Digital Divide in brief

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Abstract: *The information and communications technology (ICT) has brought vast benefits to mankind to the rich as well as the poor. The world has been changing rapidly with the help of ICT. On the other hand ICT has faced serious problem of digital divide between developed and developing countries. There is a growing discrepancy between those who have access to information and those who do not. The second groups are the majority and most of them live in rural areas of developing countries. There is a gap into those who are able to take advantage of new ICT opportunities and those who are not. So, digital divide affects many nations of the developing world. This paper discusses digital divide in Indian scenario and different aspects of it. Here it is also discussed about the causes and efforts to bridge the digital divide and also the role of libraries and information centers.*

Keywords: *Digital Divide, Information Communication Technology (ICT)*

I.   Introduction

For the developed nations the ability to access the Internet has made the lives of people more convenient in terms of information retrieval. In the performance of their daily life such as shopping for necessities, payment of bills as well as banking and other business transaction and in recreation and access to culture ICT is very important. ICT benefits the poor by removing social, economic and geographical isolation by increasing access to information and education and by enabling poor people to participate in more of the decisions that affect their lives (The Human Development Report 2001).

In the mid-1990s information and communications technology (ICT) boomed enabling rapid and worldwide dissemination of information to those who access it. The rapid transfer of information benefits the developed nations more than the developing ones, giving rise to concerns of a digital divide. However, even with improving access to information and technology, the opportunities offered by telephone, radio, video, the Internet and other information and communication technologies (ICTs) are not equally distributed. This gap between those people with effective access to digital and information technology and those without access to it is called digital divide. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen. The global digital divide describes global disparities between developed and developing countries in regards to access to computing and information resources such as the Internet. Digital divide doesn't mean that someone doesn't have technology it means that there is simply a difference in technology. These differences may be in high-quality computers, fast Internet, telephone services etc. The difference between all of these is also considered a gap of digital divide.

II.   Indian Scenario

India is a multicultural, multi-language and multi-religion country with complex socio-economic conditions. So, there are many difficulties in serving rural communities. The use of computers and internet technology correlates with poverty and educational qualification. There are different factors that are the barriers to bridge the digital divide in India:

- Low Literacy Rate - Though it seems that the literacy rate is going upwards but in urban and rural areas there is a difference in the literacy rate which creates a digital divide. The lack of skill in using ICT prevents people from accessing digital information.
- Education System - One of the biggest challenges which face Indian education is the number of dropouts at the undergraduate level. In order to overcome this which is the cause of digital divide it is necessary that the information technology should be introduced to the students from their school level.
- Language - Having a multicultural and multilingual population a large percentage of information content on Internet is in English languages. Thus unless Indians know English, though most Indians do not, computer use and Internet access are effectively out of question. So, it is a barrier of digital divide.

- Infrastructure - Lack of sufficient telecommunication infrastructure with sufficient reliable bandwidth for Internet connection in India is a barrier to access ICT.
- Economic barriers - Poor access to communication technology causes a digital divide. The ability to purchase or rent the tools to access digital information in India is less. The electrification is closely related to digital divide. But the cost of electrification is very high in India. Though mobiles are cheaper but it is not possible to do everything in a PC.

III.   The aspects of the digital divide

The concept of the digital divide has changed over time. In the beginning, it basically referred to connectivity problems. Later, it began to introduce the concern for the development of capacities and skills required to use ICTs, and finally, there is also reference to the use of integrated resources in the technology. In this respect three types of digital divides are proposed based on access and usage of ICT. First there is a difference between individuals with access and those without access to ICTs, the individuals who know how to use these technologies and those who do not and last the difference of usage quality between those same users. Thus, the concept of the digital divide basically focuses on the following:

- Infrastructure - That is the possibility of having available computers that are connected to the worldwide net. This also includes the problem of servers.
- Capacity-building - That is the skill and capacity to use the technologies. The concept of digital literacy is related to the digital divide.
- Resource usage - This refers to the limitation that people have to use the resources available on the Web. The concept of the digital divide has incorporated the possibilities of using the technology not only to access information, knowledge but also a new way of education to take advantage of the new opportunities such as the development of business, online medical servicing and enjoyment of new forms of entertainment.

Based on these many international organizations have defined development policies to reduce the digital divide. National investments and policies also target connectivity development for the reduction of the digital divide.

IV. Causes and bridging the Digital Divide

Availability of digital infrastructures, computer hardware and software, availability of ICT specialists and information on users of digital technology for information retrieval would help to provide solutions on how to bridge or at least narrow this divide. The digital divide is based on insufficient infrastructure, high cost of access, inappropriate or weak policy regimes, inefficiencies in the provision of telecommunication networks and services, lack of locally created content, and uneven ability to derive economic and social benefits from information-intensive activities. Basically economic factors – income and related social factors such as race, gender, age, family structure, education ethnicity and motivation were thought to have created the digital divide that existed in most countries of the world.

To reduce the digital divide requires a systems approach broadly attacking all of these issues. But care must be taken. Good investments can make ICT an engine for development. There are several major contributors to the global digital divide including differences in income, literacy, infrastructure, and even factors such as climate. The lower income developing countries have less access to the Internet. Moves to expand computer availability to developing third world countries will help increase access to broadband and can thus help to reduce the global digital divide.

Digital divide global organizations are making long term investments to collect and distribute technological devices. They also teach people how to use technology. Organizations such as the United Nations, World Bank, and other not-for-profit organizations are working to close the gap between the digital and non-digital worlds. On line organizations and bloggers contribute efforts to diminish the digital divide by providing online sites where people can donate computers and volunteer to help.
There are a variety of arguments for importance in closing the digital divide. They are economic equality, social mobility, democracy and economic growth.

IV.1 Different initiatives of bridging the digital divide in India

Government of India launched several programs to narrow the digital gap. Some of them are Kisan call centre, Life Line India, Computer Aided Administration of Registration Department (CARD) project, Gyan doot, FRIENDS project, Lokamitra/Smart project etc. Some of them are discussed.

Kisan call centre - The department of Agriculture & Cooperation (DAC), Ministry of Agriculture, Govt. of India launched Kisan Call Centers on January 21, 2004 across the country. It delivers services to the farming community. The purpose of these call centers is to respond the issues raised by farmers instantly in the

local language. This wonderful effort made by the Ministry of Agriculture, Government of India bridges the gap between the actual information resource and the user by using the phone.

Life Line India - Life Line India is a charitable organization working to promote human rights and sustainable development across the world. It also gives a telephone based information service. It enables farmers to record a question and after that get a recorded reply. It was launched in November 2006. It has proven the value of digital inclusion. It educates the rural users to use technology to access advice and learning to improve the future for their families and the local community.

Gyandoot Project - Gyandoot is an internet in Dhar district connecting rural cyber cafes catering to the everyday needs of the masses. This web site is for giving global access. It is the first ever project in India for a rural information network in the Dhar district of Madhya Pradesh. The government of Madhya Pradesh is attempting to make this Project a great success by extending it to other districts.

IV.2 Role of libraries and information centers

Today the professional librarians are being better recognised as information disseminators or communicators rather than custodians of information. In library information services the most important to ensure that information those in the developing nations are able to gain access quickly. The professionals in the library information services reexamine their roles to ensure that the services they provide are able to meet the challenges posed by the digital age. And they also play a relevant and effective role in information dissemination and knowledge enhancement. Although digitization is progressing at slow in India several projects like the National Science Digital Library (NSDL), Vidya Vahini Project, and Digital Mobile Library have been taken by the government to bridge the digital divide.

- National Science Digital Library (NSDL) - National Science Digital Library (NSDL) aims to provide information to students of science, engineering and technology in the country. The content creation and development for NSDL has gone through the procedures to make available quality content for the students.
- Vidya Vahini Project - It is a school computerization program. It aims for connecting Government and aided schools through internet.
- Digital Mobile Library - This program provides free access to many books in English and Indian languages.
- Library Networks - Library network plays an important role in bridging the information needs of the people. This is for modernisation of libraries and information centres and the establishment of a mechanism for information transfer and access to academicians and researchers in India.

IV.3 Training in the use of database and Internet access

Many information service providers are providing practical training in Internet usage to enable users to make better use of ICT to access information except information dissemination. And some even offer free access to expensive databases (Lawrence 2000). Free online information and software are available through the Internet or through free CD-ROMs.

IV.4 Digitizing available information

Documents produced by researchers which are currently available as hard copies can be digitize and made available through the Internet. The Internet provides a more efficient and cheaper means of information dissemination.

IV.5 Role of academic and research institutions

IIT Kharagpur designed a project to "bridge the communication gap between the sightless and the sighted". With this project the blind can surf the Internet, read text in Indian languages and even can take up normal office work. Tata Council of Community
Initiatives are playing an important role in promoting adult education in the country.

V. Conclusion

ICT is not the solution to poverty or inequality. Use of ICT alone is not associated with economic growth. ICT provides a link in the chain of the development process in any country. On the other hand ICT requires an enabling environment of infrastructure and policies before they contribute efficiently to economic growth. The unequal access to information and communication technologies has led to the digital divide. India has made encouraging efforts to bridge the gap by initiating a number of projects and programmes for rural and remote locations. A strong determination among people, good policy–makers and political support are also required to bridge the divide and needs to improve the infrastructure of public libraries.

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