts and spreading over to distinctive parts of India.

“Infothela” has been an excellent programme implemented by Indian Institute of Technology, Kanpur. The program targets to help provide and exchange information related to education, entertainment, agriculture, health care and government to village community who do not have facility for the access to information. A pedal driven vehicle called thela, like a common cycle rickshaw is used for this purpose where a personal computer on board connected to wireless internet is accommodated to deliver information. The rickshaw’s peddles are designed in such a way that while pedalling, battery gets charging for running the on board computers and equipments. The vehicle is self-sufficient in electricity production and works even in an environment where there is no electricity. The thela covers a number of villages in a day and spreads the knowledge. As a new addition, the thela now even accommodates diagnostic equipments like blood pressure and blood sugar testing machine, and some other primary health diagnostic and testing equipments (Infothela).

What role can libraries play?

- The modern library is set in a position to play all kinds of roles that of the other types of libraries in information management and dissemination. In the cognitive process of equating the opportunities, a public library needs to be an academic/technical/special library which is subject to the users need. The constraints are to be taken back for the libraries to perform in their traditional ways.
- With the help of teachers and educators librarians need to take part in teaching and training the deprived community on information use. The library professionals are responsible to understand the needs and provide knowledge, where the users have no comprehension of what information they really need.
- The trainers and educators should completely have well understood the objectives of the program and the users’ need before taking up the process without which the whole investment and action may result in vain. Proper conception of needs of the users is half the game won.
• Information literacy through use of technology should be made a crucial part of user education. In this direction, most of the universities including schools have taken a step ahead to introduce technology in the class rooms and provide open access to online information as a part of curriculum.
• It is essential and desirable to train the users to correspond via e-mail and ICT applications which intern enhances their ability to use technology for communication. This makes the information professionals’ work much easier and rapid.
• Creating awareness and promoting the services among the targeted communities are as vital as delivering services. For marketing the services, all possible media like television, radio, posters, handouts etc can be effectively used. Librarian can use information marketing techniques in this regard.
• In India, Community Technology Centres (CTC) are essentially to be established for the successful dissemination of information and to design such schemes, government can use the knowledge of information professionals. Though CTCs initially demand adequate equipments, human resource, time and space, they considerably help to overcome information poverty.
• Indian governments have taken initiative to get the children learning computer technology from the elementary level. Learning computer and internet is becoming a regular academic activity right from the elementary school level. Librarians should be competent enough to change the library into digital information centres for educating on technology at distinct levels.
• Remote areas where computers cannot be set up and where there is no wiring and building, mobile computer labs may be effectively used. This concept has been borrowed from mobile libraries and has been a reality in western countries.
• The curricula for the program should be designed in such a way that, introduction of ICT applications such as fax, telephone, laminating machine, photocopier, mobile phone etc at the elementary level and computer and internet at the consequent levels could be edified. However, while educating, the library professionals may redesign their services according to the users’ level of understanding.
• Making the catalogue of the local public library accessible at the school computer lab gets the students exposed to online bibliographic instruction. This requires teachers, local public librarians and the information educators to incorporate and work together.
• Resource sharing should happen mainly between academic libraries and public libraries. Merely by providing the archives of e-books, e-journals and other e-learning modules to the underprivileged, academic libraries can bring tremendous progress. Copies of such knowledge collections can be written on CDs and distributed for the use.
• Sufficient training for the information professionals who participate in educating is a necessity. They should be trained not only on how to educate according the designed plan, but also on practical aspects like handling and maintaining the equipments used for the programme.
• While designing the programmes for rural users, the local language should be considered as a medium of communication to make the program successful and...
effective. Getting the users to learn English can be slowly proceeded through consequent levels. Through information network, library professionals can provide adequate resource to achieve this.

- Libraries and information centres in the vicinity of particular region must co-ordinate their efforts with learning and research institutions, development agencies, community organisations and government departments to ensure the integration of the locally generated information in a digital form (Kavulya, 2007) which may be used in community programmes.
- Design, organisation and implementation should involve the targeted users for making the programme more effective and meaningful.

**Digital divide and Morality**

In a hustle of bridging the digital gap, the social responsibilities cannot be ignored. Merely provision of a physical computer connected to the internet does not turn the information poor into information rich. As many people believe internet is the key to information world. The information professionals have great challenges in creating attitude and setting up the line of thinking while educating the new users on internet. One cannot disregard that, like any other inventions, internet too has its dark side. The prominence is not only in the ability to have access to the technology. But there is a significance to reflect what kind of information the access is given to and whether the information is relevant to the need. Information professionals as educators have an accountability to monitor and guide the users to ensure not getting exposed to unwanted information.

**Conclusion**

It was observed that, Indian society is gradually moving towards adoption of ICT applications. Through e-governance many projects have been implemented to bring digital destitute in contact with digital opportunities. In the investigation it was realized that only a very few of states in India are benefitted out of such projects which demonstrates the need for nationwide implementation. There is a need for extending e-governance to be implemented more in rural areas rather than in urban places where people would normally be information literates. In this transitional stage, interaction and provision of information happening in local language makes the projects more successful. Importantly, in the information era, libraries are expected to collaborate with governments and NGOs for broadening their horizons in equalizing the access to information.

**References**


Russell, S.E. & Huang, J. (2008), Libraries role in equalizing access to information, Library Management, 30(1/2), 69-76.

