

## **A Paradigm shift from Digital Divide to Digital Inclusiveness**

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### **ABSTRACT**

The significance of the concept of social integration and inclusion has been increasingly recognized in recent years. The ongoing global financial and economic crisis, especially, by threatening the progress achieved so far in social development and further aggravating social tensions in many societies, has made a growing number of policymakers aware of the importance of social integration and inclusion.

The society we live in today is dominated by technology. The digital divide or digital exclusion is related to the spread of information and communication technology (ICT) and the gaps that exist between a variety of groups or strata in society. The concept of the digital divide has changed over time. In the beginning, it basically referred to connectivity problems (gap in access to use of ICTs). Later, it began to introduce the concern for the development of capacities and skills required to use ICTs (capacity-building and education), and finally, there is also reference to the use of integrated resources in the technology. Digital inclusion is defined in this study as the use of technology, either directly or indirectly, to improve the lives and life chances of disadvantaged people and the places in which they live. It is broader than just simple access to the internet and covers many different forms of technology and activity. But the common focus is on delivering positive social outcomes. Innovative use of ICT can lead to better access to education, to employment, to health and to a socially fulfilling life. This paper is going to explore about the concepts Digital Divide & Digital Inclusiveness. This paper is also analyzing the gap elements of digital divide. Further, there is an explanation on few initiatives taken by Govt. of India to create digital inclusiveness.

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**Keywords:** Digital Divide, Education, ICT, Internet, Inclusiveness, Skills.

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## Introduction

Creating a society for all is a moral obligation-one that must reflect the commitments to upholding fundamental human rights and principles of equality and equity. There are also strong instrumental reasons for promoting social integration and inclusion. Deep disparities, based on unequal distribution of wealth and/or differences in people's backgrounds, reduce social mobility and ultimately exert a negative impact on growth, productivity and well-being of society as a whole. Promoting social integration and inclusion will create a society that is safer, more stable and more just, which is an essential condition for sustainable economic growth and development. The significance of the concept of social integration and inclusion has been increasingly recognized in recent years. The ongoing global financial and economic crisis, especially, by threatening the progress achieved so far in social development and further aggravating social tensions in many societies, has made a growing number of policymakers aware of the importance of social integration and inclusion.

The society we live in today is dominated by technology and most of us accept the discourse of fast and ever-changing developments in technology which have transformed, or have the potential to transform, the way we live and relate to one another. This transformation may, however, not necessarily be a positive one. Technology can be a double-edged sword. The world has gone digital. Our works, education, entertainment, even our ability to communicate with each other, are increasingly reliant on digital technologies. Yet millions are excluded from this revolution, unable to understand or access the devices the rest of us take for granted.

### *The concept of Digital Divide*

The digital divide or digital exclusion is related to the spread of information and communication technology (ICT) and the gaps that exist between a variety of groups or strata in society. The term digital divide was originally used by the National Telecommunications and Information Administration in the United States in its second falling through the net report entitled Falling through the Net II: New Data on the Digital Divide. The report analyzed telephone and computer penetration rates for low-income groups, minorities, women and the elderly, among other groups in society. Today, the digital divide is defined as the gap between persons who have access to ICT and the tools to use it effectively and those who do not. In the twentieth century, innovations in technology not only enhanced the capacity and functions of computers but expanded communication through the advent of the Internet and World Wide Web. The emergence of

wireless communication devices, instant messaging, blogs and voice-over Internet protocol (VOIP) have had a dramatic effect on how people communicate. People are now able to quickly communicate, distribute and access information. These factors paved the way for what many refer to as the information-based society.

According to Persaud (2001) the knowledge gap is ten times the income gap. This digital disparity has widened the distances in privileges and opportunities between groups in society, creating the information rich and information haves and the poor who are defined as information poor and information have-nots. Although this distinction is important, defining the digital divide according to disparities in ownership and access between the haves or have-nots touches the tip of the iceberg in understanding all the factors that contribute to digital exclusion.

There are many aspects of the digital divide that are of concern to social researchers. Moore (1998) highlights three main characteristics underlying these concerns. First, information is increasingly being used to stimulate innovation, increase efficiency and improve the quality of goods and services. At the same time, society has moved towards economic globalization. Consequently, participation and engagement in public and private sectors has extended beyond local communities to national and international levels. Secondly, citizens are increasingly using information to compare differences between products, to explore entitlements to public services, exercise civil rights, increase education and gain more control over their lives. Third, these developments have led to an information sector within the economy (Moore, 1998) and altered the demands in the labour market. Moore, N. (1998).

From an economic perspective economists are making strong links between ICT use and innovation and increased productivity and competition. Given the ubiquitous use of technology by all sectors of the economy, ICT has become a prerequisite to economic stability of the Canadian economy. From a human capital perspective, one of the best ways to boost productivity is by increasing everyone's opportunity, knowledge and skills especially their use of technology regardless of individual character or differences.

Concerns underlying the digital gap must extend beyond economics towards broader concerns for social cohesion. Ferlander and Timms (1999) state that the convergence of communications and information technology brings threats to existing forms of community and creates new forms of social exclusion that threaten integration of the poor. The same authors emphasize that communities are associated with cooperation and collective contribution to the common good.

The name —digital divide can, in fact, refer to several different phenomena. One, for example, is unequal Internet access and usage. A second is unequal ability to make use of the Internet, due not only to unequal access but also to other factors (such as education, language, content, etc.). The digital divide refers to social stratification due to unequal ability to access, adapt, and create knowledge via use of information and communication technologies (ICT).

The digital divide is defined as differences between individuals, households, companies, or regions related to the access to and use of ICT (Vehovar et al., 2006). Generally, it is identified according to the number of people who have Internet access. This approach is for the sake usefulness and feasibility in comparing different population groups. However, there are more complex diversifications of the digital divide in the literature. Van Dijk and Hacker (2000) distinguish four kinds of access:

1. Lack of any digital experience caused by lack of interest, computer fear and unattractiveness of the new technology (psychological access);
2. No possession of computers and network connections(material access);
3. Lack of digital skills caused by insufficient user-friendliness and inadequate education or social support (skills access);
4. Lack of significant usage opportunities (usage access), people engage with ICT tools for limited purposes.

This different evaluation clarifies the understanding of the nature of the digital divide. If the digital divide is accepted as a result of a transition period, these four dimensions could be accepted as sub-phases of that period.

According to Subramony (2007), while traditional discussions of the digital divide have tended to focus inordinately on access to technology tools and the development of personal skills, minority groups should make the cultural transition from being technology consumers to technology producers; to truly empower themselves and overcome their digital disadvantages. Thus, there is a need for fundamental change in the nature of their relationship with technology and the culture of the technology itself.

**Current Scenario**

Data on the digital divide captures the picture of unevenness between different regions in the world. According to the Internet usage statistics, the world is home to billion people, one third of which are using the Internet (Fig.1).

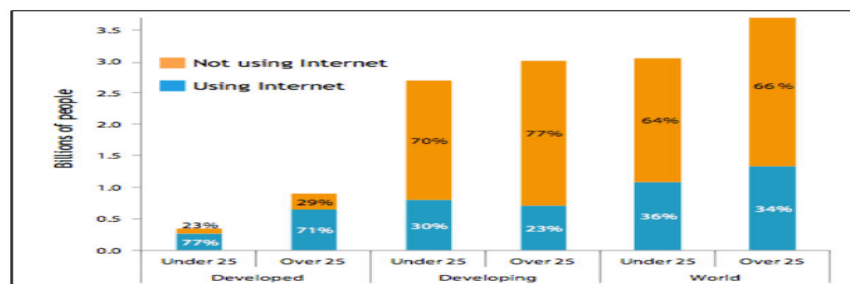
**Table-1:** Internet use statistics

<b>WORLD INTERNET USAGE AND POPULATION STATISTICS</b>						
<b>June 30, 2012</b>						
<b>World Regions</b>	<b>Population (2012 Est.)</b>	<b>Internet Users Dec. 31, 2000</b>	<b>Internet Users Latest Data</b>	<b>Penetration (% Population)</b>	<b>Growth 2000-2012</b>	<b>Users % of Table</b>
Africa	1,073,380,925	4,514,400	167,335,676	15.6 %	3,606.7 %	7.0 %
Asia	3,922,066,987	114,304,000	1,076,681,059	27.5 %	841.9 %	44.8 %
Europe	820,918,446	105,096,093	518,512,109	63.2 %	393.4 %	21.5 %
Middle East	223,608,203	3,284,800	90,000,455	40.2 %	2,639.9 %	3.7 %
North America	348,280,154	108,096,800	273,785,413	78.6 %	153.3 %	11.4 %
Latin America / Caribbean	593,688,638	18,068,919	254,915,745	42.9 %	1,310.8 %	10.6 %
Oceania / Australia	35,903,569	7,620,480	24,287,919	67.6 %	218.7 %	1.0 %
<b>WORLD TOTAL</b>	<b>7,017,846,922</b>	<b>360,985,492</b>	<b>2,405,518,376</b>	<b>34.3 %</b>	<b>566.4 %</b>	<b>100.0 %</b>

Source: Internet world stats (2011)

Internet penetration rate is highest (78.6%) in North America, while the growth rate of the number of Internet users is the lowest (153.3%). Internet users in this region consist of 11.4% of total world users. On the contrary, lowest penetration rate (15.6%) is in Africa. Due to low

penetration level, this region has the highest growth rate in the number of Internet users (3606.7%). Internet users in this region consist of 7% of total world users. Lastly, Asia has the most shares (44.8%) in the number of Internet users among the world population. The penetration rate of this region is 27.5% and the growth rate in the number of users is 841.9%. ICT availability has broad economic implications, as well as social, political and cultural consequences. As part of the educational impact, ITU World Telecommunication declares that younger people tend to be more online than older people, in both developed and developing countries (Fig. 2). 70% of the under 25 year olds - a total of 1.9 billion - are not online yet: a huge potential if developing countries can connect schools and increase school enrolment rates.



**Graph-1:** Internet use by age & by development level

Source: ITU World Telecommunication / ICT indicators database (2011)

### Measurement of Digital Divide

It is clear that technology remains inert and useless with knowledge and capabilities to use them, and when they are embedded in social without necessary human skills and competences. Technologies become real when they are combined practices. The concept of the digital divide has changed over time. In the beginning, it basically referred to connectivity problems (gap in access to use of ICTs). Later, it began to introduce the concern for the development of capacities and skills required to use ICTs (capacity-building and education), and finally, there is also reference to the use of integrated resources in the technology. Thus, the concept of the digital divide basically focuses on three areas: Infrastructure, capacity building and focus on resource usage.

**Table-2:** Gap elements of Digital Divide

<p><b>Element 1</b></p> <p>A gap in access to use ICT: Measured by the number and spread of ICTs (first order digital divide)</p>	<p><b>Element 2</b></p> <p>A gap in the ability to use ICTs: measured by skills base and presence of numerous complementary assets (second order digital divide)</p>
<p><b>Element 3</b></p> <p>A gap in actual use: measured by the telecommunications for various purpose, the number and time of online users, the number of internet hosts and the level of e-commerce, e-business and e-governance</p>	<p><b>Element 4</b></p> <p>A gap in the impact of use: measured by financial and economic returns.</p>

Source: Dr. Sumanjeet Singh Digital Divide in India: Measurement, Determinants and Policy for Addressing the Challenges in Bridging the Digital Divide

Based on these four elements, many international organizations have defined development policies aimed to reduce the digital divide. However, in spite of the evolution in the concept, these principally emphasize development of a technological infrastructure. National investments and policies for the reduction of the digital divide continue to principally target connectivity development.

### **The Concept of Digital Inclusion**

Digital inclusion is defined in this study as the use of technology, either directly or indirectly, to improve the lives and life chances of disadvantaged people and the places in which they live. It is broader than just simple access to the internet and covers many different forms of technology and activity. But the common focus is on delivering positive social outcomes. Innovative use of ICT can lead to better access to education, to employment, to health and to a socially fulfilling life. It can be an additional support tool for people to lift themselves out of their disadvantaged social situations, and also to improve the communities in which they live. Technology can be an enabler for social inclusion.

Digital inclusion means different things to different organizations:

Giving people the basic ICT skills to participate in the knowledge economy leading to improved macro-economic performance.

1. Closing the Digital Divide — the gap between those enabled and empowered to participate in information and knowledge based society and those who are not.
2. Making technology and electronic services accessible and usable by people with disabilities or the elderly.
3. Giving people broadband internet access.
4. Preventing economic exclusion from electronic commercial and public services that save time and money.
5. Preventing social exclusion from digitally connected communities.
6. Using any digital technology to tackle social exclusion.
7. Using any digital technology in communities to tackle area-based deprivation.

### **Some Initiatives of Digital Inclusion**

#### *1. Gyandoot*

It is a community owned rural intranet project in the Dhar district of Madhya Pradesh initiated by the State. Started in January 1, 2000. Presently 31 centres are connected through intranet network. Local rural youths act as an entrepreneur for running the centers on commercial lines. These centers are called Soochanalayas (Information Kiosks) which provide user-charged-based services to rural people.

#### *2. Community Information Centres in NE Region of India*

The Community Information Centres (CIC) Project was conceived and implemented by the Ministry of Communications and Information Technology, Government of India in the North Eastern Region of the country. For the region in terms of providing benefits of ICT, CICs is the first initiative by the Government to provide IT access to the people living in remote areas, which may have an impact on socio-economic development of the region and bring the region closer to the national mainstream.

#### *3. Village Knowledge Centres of MSSRF*

Village Knowledge centers of M S Swaminathan Research Foundation is an example of knowledge management at grassroots. Its main focus on community ownership and directed at access for the poorest. It started in rural Pondicherry in South India. These centers are user owned and controlled. It provides demand driven information. The centers are connected with wire and wireless system of communication. The fundamental philosophy of the foundation is



reflected on its focus on community participation, inclusion of women, people's livelihood and indigenous knowledge.

#### 4. ITC's E-choupal

ITC is one of the India's leading private companies in the corporate sector with diversified interest including agri-based products. As agriculture play an important role in the rural economy and because of market imperfections, farmers are exploited in terms of price for their output and there is system-wide inefficiencies. ITC started agricultural trading in 1990. The company initiated an e-choupal effort that placed computers with internet access in rural farming villages for exchange of information and an e-commerce hub.

#### 5. Drishtee

Drishtee is an organizational platform in the private sector for developing IT enabled services to rural masses through intranet and a kiosk based revenue model. Through a franchise and partnership model, Drishtee facilitates the creation of a rural networking infrastructure. With nodes at the village, district, state and national level, Drishtee enables access to worldwide information as well as local services using its proprietary state-of-the-art software. Drishtee kiosks provide viable employment opportunities for unemployed rural youths as an entrepreneur and help stem rural-urban migration

### Conclusion

Today, technology is increasingly available, but people do not use it as they do not understand it, are uncomfortable using it, cannot afford it or cannot see its utility. For them, it is a lost opportunity. Digital divide is not only lack of computers and connections but also not using the information technologies for their benefits in terms of better information access, better education, health-care and so on . Although in India, several initiatives have started successfully for Digital Inclusion, a holistic approach to provide real access is needed and the roadmap to narrow the divide is to integrate technology into society in an effective, sustainable way so that people can use it to better their lives. Few suggestions for holistic approach are: **a.** measuring the economic and social impacts of ICTs (e.g. new skills) **b.** an enabling environment determines the capacity of an economy and society to benefit from the use of ICTs (e.g. innovation and entrepreneurship) **c.** Clear policy orientations and identify opportunities for public-private collaboration (e.g. efficient rules and regulations)

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